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**KNOWLEDGE AND THE SCIENCES  
IN MEDIEVAL PHILOSOPHY**

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## PREFACE

The Eighth International Congress of Medieval Philosophy (Société Internationale pour l'Étude de la Philosophie Médiévale) was held in Helsinki, Finland, 24 - 29 August 1987. The general theme of the congress was *Knowledge and the Sciences in Medieval Philosophy*. The program consisted of plenary sessions with invited papers, sections with contributed papers, and meetings of the commissions of the S.I.E.P.M. The titles of the sections were as follows: (1) The Origin of Medieval Notions of Science and the Divisions of the Sciences, (2) Basic Epistemological Issues as Related to Medieval Conceptions of Science, (3) *Trivium* and the Sciences, (4) The Nature and Methods of Theoretical Sciences, (5) The Nature and Methods of Practical Sciences, (6) Theology as a Science, (7) New Conceptions of Science in Late Medieval and Early Renaissance Philosophy.

The reports of the commissions have been published in the *Bulletin de Philosophie Médiévale* 29 (1987), pp. 12-70 and 30 (1988), pp. 10-38. Invited papers and contributed papers are published in the present three volume work, edited by the members of the program committee (Monika Asztalos, Sten Ebbesen, Dagfinn Føllesdal, Simo Knuuttila, Anja Inkeri Lehtinen, John E. Murdoch, Ilkka Niiniluoto) in collaboration with Reijo Työrinöja. Toivo Holopainen has served as assistant to the editors. Volume I (Acta Philosophica Fennica, vol. 48) contains the invited papers. The contributed papers of the sections (1)-(3) are included in volume II (Publications of Luther-Agricola Society, B 19). Volume III (Annals of the Finnish Society for Missiology and Ecumenics, 55) contains the contributed papers of the sections (4)-(7). All papers offered are published.

Every volume is provided with an index of manuscripts and an index of names. Ancient Greek and medieval Western names are in a Latin form.

The congress was financially supported by the Ministry of Education of Finland, the Finnish Cultural Foundation, the Academy of Finland, the UNESCO, and the University of Helsinki.

Helsinki, 15 August 1990

The Editors



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SECTION ONE

THE ORIGIN  
OF MEDIEVAL NOTIONS OF SCIENCE  
AND THE DIVISION OF THE SCIENCES



WALTER W. ARTUS

**Two Science Listings  
in the Writings of Ramon Llull**

Without official ties either as a student or as a teacher to any of the then nascent Mediaeval universities - for at least no more than a short period of time - Ramon Llull had reasons for directing attention, on at least two occasions, to the matter of an orderly classification of the recognized bodies of systematic knowledge of his day. Endowed with an encyclopedic mind first of all, he likewise had a passion for order and method, a point made abundantly clear by any of his numerous writings, not to mention his creation and continuous revisions and development of the famous Lullian Art which proved of great fascination to a great many Renaissance and Modern figures.<sup>1</sup> Father of two children, a boy and a girl, he took seriously the responsibility of preparing them for an adult meaningful life. On that account he wrote and addressed a book to his son (and via him to young persons in general), concisely presenting some essential instructions appropriate to persons of his age, as well as helpful for choosing the future course of their life.<sup>2</sup> This a young person might do well only if reasonably well acquainted with the rudiments of the world of science and of art, liberal and non-liberal or mechanical. A third factor motivating Llull was a lifelong desire to encourage the formation of learned Christians, religious and non-religious, well prepared to enter into peaceful intellectual combat with educated leading non-Christians.<sup>3</sup>

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<sup>1</sup> For an introduction to the Lullian Art see Anthony Bonner, "Llull's Thought" in Ramon Llull, *Selected Writings of Ramon Llull*, tr. and ed. Anthony Bonner (Princeton: Princeton University Press, 1985). Also and more directly Ramon Llull, *Ars Demonstrativa* and *Ars Brevis* in *Selected Writings of Ramon Llull*, tr. and ed. Anthony Bonner (Princeton: Princeton University Press, 1985), Vol. 1, pp. 317-568, 579-646.

<sup>2</sup> The book in question is a *Libre de Doctrina Pueril*, the first "children's didactic encyclopedia" and "the first book written for children in a Romance language." Tusquets, Juan "Ha Influido Ramón Llull en la Evolución de la Escuela Elemental?", *Estudios Lulianos*, Vol. 14 (1970), p. 32.

<sup>3</sup> Anthony Bonner, "Historical Background and Life of Ramon Llull" in Llull, *Selected Writings*, Vol. 1, p. 16.

Before passing to consider the two instances in different books wherein Llull gave us orderly lists of the bodies of systematic knowledge, a word should be said about his understanding of "science." Like many writers before and after him, Llull did not utilize the term "science" to designate exclusively, or even primarily, the physical or empiriological studies that have reached their high point of development only within the last few centuries, as some do today under the influence of some kind of positivistic thinking.<sup>4</sup> Yet on the other hand he did not hesitate to include within the scope of "science" - obviously taken in a broader meaning - the traditional liberal arts, or for that matter even a number of at the time important mechanical or non-liberal arts, a number that is of acquired manual skills directed to the more physical necessities of life. Llull did so with the knowledge that, according to practice or custom in mediaeval universities, the term "science" named principally the intellectual disciplines taught at those universities: natural philosophy, metaphysics, ethics, and theology.<sup>5</sup> But of course he was also familiar with the fact that there were other university faculties and disciplines, namely jurisprudence or law - both canon and civil - and medicine, both of them non-speculative studies carried on at several mediaeval universities. Perhaps for that reason and as in imitation of Hugh of St. Victor a century earlier,<sup>6</sup> Llull included within his classifications of scientific knowledge not only the traditional liberal arts but also seven admittedly servile or mechanical arts.

As a consequence of brief but earnest contacts with the arts' faculties at Montpellier and Paris,<sup>7</sup> Llull must have known about the Scholastic understanding of "science,"<sup>8</sup> taken from Aristotle's *Posterior Analytics*,<sup>9</sup> newly made known to the Latin West a century earlier.

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<sup>4</sup> James Weisheipl, "Curriculum of the Faculty of Arts at Oxford in the early Fourteenth Century," *Mediaeval Studies*, Vol. 26 (1964), p. 144.

<sup>5</sup> Weisheipl, *op. cit.*, pp. 143-44.

<sup>6</sup> Frederick Copleston, *A History of Philosophy* (Westminster/Maryland: The Newman Press, 1962), Vol. 2, p. 167.

<sup>7</sup> Bonner, "Historical Background," Vol. 1, p. 23.

<sup>8</sup> See for example St. Thomas Aquinas, *Exposition of the Posterior Analytics* (bk. 1, lect. 4, n 5-6; lect. 23 n 2-3; lect. 41, n 1-8) tr. Pierre Conway (Quebec: Librarie Philosophique M. Doyon; 1956), pp. 25, 125, 251, and 258. Also Edward D. Simmons, *The Scientific Art of Logic* (Milwaukee: The Bruce Publishing Co., 1961), p. 259.

<sup>9</sup> Bk. 1, ch. 2, *The Student's Oxford Aristotle*, tr. W.D. Ross (London: Oxford University Press, 1942), Vol. 1, 71b, 8-23.

However, Llull's accounts of "science" and of "art" in an *Introductoria Artis Demonstrativae*<sup>10</sup> recall rather the Aristotelian account and distinction in the *Nicomachean Ethics*.<sup>11</sup> In another book he explains them clearly as intellectual virtues, though he calls them "artificial (i.e., acquired) qualities or habits."<sup>12</sup> He thereby distinguishes them from innate or spontaneously operative dispositions and inclinations, because science and art are normally acquired and retained only through repeated appropriate acts. In addition and rightly, Llull does not confuse the intellectual virtues of science and art with any moral qualities and virtues or, even less, with any purely physical non-intellectual operative habits. On the distinction between science and art, just after noting that people sometimes use the terms interchangeably, Llull cautions that precision dictates that the distinction be clearly grasped because science has to do properly with "speculabilia qua talia."<sup>13</sup> Art on the other hand, though it entails much knowledge, in the end concerns itself with operations or activities. Its object is "operable things", not in order simply to mirror, or make them present, within our minds but in order to have a cognitive rule or measure suitable for their production. Art accomplishes this by determining the manner of their entitative being and of their execution or production.<sup>14</sup> It is precisely this determining or regulative aspect that distinguishes art as such. If one prescind from it, one may indeed consider operations and "operable things" but in a speculative fashion. But of course then instead of art, we have science which looks at the "operable" but simply in order to know it.

Llull's more complete listings of the various bodies of knowledge, accompanied by brief accounts of their nature and tasks, are found in two of the author's numerous writings, extant both of them in their original Catalan language. The earlier of the two books, a *Libre de Doctrina Pueril*, is an encyclopedic manual of instruction for young

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<sup>10</sup> Ch. 1 in *Raymundi Lulli Opera*, ed. Ivo Salzinger (Mainz: Henry George Haeffner, 1722), Vol. 3, p. 56.

<sup>11</sup> Bk. VI, ch. 2, *The Student's Oxford Aristotle*, tr. W.D. Ross (London: Oxford University Press, 1942), Vol. 5, 1139b, 17-18.

<sup>12</sup> Ramon Llull, *Arbre de Sciencia*, part 5, 5, 5, ed. Tomás i Joaquin Carreras i Artau in *Obres Essencials* (Barcelona: Editorial Selecta, 1957), Vol. 1, p. 629.

<sup>13</sup> Llull, *Introductoria Artis*, Vol. 3, p. 56.

<sup>14</sup> "Ars enim proprie est recta mensura operandi, et circa operationes et operabilia ... ut ea regulet, et eis praefigat modum, aut determinet." Llull, *Introductoria*, Vol. 3, p. 56.

adolescents.<sup>15</sup> It was first addressed by the author to his young son, Dominic by name. Llull's main intention in the work was to make available to young persons the essentials of knowledge for their age and in order to determine rationally whether to go on with university studies or to attach themselves as apprentices to a master in some profession or trade. The second of Llull's writings with a classification of the sciences is the more learned and likewise encyclopedic *Arbre de Sciencia*.<sup>16</sup> Above all else, in this *Tree of Science* Llull aimed at unifying the many bodies of scientific knowledge and at establishing in its many chapters their basic notions and fundamental principles, all in conformity with the principles and methodology of his Art.

Though the two listings or classifications in the writings just mentioned are in basic and general agreement, there are two noticeable differences. First the order in which the various studies or disciplines, as well as their groupings, are given is not altogether the same. Secondly, and contrary to what we may have expected, the accounts in the earlier *Doctrina Pueril* of the advanced university studies of philosophy and of medicine are somewhat longer and more detailed than those in the *Arbre*.<sup>17</sup> The *Doctrina's* account of philosophy gives us a division of speculative philosophy by acquainting us with the titles and the general content of the books which make up the Aristotelian *corpus*, exclusive of the logical, ethical and poetical writings.<sup>18</sup>

We have noted that Llull distinguished the intellectual virtues of "science" and "art" on the basis of their distinct finalities: science is directed to the truth of knowledge of what is simply, art to the truth of knowledge for the sake of some action or work. But in the two listings in question, like Hugh of St. Victor in the *Didascalion*,<sup>19</sup> he obviously uses the term "science" broadly so as to cover both the traditional seven liberal arts and a number of non-liberal pursuits. A possible reason for doing so was the recognition that, as an intellectual virtue, art consists

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<sup>15</sup> See n. 2 above.

<sup>16</sup> Already referred to above in n. 12.

<sup>17</sup> For the comparison see Ramon Llull, *Libre de Doctrina Pueril*, ed. M. Obrador y Bennassar (Barcelona: Gustau Gili, 1907), chs. 78-79, pp. 193-208 and *Arbre*, part 5, 5, in *Obres*, Vol. 1, pp. 632-33.

<sup>18</sup> Llull, *Doctrina*, ch. 77, pp. 197-99.

<sup>19</sup> "Mechanicae septem scientiae continet: lanificium, armaturam, navigationem, agriculturam, venationem, medicinam, thetricam." Hugh of St. Victor, *Didascalion*, bk. 2, ch. 20 ed. C.H. Butimer (Washington: 1939), pp. 38-9.



in great measure, if not principally, in knowledge, regulative of course of activities directed to ends other than simply knowledge.<sup>20</sup> In Llull's book of instructions to young people, after a number of short separate chapters on each of the seven liberal arts and on the four major university disciplines of the day, we come across a single brief chapter on the "mechanical arts." Even though none of them are explained singly, the reader has the clear impression that they are considered very important. Indeed the author recommends that young people be schooled well in at least one of them, for in that fashion they will be prepared for a gainful occupation anywhere on the earth.<sup>21</sup> On this matter of the manual or mechanical arts the *Arbre* proceeds a little differently. Starting the classification with them, it names and explains briefly a number of the at that time more necessary manual pursuits. If the author dealt with them first in the work, it was probably because they are not exclusively intellectual, since they entail an extensive use of our bodily limbs and of instruments designed to assist our hands. Moreover they are directed primarily and almost exclusively to satisfying our physical wants and needs within society and individually. Probably to match the number of the traditional liberal arts, seven "artificial," i.e., acquired non-liberal arts are indicated: iron- or metal-working, toolmaking, tailoring, agriculture, commerce, seamanship and knighthood.<sup>22</sup>

In the *Arbre* the seven paragraph discussion of the mechanical arts is followed by a slightly longer treatment of the traditional seven liberal arts.<sup>23</sup> In the *Doctrina* which calls one of them<sup>24</sup> a "science," the latter had been introduced first. In both writings however, the liberal arts are briefly explained in their traditional groupings of the trivium and the quadrivium, except that in the earlier writing geometry is taken up before arithmetic. Though concise, the explanations of the nature, task and purpose of each of the liberal arts show understanding and appreciation on the part of the author.

Separate chapters or (in the *Arbre*) paragraph-sections, briefly examining each of the four major bodies of systematic studies which

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<sup>20</sup> See note 14 above.

<sup>21</sup> Llull, *Doctrina*, ch. 79, p. 208.

<sup>22</sup> Llull, *Arbre*, part 5, 5, 5, in *Obres*, Vol. 1, pp. 629-30.

<sup>23</sup> *Ibid.*, part 5, 5, 5, in *Obres*, Vol. 1, pp. 630-32.

<sup>24</sup> Namely astronomy. Llull, *Doctrina*, ch. 74, p. 187. In chapter 79 the *Doctrina* describes a mechanical art as "a manual lucrative science," p. 208.

constituted the sum and peak of university post-baccalaureate or graduate education during much of the late Mediaeval period into Modern times,<sup>25</sup> complete Lull's enumeration of the sciences in the two works mentioned. In the *Arbre* they are taken up last and in this order: law or jurisprudence, medicine, philosophy and theology.<sup>26</sup> The *Doctrina* on the other hand names theology first, after the traditional liberal arts, and it follows with law - both canon and civil - natural science (i.e., philosophy) and medicine.<sup>27</sup> The longer treatment of these last two studies in the *Doctrina* suggest great interest and a greater familiarity on the part of the author in the early part of his life.<sup>28</sup> At the same time theology stands out clearly as the noblest science because it speaks of God's entitative interior and of His attributes and their immanent activity, as well as of His *ad extra* operations vis-a-vis created beings.<sup>29</sup> An authentic science, theology begins with and has its main support in the truths of faith. Since it is a fact however, that creatures offer a rational basis for some demonstrative knowledge of the existence and perfections of the First Being within an actually sound philosophy, the latter and theology cannot but be in harmonious agreement ultimately.<sup>30</sup> Philosophy can and must assist the work of theology, defending and strengthening theological truths with some understanding whenever possible and without forgetting the superiority of the truths of faith by reason of their divine source. History shows two things: a) philosophers deprived of faith, e.g., Plato and Aristotle, have failed to arrive at an

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<sup>25</sup> Weisheipl, *op.cit.*, pp. 143-44.

<sup>26</sup> Part 5, 5, 5, Vol. 1, pp. 632-33.

<sup>27</sup> Chs. 75-78, pp. 189, 191, 193, 200.

<sup>28</sup> Actually Lull had an interest and familiarity with all four disciplines early in life, as evidenced by his efforts to apply the principles of the Art to all four. For that reason he wrote a *Liber Principiorum Theologiae*, a *Liber Principiorum Philosophiae*, a *Liber Principiorum Juris* and a *Liber Principiorum Medicinae*. Each of these works may be read in *Raymundi Lulli Opera*, ed. Ivo Salzinger (Mainz: John George Haeffner, 1721), Vol. 1, pp. 607-813. The first English version of *The Book on the Principles of Medicine* may be read in *Selected Writings of Ramon Llull*, tr. and ed. Anthony Bonner (Princeton: Princeton University Press, 1985), Vol. 2, pp. 1119-1214.

<sup>29</sup> "Lo teòleg parla de Déu en quant la sua essència, propietats, dignitats e les obres que ha en si mateix e en les creatures." *Arbre*, part 5, 5, 5, in *Obres*, Vol. 1, p. 633. "Theologia est finis omnium aliarum scientiarum, utpote tractans de ultimo fine, et est impressio summae sapientiae, per finem enim iudicatur de iis, quae sunt ad finem." Lull, *Introductoria*, Vol. 3, p. 57.

<sup>30</sup> "... per assò theologia se covè a la filosofia, qui es ciencia natural." Lull, *Doctrina*, ch. 75, p. 190.

adequate knowledge of the First Being,<sup>31</sup> b) theology has been developed along two valid ways giving rise to either a scriptural or positive theology or to a dialectical or discursive one. The latter kind of theology has been engaged in mainly by philosopher-theologians.<sup>32</sup>

Of philosophy itself Llull declares that it is the universal science of first things (i.e., principles),<sup>33</sup> a science therefore of the whole of reality in its principles, sought after simply out of love for the truth.<sup>34</sup> By means of this science of "first things" we rise even to some knowledge of the First Being or God.<sup>35</sup> This we can accomplish only on the basis of our prior knowledge of beings that are the effects of the "first things," of which God is absolutely the First One. The innumerable beings that together we designate "the world" are the visible effects of the first principles. Of them the more significant and numerous provide us with the distinct objects of the various departments of speculative philosophy<sup>36</sup> with which Llull acquaints us on the basis of much of the Aristotelian *corpus*.<sup>37</sup> Metaphysics is of course first in the order of importance since not only is it the science of the basic notions common to all science, but also a science of the first realities and of the First Being through reason alone. Without entering into discussions on the various parts of philosophy, the *Arbre* notes in its classification that the first things of which philosophy speaks are the subject matter developed in its "natural trees." Other "trees," e.g., the moral and imperial ones,<sup>38</sup> are not parts of speculative philosophy. Yet their inclusion within the *Arbre* proves that Llull was not ignorant of moral or practical philosophy.

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31 "Aristotil e Plato e los altres filòsofs qui volien aver conxensa de Deu sens fe no pogren, fill, pujar tant alt lur enteniment que poguessen aver declaradament conxensa de Deu ne de ses obres ne de so perque hom va a Deu." *Loc. cit.*

32 "... e per açò los teòlogs filòsofs han major delectació que los altres, per ço car atenyen de necessitat ..." Llull, *Arbre*, part 5, 5, 5, in *Obres*, Vol. 1, p. 633.

33 "... un hàbit universal .... E per açò lo filòsof consira les coses primeres e reals ..." *Loc. cit.*

34 "Lo filòsof ama saber la veritat de les coses per ço que an aquell saber delectació pusca haver." Llull, *Arbre*, part 5, 5, 5, in *Obres*, Vol. 1, p. 633.

35 "En ... metafísica enten lo filòsof ... e tracta de les primeres coses a quis cové ésser, so es, les sustancies espirituals ... per so que pusque venir atrobar primera substancia espiritual e terrenal infinida, complida, qui sia primera causa e fi de totes coses ... e aquest es Deu." Llull, *Doctrina*, ch. 77, pp. 197-98.

36 "Scientiae enim dividuntur ut res." Llull, *Introductoria*, Vol. 3, p. 56.

37 Llull, *Doctrina*, ch. 77, pp. 197-99.

38 See parts 6-7 of *Arbre* in *Obres*, Vol. 1, pp. 635-74.

The two remaining university disciplines listed in Lull's orderly classifications are jurisprudence and medicine,<sup>39</sup> we have already noted. Law or jurisprudence has to do with the principles of justice and of peace, to the end that humans live in harmony and faithfully carry out their obligations towards one another and before God.<sup>40</sup> Particular laws must be constructed so as to insure that each member of society care and work for the public common good and not simply for their own private or particular good to the exclusion of the common good. The distinction between canon and civil law briefly taken up in the *Doctrina* is not explicitly made in the *Arbre's* classification. Instead we have an allusion to emperor and pope<sup>41</sup> and, in later parts, the development of an "imperial" and an "apostolic" "trees."

Other writings intended to establish medicine on the foundations of the Lullian Art demonstrate Lull's interest and modest familiarity with the medical knowledge of his day.<sup>42</sup> In the *Arbre's* classification he explains the essential character of medicine as a body of knowledge touching on things necessary for health, as well as for the prevention and cure of possible illnesses.<sup>43</sup> Since a great measure of its concern is with the causes of health and disease, medicine presupposes and requires acquaintance with a number of principles and truths established in natural philosophy or science.<sup>44</sup> But of course medicine calls also for a great deal of experience and observations in order to see how general scientific principles apply to particular cases.<sup>45</sup>

Lull's classifications of the various bodies of knowledge are clearly orderly and the result of a sufficiently sound grasp characteristic of a cultured and well-educated person. We have seen first of all that he was aware of the strict distinction between science and art and that he recognized their intellectual character, different from that of the moral virtues. Conscious however of a wider usage wherein "science" and "art" are interchangeable he chose this wider usage in the classifications we

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<sup>39</sup> See *Doctrina*, chs. 76, 78, pp. 191, 200. Also Lull, *Arbre*, part 5, 5, 5, in *Obres*, Vol. 1, p. 632.

<sup>40</sup> Lull, *Arbre*, part 5, 5, 5, in *Obres*, Vol. 1, p. 632.

<sup>41</sup> *Loc. cit.*

<sup>42</sup> See n. 28 above.

<sup>43</sup> Lull, *Arbre*, part 5, 5, 5, in *Obres*, Vol. 1, pp. 632-33.

<sup>44</sup> *Loc. cit.*

<sup>45</sup> *Loc. cit.*



have alluded to. With that understanding his classifications in both writings yield basically the same three groups of disciplines: a) the manual, non-liberal or mechanical arts,<sup>46</sup> particularly important for meeting the physical needs and wants of human beings who must satisfy their needs generally in community with others;<sup>47</sup> b) the liberal arts of the traditional trivium and quadrivium,<sup>48</sup> arts which assist man in developing more effectively his distinct rational cognitive nature; c) the more advanced university studies of medicine, law, philosophy and theology.<sup>49</sup> Obviously given man's ultimate destiny and more particularly the nobility of the object studied in theology, as well as the source and basis of its highest teachings, required that the Christian Llull declared it the highest and objectively most important science.<sup>50</sup> On the other hand, of the purely human studies philosophy in at least its highest part, i.e., metaphysics, must be seen as highest by reason of the universal scope of its object which allows it to help in the construction of a dialectical philosophical theology. The value and significance lastly of the studies of law and medicine can and must be gauged by their contribution, in theory and in practice, to the better understanding and realization of man's well-being, physically and socially. It is by reason of their concern with the well-being of man that they have to take into account the principles and teachings of philosophy, especially the parts of it we name today natural philosophy and philosophical anthropology.<sup>51</sup>

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<sup>46</sup> Llull, *Doctrina*, ch. 79, p. 208; *Arbre*, part 5, 5, 5, in *Obres*, Vol. 1, pp. 628-30.

<sup>47</sup> "... per donar sustentació a vida corporal." Llull, *Doctrina*, ch. 79, p. 208.

<sup>48</sup> Llull, *Doctrina*, chs. 73-4, pp. 183-88; *Arbre*, part 5, 5, 5, in *Obres*, Vol. 1, pp. 630-32.

<sup>49</sup> Llull, *Doctrina*, chs. 75-78, pp. 189-208.

<sup>50</sup> "Theologia est finis omnium scientiarum, utpote tractans de ultimo fine, et est impressio summae sapientiae." Llull, *Introductoria*, Vol. 3, p. 57. "On aquesta sciencia de theologia ... es pus noble sciencia que totes les altres." Llull, *Doctrina*, ch. 75, p. 189.

<sup>51</sup> One may wonder why Llull did not include his Art on either of the two lists which we have examined. Probably because the lists were meant to include bodies of knowledge generally accepted by the learned world at large. This was not the case of course with the Art that he himself had developed, though he desired that it be so accepted.

E.P. BOS

## Marsilius of Inghen on the Subject of a Science

### 1. Introduction

Marsilius of Inghen (shortly before 1340-1396<sup>1</sup>) was one of the many medieval philosophers who discussed the notion of the 'subject of a science' (*subiectum scientiae*), or, to express it more precisely, the notion of the 'first and proper' or 'first and adequate subject of a science' (*subiectum primum et proprium* or *primum et adaequatum scientiae*).<sup>2</sup> The medieval thinkers formulated the fundamental characteristics of the notion and determined its nature. They referred to Aristotle as the one who had developed this notion; indeed, we find the idea developed (under the Greek term '*to genos to hypokeimenon*') especially in Aristotle's *Metaphysics*<sup>3</sup> and *Posterior Analytics*<sup>4</sup>. In accordance with Aristotle's terminology, some of the medieval philosophers spoke of a *genus subiectum*.

With the help of the notion 'subject of a science' the medieval philosophers primarily tried to determine the foundation of the unity of a science and, as a result, in what way one science differed from another. What was the *bearer* of the science, or, to use another medieval phrase, what was its (natural) *place* (*locus*<sup>5</sup>)? The problem especially required attention because, although one could define *scientia* ('science') as the knowledge of one *single* conclusion, in its full sense the term referred to a *collection* of things known, notably of conclusions. The question was:

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<sup>1</sup> See Ritter, 1921: pp. 7-15; Bos in: Marsilius of Inghen, *Treatises on the Properties of Terms* ..., ed. 1983: pp. 6-9.

<sup>2</sup> See e.g. in Marsilius of Inghen, *Quaestiones in Aristotelis Physicam*, in manuscript Cuyk en St. Agatha, *Kruisherenklooster* (Monastery of the Crutched Friars) C 12, quaestio ii, f. 2rb.

<sup>3</sup> Aristotle, *Metaphysics*, IV, 3 and X, 4.

<sup>4</sup> Aristotle, *Posterior Analytics*, I, 7 and I, 9.

<sup>5</sup> See e.g. John Buridan, *Quaestiones in Physicam*, I, quaestio ii, f. 3ra.

what is the central notion from which a science derives its unity, its place among other sciences and other characteristics?<sup>6</sup>

In the present contribution I shall, first, discuss the problem of the subject of a science in general; I shall present two diverging views on the status of the *subiectum scientiae* which were upheld in the Middle Ages and which may serve as a background to understand Marsilius' interpretation (§ 2). Then I shall discuss Marsilius' own view (§ 3). In order to do so, it is necessary to elucidate Marsilius' fundamental philosophical viewpoint, viz. the way in which he distinguishes between the level of thought and the level of things (§ 3.1). Then I shall discuss Marsilius' interpretation of the *subiectum scientiae* from some of his works on natural philosophy. I have chosen some of his commentaries on Aristotle: one of the two versions of his *Commentary (questions) on Aristotle's Physics*<sup>7</sup>, his *Commentary (questions) on the De caelo et mundo*<sup>8</sup> and his *Commentary (questions) on the De generatione et corruptione*<sup>9</sup> (§ 3.2). A next section is devoted to Marsilius' view on the problem found in his *Commentary (questions) on the Sentences*, where he seems to put a different emphasis in his interpretation of the nature of the *subiectum scientiae*, which is the result, I feel, of the differences in nature between theology (primarily a speculative, but also a practical science) and logic (a practical science) on the one hand, as opposed to e.g. natural science, which is speculative (§ 3.3), on the other. A conclusion winds up this contribution (§ 4).

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<sup>6</sup> See below, § 3.3

<sup>7</sup> Viz. the version preserved in ms Cuyk en St. Agatha, *Kruisherenklooster* C 12, ff. 1ra-123ra. For a description of this manuscript, see De Rijk and Weyers, 1981: pp. 7-17. Markowski (1973) describes Marsilius' other commentary (questions) preserved in ms Vienna, *Ö.N.B., V.P.L.* 5437, ff. 68ra-141ra (the first six books have been handed down in this manuscript). For a discussion of the authenticity, see Bos, 1979.

<sup>8</sup> Preserved in ms Cuyk en St. Agatha, *Kruisherenklooster* C 12, ff. 125ra-171vb. For the authenticity, cf. Bos, 1979.

<sup>9</sup> Ed. Venetiis, 1505.

## 2. *The problem of the first subject of a science*

If a medieval thinker accepted the notion of *one single* subject of a science (which was not, by the way, accepted by everyone, as will be pointed out below<sup>10</sup>), the problem arose what *kind of thing* this subject of a science was. Thirteenth and fourteenth century philosophers largely differed on this, though they agreed, by and large, on its formal characteristics, viz. its function to give unity to the science, to distinguish one science from another etcetera.

First of all, it was generally *denied*<sup>11</sup> that the *subiectum* as the bearer of the science should be the human soul. Taken in this sense, the subject of a science was not understood as belonging to one single science: for one soul could possess many sciences.

Secondly, there were two diverging views on the nature of the *subiectum*.<sup>12</sup> John Duns Scotus (ca. 1265-1308/9) held the view that the subject of a science was *a thing in reality outside the human soul*, e.g. a man in the case of biology or God in the case of theology.<sup>13</sup> Even in our human theology, though the human mind is hampered in its knowledge of the first subject (viz. God) by its imperfect powers, a theologian tries to unfold, so to speak, the theological truths out of God.<sup>14</sup>

Another opinion was that the *subiectum scientiae* was the most general term, known by an intellect, and that it comprehends all objects studied in a science in a certain unity. This opinion is e.g. that of Thomas Aquinas (1245-1274).<sup>15</sup> The subject of grammar, for example, is 'word': all adjectival names, verbs, particles etcetera have in common that they are words.

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<sup>10</sup> See § 3.3.

<sup>11</sup> E.g. by William of Ockham, see his *Ordinatio*, book I, qu. IX, ed. 1967: pp. 246-250.

<sup>12</sup> Marsilius gives a catalogue (which is not very precise) of different views on the subject of theology in his *Commentary on the Sentences*, book I, qu. ii ed. 1501, f. 19vb.

<sup>13</sup> Duns Scotus focussed his interest, it seems to me, on reconstructing theology as science and extrapolated this reconstruction to other sciences.

<sup>14</sup> For a recent discussion on Duns Scotus' view on the subject of a science, as well as for literature, see Krop, 1987, esp. pp. 33-47.

<sup>15</sup> Texts in Zimmerman, 1965: pp. 160 ff., notably pp. 162-163.



### 3. Marsilius of Inghen on the subject of a science

After these introductory remarks I shall now discuss Marsilius of Inghen's view on the first subject of a science. This view can be found in many of his works.

A distinction should be made between what I call the 'formal characteristics' of the notion, and its nature. With the same formal characteristics in hand, Marsilius determines the nature of the *subiectum scientiae* differently for sciences with a different nature (viz. either speculative or, at least partly, practical, in some sense). In my discussion of its nature I shall distinguish between his works on natural philosophy notably contained in his *Commentaries on Aristotle* (written in the late 1360ies in Paris, or partly in Heidelberg) and his voluminous theological *Commentary on the Sentences* (completed in 1394 in Heidelberg), because Marsilius determines the nature of the *subiectum scientiae* differently in both groups of commentaries.

Before entering into a discussion of the formal characteristics of the *subiectum*, let us, first, say something about Marsilius' general philosophical outlook which dominates the problem, that is, the way in which he distinguishes between the level of thought and the level of things (his nominalism).

#### 3.1. The level of thought and the level of things

All kinds of knowledge, that is both knowledge acquired by the senses, as well as intellectual knowledge are acts, Marsilius says,<sup>16</sup> about individual things (both material, such as cows, men, etcetera, and immaterial, such as emotions, acts of knowledge, etcetera). Things of a general nature, such as Platonic Ideas, do not exist as independent realities.<sup>17</sup> Generality is a property of concepts, or, subordinate of these, of spoken and written terms. These contents of thought can refer to individual things in the outside world. Now Marsilius distinguishes sharply

<sup>16</sup> See Marsilius of Inghen, *Commentary on the Sentences*, book I, qu. ii, f. 10rb.

<sup>17</sup> Not even in God. It is a general thirteenth and fourteenth century view that in God Ideas *only* exist as thought objects, which have a lesser kind of existence than substances, which have 'real' existence. See for Ockham's view e.g. Maurer, 1976; Bos, 1984/5.

between the level of thought and the level of things. Those philosophers who ascribe generality to mental terms of nouns are called 'nominalists' in the Middle Ages (because the universality is a property of the mental *nomen* ('noun')), though there are different degrees in which they draw this distinction.

This distinction is also reflected in Marsilius' theory of truth. When used separately, terms have signification (*significatio*), but they do not refer to anything existing at some particular time or some particular place. According to Marsilius and contemporary logicians the latter kind of signification occurs only in a proposition, in which it is explained in terms of the theory of 'supposition' (*suppositio*), or, in modern terms and in so far as it is applicable to Marsilius' view, reference to things in the outside world. Though Marsilius is not as radical an extensionalist as e.g. Ockham,<sup>18</sup> he emphasizes that the generally connoted by e.g. 'white' in 'Sortes is white' is not to be found in reality.

### 3.2. *The formal characteristics of the 'subject of a science'*

In his *Commentary (questions) on Aristotle's Physics* Marsilius clearly defines *subiectum* as opposed to *obiectum* ('that which is an object to an intellect').<sup>19</sup> This opposition is traditional. The *Commentary on the Physics*<sup>20</sup> is one of the works in which Marsilius discusses the formal characteristics of the *subiectum primum*. He says that *scientia* can be interpreted as a 'disposition' (*habitus*) about one *single* conclusion, e.g. from a book on physics;<sup>21</sup> more commonly, however, as a disposition of *many* conclusions contained in all books of the science. Now the question

<sup>18</sup> E.g. Marsilius does not seem to advocate that the predicate term extensionally refers to things in the outside world, but rather that it connotes an aspect under which the thing, or things, referred to by the subject term is (are) considered; e.g. in 'Socrates is white' the predicate term 'white' brings to the mind the concept of whiteness (existing individually in Socrates) under which Socrates is considered: see Bos in: Marsilius of Inghen, *Treatises on the Properties of Terms ...*, ed. 1983: esp. p. 128).

<sup>19</sup> Note that *obiectum* has another meaning than the word 'object' which can e.g. be taken to refer to things in the world outside the human subject without reference to an intellect.

<sup>20</sup> In ms Cuyk en St. Agatha, *Kruisherenklooster* C 12, quaestio ii, f. 2ra f.

<sup>21</sup> See Marsilius of Inghen, *Quaestiones in Physicam*, in ms Cuyk en St. Agatha, *Kruisherenklooster*, C 12, f. 2vb. As often in the Middle Ages, 'science' is knowledge of conclusions contained in books, esp. by Aristotle.

is what causes the unity of the science in which conclusions are proved? This unity is not that of e.g. matter and form, a quantity of water, a bundle of straw or a heap of stones, but it is a unity of 'attribution' (*attributio*) or 'order' (*ordo*), like in an army everything is directed towards a leader, Marsilius says. All things studied in a science are thus related to the first subject. The exact nature of the *subiectum scientiae* (viz. whether it is a thing, or concept) remains to be determined.

In the other commentaries on Aristotle's works Marsilius holds the same view on the formal characteristics of the 'subject of a science'. I shall list these characteristics by way of an example drawn from one of Marsilius' works, viz. his *Commentary (questions) on Aristotle's De generatione et corruptione*: the 'subject' of this science is *ens mobile ad formam* ('being moving towards a form'). This concept 'bears' the science which investigates generation and corruption and all objects studied are brought into relation with it. These formal characteristics can be found in different places of Marsilius' works.

1. It is the most general concept that can be said of all principal objects studied in this science. E.g. it can be said of a cow or a horse that they are in movement towards a form.<sup>22</sup> So, as I interpret Marsilius' view, the subject of a science in fact is a predicate term that can be said of the principal objects which, in turn, are the subject terms (e.g. 'this horse is a being moving towards a form' etcetera).

2. All objects of this science are related to this subject (here the *subiectum scientiae* is called the *subiectum attributionis*).<sup>23</sup> Not only the principal objects as mentioned under characteristic 1 are meant, but also parts, or negations of these principal objects. For the science on generation and corruption also studies bones, blood (which are parts of the subject) and rotten organisms (which are negations of the subject).

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<sup>22</sup> See Marsilius of Inghen, *Quaestiones in De caelo et mundo*, book I, qu. 1, in ms Cuyk en St. Agatha, *Kruissherenklooster C 12*, f. 125va; *Commentary on the Sentences*, book I, qu. ii, ed. 1501: f. 19va.

<sup>23</sup> See Marsilius of Inghen, *Quaestiones in De generatione et corruptione*, book I, qu. i, ed. 1505, f. 65rb; id., *Quaestiones in Physicam*, book I, qu. i, ms Cuyk en St. Agatha, *Kruissherenklooster C 12*, f. 3ra; id., *Commentary on the Sentences*, book I, qu. ii, ed. 1501, f. 19va.

3. The subject 'being moving towards a form' gives unity to the science,<sup>24</sup> for, as has been said, all objects are related to this subject.

4. The subject does not exceed the borders (*mete*) of the science.<sup>25</sup> This implies: one subject is not at the same time the subject of another science. The science on generation and corruption is a necessary discipline, not superfluous.

5. The subject 'being moving towards a form' is the term<sup>26</sup> first known in the science,<sup>27</sup> that is, not in a chronological, but in the logical sense. The science on generation and corruption tries to demonstrate the essential properties of the subject.

6. The subject is a sign, which can refer to (or, in technical terms 'can supposit for') other things.<sup>28</sup>

7. The subject is primarily a mental term.<sup>29</sup>

### 3.3. *The nature of the 'subject of a science' in Marsilius' works on natural philosophy*

These are the main formal characteristics of the subject of a science as Marsilius conceives it. In the works mentioned above, which are commentaries on Aristotle and works on natural philosophy, and therefore speculative sciences, he seems to follow Buridan (ca. 1300- shortly after 1358).<sup>30</sup> It should be noted that in Marsilius' view the subject of a science is the *subiectum attributionis*. Though he compares a science with an army in which all elements are ordered towards the leader, the subject is primarily the way of consideration by which a scientist studies he

<sup>24</sup> See Marsilius of Inghen, *Quaestiones in Physicam*, book I, qu. i, in ms Cuyk en St. Agatha, *Kruisherenklooster C 12*, f. 2vb; id., *Commentary on the Sentences*, book I, qu. ii, article v, ed. 1501, ff. 19ra-rb.

<sup>25</sup> See Marsilius of Inghen, *Quaestiones in Physicam*, book I, qu. i, in ms Cuyk en St. Agatha, *Kruisherenklooster C 12*, f. 2vb; id., *Commentary on the Sentences*, book I, qu. ii, ed 1501, f. 19va.

<sup>26</sup> Marsilius says 'terminus', where we would say 'object'.

<sup>27</sup> See Marsilius of Inghen, *Quaestiones in De generatione et corruptione*, book I, qu. i, ed. 1505, f. 65rb; id., *Commentary on the Sentences*, book I, qu. ii, ed. 1501, f. 19va.

<sup>28</sup> For references, see note 27.

<sup>29</sup> See Marsilius of Inghen, *Commentary on the Sentences*, book I, qu. ii, ed. 1501, f. 19va.

<sup>30</sup> See John Buridan, *Quaestiones in Physicam*, book I, qu. ii, conclusion vii, ed. 1509, f. 3ra.

objects. Attribution is here to the concept. Often, Marsilius uses the term *considerare* in this respect. E.g. in his *Commentary on Aristotle's De generatione et corruptione* Marsilius repeatedly says that natural philosophy is a science which *considers* things in so far as they are mobile. So the subject of a science is a concept which can supposit for things in the world outside the human intellect.

In his commentaries on Aristotle's works mentioned above Marsilius advocates the conception of the subject according to which emphasis is laid on the way of consideration by the intellect, though he used different comparisons to elucidate the notion. This consideration by the intellect is also advocated by e.g. Thomas Aquinas. E.g. we may also find Marsilius' comparison of the way a science obtains unity with the unity of sense-knowledge.

Marsilius also uses the notion of unity by attribution, a kind of analogy, like Buridan.<sup>31</sup> There is a kind of analogy between the objects and the subject of a science, just as urine or food is healthy in an analogous way to the health of a natural body, to which food and urine are related. This kind of subject as the *subiectum attributionis*, can already be found in Henry of Ghent (1200(?)-1296).

#### 3.4. *The nature of the 'subject of a science' in Marsilius' Commentary on the Sentences*

In his *Commentary on the Sentences* Marsilius seems to advocate the same view on the 'subject of a science'; but when he discusses the unity of theology, in which he is so interested that he devotes a separate article of question ii of book I to it,<sup>32</sup> another emphasis in his interpretation comes forward.

In his *Commentary on the Sentences* Marsilius primarily tries to define the subject of theology, and its function for the unity of the science. He concludes that theology and other sciences (note, however, that *logic* is his other example) are one because these sciences have one goal: God is the goal of human beings on their way to Paradise, and theology tells men how to obtain eternal blessedness. In logic everything

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<sup>31</sup> For a recent discussion on the subject of physics, see Thijssen, 1987, his § 3.1.1.3, pp. 101-104.

<sup>32</sup> See reference in note 22.



is studied to frame an argument. In Marsilius' view, logic is practical because it studies things with a view to use them to advance other sciences.<sup>33</sup> This interpretation of the *subiectum* as goal, whereby everything in science is studied to obtain something, is another interpretation of the nature of the *subiectum scientiae* in Marsilius' work. No doubt this interpretation is suggested by the problem of the nature of theology. Though according to Marsilius theology is primarily a speculative, and secondarily a practical science, that is: it is primarily directed to knowledge, and secondarily to learn how to obtain eternal blessedness, everything in theology is directed to God, that which every being, the theologian included, tries to attain. He says: 'The complete goal of the Bible and theology immediately and in the proper sense is man's salvation, viz. how *viatores*, i.e. men on their way to Paradise, can obtain blessedness'.<sup>34</sup>

It should be noted that John Buridan defines ethics with regard to its goal: in practical sciences the goal is the formal basis of consideration (*ratio formalis considerandi*).<sup>35</sup>

One could think that Marsilius changed his view on the nature of the subject of a science in his later works. I prefer to think that the very nature of theology, which is about God, a real existing, individual thing and the goal of human life (in Marsilius' conception of theology) brought Marsilius to a view different from his earlier commentaries on Aristotle. The other example Marsilius uses in his *Commentary on the Sentences*, is logic: he conceives of logic as a practical science, directed to frame arguments to advance other sciences: 'syllogism' is the 'subject of logic'.<sup>36</sup>

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<sup>33</sup> See Marsilius of Inghen, *Quaestiones in librum Porphyrii*, book I, qu. i, in ms Vienna, Ö.N.B., V.P.L. 4998, ff. 3va-4rb.

<sup>34</sup> Marsilius of Inghen, *Commentary on the Sentences*, book I, qu. ii, ed. 1501, f. 20ra.

<sup>35</sup> John Buridan, *Quaestiones in Ethicam*, book I, qu. i, ed. 1509, f. 4vb.

<sup>36</sup> Marsilius of Inghen, *Commentary on the Sentences*, book I, qu. ii, ed. 1501, f. 19va.

### 3.5. Marsilius of Inghen and William of Ockham on the 'subject of a science'

In respect of the problem discussed in this paper, Marsilius differs from Ockham in that the former does acknowledge the unity of a science, whereas the latter does not. Ockham says that the subject of a science<sup>37</sup> is the subject of a conclusion known in that science. So there are as many sciences as there are conclusions. Taken in this sense, each science is numerically one. But one can also speak of science in a broader sense, viz. as a collection of things known. But in that case, Ockham says, one can not ask for the unity science: it is equally absurd to ask who is the king of the world, or of Christianity: for there is none.

Among conclusions of a science, however, there can be a certain order, either according to the subject terms, or to the predicate terms, or both. An example of an order according to predicate terms is when of the same subject term, e.g. a geometrical figure, many properties are proved in a hierarchic order, e.g. line, triangle, quadrangle. The predicate terms are ordered according to increasing complexity. An example of an order according to subject terms is, according to Ockham, when common properties can be proved of subject terms in a hierarchic order. E.g. 'sensitive animal' can be proved of 'animal', 'man', 'this man' etcetera. An ordering according to both subject and predicate terms would be (Ockham often given only few examples), e.g. 'animal is a sensitive', 'man is reasonable'. In this respect, Marsilius cannot be labelled an Ockhamist in any strict sense as well as in others indicated by Ritter (1921).

In his *Commentary on the Sentences* Ockham denies that a science can have an unity in strict sense. There is only a unity of collection according to changing aspects. The difference between the sciences is more difficult to determine, it seems. Theology has a unity, Ockham says, insofar as all Christians and therefore all Christian theologians possess 'infused faith' (*fides infusa*). Marsilius certainly does not deny this, but he goes further than Ockham: he also acknowledges unity on the 'objective' side of the science (viz. in acquired faith (*fides acquisita*)).

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<sup>37</sup> William of Ockham, *Scriptum in librum primum Sententiarum. Ordinatio*, book I, prologue, qu. ix, ed. 1967, pp. 247-248.

In the Prologue to his *Commentary (expositio) on the books of logic*<sup>38</sup> Ockham formulates the *subiectum* of logic in another way: he interprets the problem of the 'subject of logic' as the problem of the causes of logic. Then, he says, there are two external causes: the efficient cause is Aristotle; the final cause are acts of knowledge. The subject cannot be the formal cause, of course: this would give logic a unity in the way Ockham does not accept.

#### 4. Conclusion

In many parts of his philosophy Marsilius of Inghen is not a very original thinker: he not only depends on others in important respects, but he also tries to combine opinions of other philosophers and theologians which are sometimes hard to combine. In his view of the *subiectum scientiae* he is dependent on Buridan, at least as regards natural sciences. In his *Commentary on the Sentences* he interprets the subject of a science as a goal, while the subject continues to fulfil its other function, like giving unity etcetera. The example is here theology, which, though primarily a speculative science, is also a practical science, for it aims to expose how the faithful should act to obtain eternal blessedness. In this commentary logic is described in the same way as theology: logic is fully a practical science, which aims to frame arguments. The subject of logic too, provides the goal at which logic aims.

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<sup>38</sup> William of Ockham, *Expositionis in libros artis logicae prooemium*, ed. 1978, p. 2, line 15; p. 3, line 50 - p. 6 line 83.

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C.S.F. BURNETT

**Innovations in the Classification of the Sciences  
in the Twelfth Century**

Nearly forty years ago Richard Hunt wrote, in his important article on 'The Introductions to the "Artes" in the Twelfth Century'<sup>1</sup> that 'the first half of the twelfth century, and more especially the second third, was a time when questions of method were a matter of deep concern ... in the hands of men like Hugh of St Victor, Gilbert de la Porrée, Peter Abelard, Thierry of Chartres and William of Conches, traditional terms and schemata sprang into new life and provided the basis for the formulation of new problems.' It is at precisely this time that translations of philosophical and scientific works from Arabic and Greek were beginning to make an impact on Western scholarship. Several authors attempted to reformulate introductions to the seven liberal arts, and to propose novel divisions of science to take into account the new texts.<sup>2</sup> Perhaps the best-known example is that of Dominicus Gundissalinus, who, in his *De divisione philosophiae* blended together Latin material from Thierry of Chartres and Hugh of St Victor with Arabic material from al-Fārābī's *Classification of the Sciences*.<sup>3</sup> In this article three introductions to the arts in which divisions of knowledge are made, are discussed. Of these one is printed and has occasionally been referred to; the other two are hitherto unknown.

The first text to be considered is an introduction to Boethius's *De arithmetica* in a twelfth-century manuscript from the Franciscan Convent in Coventry, now in Trinity College, Cambridge.<sup>4</sup> The ultimate origin of

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<sup>1</sup> *Studia Mediaevalia R.J. Martin O.P.* (Bruges, 1948), pp. 85-112, see p. 85.

<sup>2</sup> For the principal divisions of science current in the twelfth century see J. Weisheipl, 'Classification of the Sciences in Medieval Thought,' *Mediaeval Studies* 27 (1965), pp. 54-90, and G. Dahan, 'Une Introduction à la philosophie au xii<sup>e</sup> siècle', *AHDLMA*, 57 (1982), pp. 155-93.

<sup>3</sup> Ed. L. Baur, BGPTM, 4.2-3 (Münster i.W., 1903), and H. Hugonnard-Roche, 'La Classification des sciences de Gundissalinus et l'influence d'Avicenne', in *Études sur Avicenne*, ed. J. Jolivet and R. Rashed (Paris, 1984), pp. 41-75.

<sup>4</sup> MS R.15.16. M.R. James, *The Western Manuscripts in Trinity College, Cambridge* (Cambridge, 1901), vol. II, pp. 354-5. The text is edited in the Appendix below. For

this manuscript is not known, but its Englishness is unmistakable. The hand is English, and the text includes reference to the 'modern' Adelard of Bath, and to a work - or more precisely to a procedure for multiplying and dividing - with the Arabic name 'helceph', which is only found elsewhere in the title of an arithmetical work by a pupil of Adelard.<sup>5</sup> It is safe to assume that the introduction was written towards the middle of the twelfth century, at about the time of Adelard's death; it gives every impression of being an autograph. On the surface it appears to match other introductions to the *artes* of the period. It considers the subject that it introduces (*ars extrinsecus*) under several headings: what it is, what is its genus, its matter, its species, its parts, its duty (*officium*), the practitioner, the tool, the aim, the reason for its name, and in what order it should be taught and learnt. These correspond to the headings one finds in Gundissalinus's *De divisione philosophiae*, the introductions to commentaries on Priscian discussed by Richard Hunt, and elsewhere. In line with these other texts our author then turns from headings by referring to the subject, to headings appropriate to the book itself (*ars intrinsecus*): its author, his intention, the title of the book, the method of dealing with the subject-matter and the position of the book in the curriculum. Our author begins to deal with each of these headings in turn. So far there is nothing remarkable. In discussing the genus, he refers to the division of philosophy into theoretical speculation, ethics and logic, each of these divided into three parts: the three parts of the theoretical division corresponding to theology, physics and mathematics. His definition of these parts is close to that found in another English work - the *Ysagoge in theologiam*.<sup>6</sup> Then, two-thirds of the way through

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other medieval introductions to Boethius's work see G.R. Evans, 'Introductions to Boethius's "Arithmetica" of the Tenth to the Fourteenth Century,' *History of Science*, 16 (1978), pp. 22-41. None of these are related to the text under discussion.

<sup>5</sup> The work with the title *Ocreatus in Helceph ad Adelardum Batensem magistrum suum*, in Paris, Bibliothèque nationale, lat. 6626 (s.xii or s.xiii), fols. 84-87<sup>v</sup>) has been edited by C. Henry in *Abhandlungen zur Geschichte der Mathematik* 3 (1880), pp. 129-39, and described in *Adelard of Bath: An English Scientist and Arabist in the Early Twelfth Century*, ed. C. Burnett (London, 1987), pp. 174-5.

<sup>6</sup> Compare 20 with *Ysagoge in theologiam*, ed. A. Landgraf, *Écrits théologiques de l'école d'Abélard*, Spicilegium sacrum lovaniense, 14 (Louvain, 1934), pp. 61-289, see p. 71.12-15; Quia vero utriusque materia tripartita est, utramque in tres species partimur. Sunt enim incorporeorum tria genera: primum invisibilis substantia, secundum invisibilis visibilium causa, tertium visibilis visibilium forma. For the English affiliations of the *Ysagoge* see C. Baswell, 'The Medieval Allegorization of the "Aeneid": MS Cambridge, Peterhouse 158,' *Traditio*, 41 (1985), pp. 181-237, see pp. 212-3.

the text, there is a surprising change of direction. When our author has come to the point at which he should be describing the author, title and scope of Boethius's *De arithmetica*, instead, he decides to write about the *authorities* of arithmetic, and, he adds, 'because of this, concerning [the authorities of] the other arts as well' (54). There follows an account of the development of each of the arts in turn, and the most important texts for them. Unfortunately after dealing with grammar, rhetoric, dialectic, arithmetic and geometry, the text tails off in the section on music with some marginal notes, and the final section on astronomy appears never to have been written. Nevertheless what we have is most interesting. The author is aware of the latest works in each field. He differentiates between the old logic and the new, and refers to the *Prior* and *Posterior Analytics* of Aristotle and his eight books of *Topics*, alongside the *Topica* of Cicero and the *De differentiis topicis* of Boethius.<sup>7</sup> Under arithmetic, as we have seen, he refers to the Arabic multiplication tables using the term 'helcep', but also to the abacus, and, in another section of the introduction, he wonders whether this instrument should be assigned to arithmetic or geometry.<sup>8</sup> Under geometry, he refers to the Arabic translations of Greek texts by Qusṭā ibn Lūqā<sup>9</sup> and the works of the 'moderns' Adelard, John and William.<sup>10</sup> It

<sup>7</sup> Boethius's translations of the *Topics* and *Prior Analytics* became known again from the 1120s onwards; B.G. Dod, 'Aristoteles latinus', in *The Cambridge History of Later Medieval Philosophy*, ed. N. Kretzmann, A. Kenny and J. Pinborg (Cambridge, 1982), p. 46. John of Salisbury is the earliest medieval author to show knowledge of the *Posterior Analytics*, which is summarized in his *Metalogicon* (written 1159).

<sup>8</sup> 37 'The instrument of [arithmetic] is the abacus (i.e. 'set of ten'). It is the Pythagorean table on which multiplications and divisions are practised. 38 But we say that (a) it is not of this part that the abacus is an instrument, nor (b) is the duty of this part of arithmetic to multiply and divide. For abacists even divide the unit, which arithmeticians refuse to do.' The description of the abacus as *mensa pitagorica* is found in both 'Boethius's' *Geometria II*, ed. M. Folkerts (Wiesbaden, 1970), p. 139, and Adelard of Bath's *Regule abaci*, ed. B. Boncompagni, *Bullettino di bibliografia e di storia delle scienze matematiche e fisiche*, 14 (1881), p. 91.

<sup>9</sup> Qusṭā ibn Lūqā was an eminent ninth-century mathematician and doctor who translated from Greek into Arabic, among other things, Diophantus's *Arithmetic*, Theodosius's *Sphaerica*, and Pseudo-Plutarch's (Aetius's) *Placita Philosophorum*, and wrote commentaries on Euclid's *Elements*. How our author might have known this is obscure, since the only works of Qusṭā ibn Lūqā available in Latin in the mid-twelfth century were two medical works: *De differentia anime et spiritus*, translated by John of Seville (earliest MS, National Library of Scotland, Adv. MS. 18-6-11, s.xii) and *De ligaturis physicis*, translated by Constantine of Africa (earliest MS British Library, Add. 22,719, s.xii). His works on spherical geometry - *Practica sphaerae solidae* and *Tractatus sphaerae volubilis* - were not translated until the early fourteenth century; see M.-T. d'Alverny, 'Translations and Translators' in *Renaissance and Renewal in the Twelfth*

might appear that these new authorities have been made to fit comfortably into the old scheme of the seven arts. However, there are signs that our author did not accept the traditional scheme without some qualms. First of all he admits that 'certain people deny that grammar is one of the seven liberal arts, saying that there can be as many grammars as languages and therefore as many arts.' These men, he says, 'raise physics to the highest position, a science which we do not number amongst the arts, since, as Ptolemy says, it should be placed above the arts, as the cause of the arts' (55). On the authority of his own people (*nostris*) and of Aristotle in the first book of the *De sophisticis elenchis*, our author considers grammar an art after all.<sup>11</sup> This passage is interesting for more than one reason. First of all, he cites Ptolemy. I have not yet located his citation in the *Almagest*, the *Tetrabiblos*, the *Centiloquium*, or a doxography, but even if it is not a precise citation from any of these sources, it shows that our author was keen to adduce the authority of a great scientist who was only known by hearsay before the early twelfth century. Secondly, he knows of authorities who have substituted physics for grammar. Physics, according to our author's own definition (14), is concerned with the natures of things, judging bodies and the invisible causes of visible things. Its position amongst the seven arts obviously puzzled our author, since one of the two marginal notes with which his introduction ends appears to be a memorandum to himself:

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*Century*, ed. R.L. Benson and G. Constable (Oxford, 1982), p. 446 and E.R. Harvey, 'Qusṭā ibn Lūqā', *Dictionary of Scientific Biography*, ed. C.C. Gillispie (New York, 1975), vol. 11, pp. 244-6.

<sup>10</sup> John and William are not identifiable as well-known twelfth-century geometers. A 'Johannes Ocreatus' (who might be the same as the author of the book on the Arabic 'helcep') is credited with a version of Adelard's translation of Euclid's *Elements* known as Adelard II (see *Adelard of Bath*, *op. cit.*, p. 170), and both John and William may have been pupils of Adelard.

<sup>11</sup> It is difficult to see which statement of Ptolemy he is referring to, since his citation does not correspond to any of the sayings of Ptolemy collected by al-Mubashshir ibn Fātik which preface Gerard of Cremona's translation of the *Almagest* (P. Kunitzsch, *Der Almagest* (Wiesbaden, 1974), p. 98), nor to anything in Ptolemy's own division of science in the first paragraphs of the *Almagest*. The author could be remembering Hermann of Carinthia's preface to Ptolemy's *Planisphere* which begins 'Quemadmodum Ptholomeus ... [dicit], que cunctis disciplinalibus scientiis finis est, ipsa earundem omnium principium existit', and describes physics as being the study of the principles of all coming-to-be; ed. J.L. Heiberg, *Ptolemaei opera astronomica minora* (Leipzig, 1907), p. clxxxiii. The only reference to grammar in the first book of *De sophisticis elenchis* is 165b30-32 (ed. B.G. Dod, *Aristoteles latinus*, 6.1-3 (Bruxelles-Leiden, 1975), p. 8): Sunt autem secundum aequivocationem huiusmodi orationes, ut quoniam discunt scientes: nam secundum os discunt grammatici.



'[Say] more about those things which concern physics.'<sup>12</sup> One can, moreover, point to one such scholar who substituted physics for grammar - that is, Petrus Alfonsi, whose division of science we will consider next.

Whereas the author of the introduction to Boethius's *De arithmetica* did not get as far as astronomy, Petrus Alfonsi wrote a short text which is specifically an introduction to astronomy, and accompanies his own version of astronomical tables. This text has been edited by José-Maria Millás-Vallicrosa, and is generally known as 'The letter to the Peripatetics of France.'<sup>13</sup> Petrus Alfonsi, as is well known, was baptised in Huesca in Aragon, in 1106, but by then had already acquired considerable status in the Jewish community in Spain. His learning was formed by the rich resources of the Arabs in Spain, and in his letter he is advertising the new science of astronomy, and himself as a teacher, to the scholars of Europe.<sup>14</sup> Out of consideration for his readers Petrus takes the Latin division of the liberal arts and investigates whether they are useful in themselves and/or to each other. In so doing he mentions that grammar should not be included amongst the seven arts, because it does not 'prove' anything; it is not an *argumentalis scientia*. Like the author of the Coventry introduction, he adds the objection that grammar is not the same in all languages.<sup>15</sup> Petrus omits reference to rhetoric altogether, and states that dialectic is useful in that, like a touchstone, it examines the validity of arguments. Then he passes via arithmetic and music to physics, which he evidently considers to be on a par with the other subjects. His conclusion, as one would expect, is that astronomy is the most useful of the arts, and the rest of the letter concerns the justification of the science of the stars, the way it should be taught and the division of its subject-matter into what we may call celestial physics, spherical geometry and terrestrial physics.<sup>16</sup> For Petrus Alfonsi *physica* means specifically, medicine, for it is 'that art through which health can

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<sup>12</sup> See below, p. 22.

<sup>13</sup> Edited by J.-M. Millás-Vallicrosa, 'La aportación astronómica de Pedro Alfonso', *Sefarad* 3 (1943), pp. 97-105.

<sup>14</sup> 'Francia' probably reflects the Arabic word 'Firanja' which referred to Europe as a whole.

<sup>15</sup> Ed. Millás-Vallicrosa, p. 98: *Invenimus autem nonnullos ex vobis grammaticae studentes scientie, que quamvis inter artes VII nequeat computari cum neque sit argumentalis scientia nec in omnibus linguis eadem sed omnino diversa, tamen et ad artes est necessaria.*

<sup>16</sup> Ed. Millás-Vallicrosa, p. 105.



be preserved and length of life in this world can be assured.<sup>17</sup> Of course, medicine involves theoretical as well as practical knowledge - knowledge of the elements and humours, as well as of medicines and diseases. In this respect it is very much the kind of subject described in the first part of the *Pantechni* - the translation of the *Kitāb al-malikī* of ʿAlī ibn al-ʿAbbās by Constantine of Africa, whose name Petrus mentions.<sup>18</sup> Out of deference to his Latin audience Petrus makes use of the division into seven liberal arts, but his mental attitude has clearly been formed in the context of the Arabic philosophy in which he had been educated. In this philosophy physics was clearly defined, coming between theology and mathematics. In his collection of Hebrew and Arabic exemplary tales, the *Disciplina clericalis*, Petrus sketches a scheme of the seven arts similar to that assumed in the letter to the Peripatetics of France. He states that the first six are dialectic, arithmetic, geometry, medicine (*phísica*), music, astronomy, but as for the seventh, 'those who admit the possibility of prophecies say that it is necromancy; those who do not, say it is philosophy, and those who do not study philosophy say that it is grammar.'<sup>19</sup>

The third division of science is the most bizarre and seems to disregard the division according to the seven arts altogether. It occurs in two manuscripts, in each case adjacent to works of Adelard of Bath. The earlier manuscript is English and of the late twelfth century.<sup>20</sup> The text is untitled, but I call it 'Ut testatur Ergaphalau' after its opening words. It is an introduction to the science of the stars, but does not restrict itself to this science, since, as 'Ergaphalau' states, 'no one can understand any subject unless he has thoroughly mastered the sciences

<sup>17</sup> Ed. Millás-Vallicrosa, p. 99: Sit ars illa per quam salus servari et diuturnitas vite in hoc valeat mundo agnosci.

<sup>18</sup> Ed. Millás-Vallicrosa, p. 99: sicut Constantinus in libro suo quem de lingua saracena transtulit in latinam testatur.

<sup>19</sup> Ed. A. Hilka and W. Söderhjelm (Helsinki, 1911), p. 10: [Discipulus]: cum septem sint artes et septem probitates et septem industriae, vellem ut haec mihi sicut se habent enumerares. Magister: Enumerabo. Hae sunt artes: Dialectica, arithmetica, geometria, phísica, musica, astronomia. De septima vero diversae plurimorum sunt sententiae quatenam sit: Philosophi qui prophetias sectantur, aiunt nigromantiam esse septimam. Aliqui ex illis videlicet qui prophetiis non credunt, philosophiam volunt esse septimam, quae res naturales vel elementa mundana praecellit. Quidam qui philosophiae non student, grammaticam esse affirmant.

<sup>20</sup> This text is discussed and edited in my 'Adelard, Ergaphalau and the Science of the Stars,' in *Adelard of Bath, op. cit.*, pp. 133-45.

which precede that subject.<sup>21</sup> Thus the author first of all seeks to locate the science of the stars within a general scheme of science. This takes the following form.

'Scientia' is divided into two: the science of the soul or the will, and the science of the body or nature. The latter is completely unconnected with book-learning. Rather, it is the knowledge of how to eat and drink, how to run and fight, and how to bring up one's children, and as such is shared by men and brute animals. The science of the will, on the other hand, requires study, and is divided into philosophy, wisdom (*sapientia*) and 'science'. The last division is not described, and of philosophy all that is said is that it is either concerned with fables under which the truth is hidden<sup>22</sup> or works through similes - revealing the nature of higher beings through the consideration of lower ones. It is to *sapientia* that the author devotes his attention for the rest of the introduction. '*Sapientia* is the understanding of those things to which have been allotted with the consent of nature unchangeability of essence'.<sup>23</sup> It is divided into a ministering and a ministered part. The first three subjects of the traditional quadrivium - music, arithmetic and geometry - are described as ministering, but we find that *physica* is the science which they serve: '*Physica* alone is 'ministered', in that it leads out the natural changes of things in a controlled way according to the transit[s] and the stations [of the heavenly bodies].'<sup>24</sup> *Physica* is of two kinds. The first kind is the science of tempering qualities, to preserve the health of man. This is medicine, or the 'microcosmic science'. The second is the science of investigating the fixed state and motions of the greater world, and this is called the 'megacosmic science'. The latter is the 'science of stars', divided into a part which uses instruments and a part in which the intellect alone is employed. To this second part belong mathematical astronomy, as well as the kind of astronomy which appears in the form of myths or the astrology which deals with political events.

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<sup>21</sup> Ed. cit. p. 143: Ut testatur Ergaphalau, absoluta non potest haberi alicuius rei noticia nisi precedentium, velud ratio deposcit, doctrina elucescat.

<sup>22</sup> Martianus Capella's 'Philosophy' (presumably his *De nuptiis Philologiae et Mercurii*) is given as an example of this.

<sup>23</sup> Ed. cit., p. 143: Est sapientia ... comprehensio rerum que inmutabilitatem essentiae sue volente natura sortiuntur. This definition is modelled on that of Boethius in *De arithmetica*, I, 1; ed. G. Friedlein (Leipzig, 1867), p. 8, lines 11-15.

<sup>24</sup> Ibid.: Est igitur sola physica ministrata que naturales immutationes rerum secundum transitum et moras continenter absolvit.

The first part which relies on instruments is the experimental science, and is involved with the prediction or manipulation of the future. It receives several divisions, depending on what form of prediction is used, and whether talismans and incantations are used. For each of the divisions of the science of the stars the author gives an authority. Among those that are recognizable are Hermes and Alexander [the Great], Martianus, al-Farghānī, and Ibn Daūd.

The reference to a Latin authority, Martianus, and the verbal echoes of Boethius, show that this text was written in Latin and is not a translation of an Arabic or Jewish text. The references to al-Farghānī and Ibn Daūd, along with the 'astronomy of certain Arabs', show that the author was aware of translations from the Arabic. It was these translations in particular which, on the one hand, precipitated a rethinking of the old Western division into the seven arts, but, on the other hand, gave substance to Aristotle's division of learning into theology, mathematics and physics. This division was described by Ptolemy at the beginning of the *Almagest*, but was known in the West largely through Boethius's *De trinitate*.<sup>25</sup> However, no early mediaeval Latin scholar was clear about what the subject-matter of physics was meant to be. In Arabic works such as al-Fārābī's *Classification of the Sciences* and the anonymous work *On the Rise of the Sciences*, physics follows the four sciences of the quadrivium, and is defined in terms of the subject-matter of the physical works of Aristotle. Awareness of this Aristotelian physics is apparent in Hermann of Carinthia's *De essentiis* (written in 1143) and Gundissalinus's *De divisione philosophiae* and *De processione mundi*.<sup>26</sup> Medicine, the 'physics of the microcosm' (in the words of *Ut testatur Ergaphalau*) developed a more theoretical dimension in the twelfth century, largely through the translations of Constantine the African made at the end of the eleventh century. Astrology, the 'physics of macrocosm' fitted awkwardly into the mathematical discipline of astronomy, but was convincingly described by Hermann of Carinthia as part of physics. The author of the Coventry introduction may have stopped writing where he did - before tackling astronomy and whilst

<sup>25</sup> *De trinitate*, chapter 2, in Boethius, *The Theological Tractates, The Consolation of Philosophy*, ed. H.F. Stewart, E.K. Rand and S.J. Tester (Cambridge, Mass. 1973), p. 8.

<sup>26</sup> For a fuller discussion of this subject see C. Burnett, 'Hermann of Carinthia', in *A History of Twelfth-Century Western Philosophy*, ed. P. Dronke (Cambridge, 1988), pp. 389-94.

noting that he should say more about *physica* - simply because he no longer knew how to fit the new texts such as those on astrology and medicine into his tidy schema of knowledge.

**Appendix: Edition of the Coventry Introduction to Boethius's *De arithmetica***

The following edition is a diplomatic transcript of the text in MS Cambridge, Trinity College, R.15.16, fols. B<sup>v</sup>-3<sup>r</sup>. Scribal additions are indicated by \;/; editorial additions by <>. Realizations of ambiguous abbreviations are placed in round brackets ().

Ex cerebro testardi<sup>27</sup>

1 Arcium liberalium doctrina aut in sermonum proprietate consummatur, aut in rerum natura consolidatur. In sermonum proprietate arcium liberalium tripliciter consistit co<g>nitio, secundum quam tres distinguntur artes, grammatica, dialectica, rethorica, quarum prima loqui docet ad intelligendum, secunda ad credendum, tertia ad persuadendum. Quoniam igitur prius est loqui quam filosofari iure trivialis industria quadrivalem precedit sollerciam. 2 Post trivialem \vero/ decus quadrivialium disciplinarum que rerum, non verborum, habent professionem, prima est arithmetica, cui nunc insistendum, cuius gratia hec breviter sunt consideranda:<sup>28</sup> Quid ipsa sit. Quod genus eius. Que eius materia. Que species. Que partes. Quod officium. 3 Addunt preterea longiloquium libere de his que norunt facientes hec. Quis artifex. Quod instrumentum. Quis finis. Que ratio nominis. Quo ordine ipsa sit docenda et addiscenda. Adhuc quoque quod ubique queritur: auctor, \intencio eius,/ titulus libri, modus agendi, \cui supponitur/. 4 Sed tot extra queri ridiculum scientibus, fastidium est nescientibus. Nec placet amodo huiusmodi laudis temporisque venatio<sup>29</sup>. 5 Ut vero sit adiutum dicere, tot secundum modernos in principio cuiusque libri querantur: auctor, materia, finis, modus, ordo, genusque, quorum duo prima in titulo patere debent,

<sup>27</sup> Note in top margin.

<sup>28</sup> Quaestio *in margin*

<sup>29</sup> vel redemptio *suprascr.*

qui utique pars libri prima est. Cetera quatuor ex toto perpenduntur opere, et ad libitum dicretis dicenda. Nos vero volentibus dabimus copiam, ut quid velint, elegant.

6 Est<sup>30</sup> igitur arithmetica disciplina multitudinis per se, numerorum naturas et proprietates contemplans. Quod dicitur 'disciplina', commune habet cum aliis artibus, quod additur 'multitudinis', est ad differentiam geometrie et astronomie, quo non proprie multitudinis, sed magnitudinis sibi vendicaverunt pericium, quarum una, scilicet geometria in magnitudine consistit immobili, reliqua circa magnitudinem [im]mobilem versatur idonea. 7 'Per se' apponitur ad differentiam musice que etsi sit vel agat de numeris, non tamen per se sed ad alios relatis, scilicet proporcionaliter, ut ex eorum relacione manifesta sit consonantiarum natura, quod hec quidem in duplici - ut diapason - hec in sesquialtera - ut diapente - consistat proportione. 8 'Numerorum proprietates et naturas contemplans' inquit, quod proprium est huius artis, hec enim quasi quadam prerogativa docet dignitate, ut quis par, quis impar, pariter vel impariter numerus, quisve primus vel cubus, et alia prout in serie lectionum determinabitur, hoc tantum nunc dicto, quod natura et proprietas eorum tam parvo distant ut indifferenter vicissim ponantur. Altera tamen - id est natura - generalior est in suis accidentibus, ut digitus, articulus.

9 Genus<sup>31</sup> est mathesis, media aspirata et correpta. 'Mathematica' latine dicitur doctrinalis scientia, que abstractam considerat quantitatem. Abstracta quantitas est quod intellectu a materia separantes, vel ab aliis accidentibus vel sub(stan)t(i)is, ut est par vel impar, in sola racionacione tractamus, cuius species sunt .iiii., quarum prima hec. 10 Generalissimum vero eius genus philosophia. Tota enim philosophia secundum tres naturales questiones que omnibus sunt communes, divisa est. 11 Dubitant enim homines de causis rerum, aut accionibus rerum, aut racionibus rerum; iuxta primam discretionem - qua scilicet dubitatur de rerum causis - constituitur theoricam, sed de accionibus, ethica, et de inquisitione veritatis, logica. 12 In his tribus speciebus tota philosophia sumitur, quarum unaqueque tripartito dividitur. Ethicam subdividunt in sexus, etates, officia; logica partes habet scientiam diffiniendi, dividendi,

<sup>30</sup> *Ars heading in margin*

<sup>31</sup> *Genus heading in margin*

<sup>32</sup> Note the form of 'h' used by the scribe: ῥ (=Greek rough breathing; cf. also C.H. Haskins, *Studies in the History of Mediaeval Science*, second edition (Cambridge, Mass., 1927), p. 45, n. 7.



argumen\tañ/di. 13 Sed iam de sola theorica videamus, cetere nichil ad presens negocium. Theorica igitur tres habet species, secundum tria rerum genera. 14 Est unum genus res incorporee vel extra corporea, ut divine substantie, circa que prima species est theorice, que est theologia, id est ratio de deis. Est aliud genus - ipsa scilicet diiudicans corpora - de quibus est secunda species, phisica, id est de naturis rerum. Tercium genus est in incorporea, sed que corporibus adiacent, sicut sunt accidentia, qualitates et quantitates, de quibus est tertia species, scilicet mathematica. 15 Mathesis enim, ut diximus, media correpta cum aspiratione, interpretatur doctrina, productum vero et lene, divinatio, unde: Scire facit m.d.di.ma.

16 Queritur quomodo ista sola species philosophie doctrinalis vocetur? Ad quod dicimus quod habita perfecta cognitione illorum de quibus hec agit, promti sumus in cognitione et incorporeorum de quibus theologia et corporum de quibus fisica racionatur. 17 Verbi gratia, visa proporzione que est in elementis, et concordi compositione eorum et celestium corporum, necessitas ingerit nobis eorum aliquem creatorem his omnibus longe pociorem existere, sicque ad incorporea traducimur. 18 Cognita quoque proporzione qualitatum et commixtionum habitudine ut in corpore animalis, ipsius corporis cito natura cognoscitur, et inde medici iuxta cognitatas qualitates medicinas contemperant. Itaque per proportiones venimus ad istorum cognitionem. 19 Presens vero sciencia de illis est que corporibus adiacent. Omnis enim numerus rerum est. Per excellentiam ergo doctrinalis sciencia dicitur quadrivium, quoniam per eam ad divinorum et humanorum et omnium nature rerum cognitionem ascenditur. 20 Solent et aliter hec dicere. Theologia est de invisibilibus invisibilium causis, fisica de invisibilibus visibilium causis, mat\h/ematica<sup>33</sup> de visibilibus invisibilium formis, mecanice autem artes sunt de visibilibus [in]visibilium, predicte vero mathematice quia specialiter in doctrina consistunt. 21 Quicquid enim ibi docetur vel addiscitur, subiectis figuris demonstratur.

22 De materia<sup>34</sup> huius artis non tanta erit dicenda. Nam et incipientibus multa occurrunt, et grammatica et arithmetica, quia prime sunt /fol. 2r/ bifide vie sapientie, multa habent preostendere. 23 Materia huius est numerus multipliciter variatus, secundum quod hec sciencia est introductoria ad tres vel fortasse plures facultates.

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<sup>33</sup> The same unusual form of 'h' has been added here.

<sup>34</sup> *Materia heading in margin*

24 Species<sup>35</sup> eius due sunt. Est enim quedam demonstrativa quam docet Euclides in .vii. et .viii. et .ix. volumine artis geometricae, alia est probabilis, quam digessit Nichomachus. 25 Alii dicunt huius species sui generis esse divisionem, easque habet species quas et sua materia, parem scilicet et impari numerum et huiusmodi, quamvis possit fieri distinctio. Sint enim numeri species, par et impar numerus, artis autem utrorumque scientie.

26 Partes<sup>36</sup> artis huius sunt .iiii.: de numero per se, de numero relativo, de numero figurali, de proportionalitate et medietate numerorum. 27 Quatuor autem hee partes secundum quattuor disciplinas matheseos assignantur. Scientia numerandi per se quantum ad suam propriam conceptionem, scientia de numeris ad aliud relatis, quan<tum> ad armonice subtilem disquisitionem, scientia numerandi figuralliter, quod dicunt numerum geometricum, fit ad figurarum geometricarum ordinatam genituram. 28 Nam et numerus formatur ad modum trianguli, et triangulus dicitur a ternario ut et quadratus a quadrangulo et quadrangulus a .iiii. et sic deinceps secundum naturalem progressionem numerorum in infinitum. Quo eadem consideratio a corporalibus non recedat figuris, que etiam numerorum ratione constat esse formata. 29 Scientia multiplicandi, proporcionandi et dividendi astronomice difficultati subservit, ut in distinctionibus horarum, signorum et paralellorum. Horum omnium in hac arte assignantur rationes, sicut sequentia huius voluminis expedient, unde et hic ordo predictus scilicet in libri tractatu intelligitur. Alii de predictis dicunt.

30 De speciebus huius artis nichil in auctoribus invenimus dictum, quapropter his supersedendum. Similiter de eius partibus. Arismetica, inquit, partes non habet quia simplex est, et non eget ceteris artibus. Illae<sup>37</sup> vero ipsa egent. Sic dividunt qui dividere nesciunt vel nollunt.

31 Officium<sup>38</sup> huius artis est virtutes numerorum perpendere ad speculationem nature rerum, et econverso - scilicet naturas rerum in virtute numerorum speculari. 32 Aut quia officium est alicuius certe persone congruus actus, officium huius artis erit quod debet artifex

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35 Species *heading in margin*

36 Partes *heading in margin*

37 The 'a' appears to be expunged.

38 Officium *heading in margin*

facere secundum propositam facultatem et hoc est secundum artem contemplari numerorum naturas et proprietates.

33 Quis ergo sit artifex<sup>39</sup> ex officio cognosci patet facile. Porro dupliciter in qualibet arte consideratur artifex. 34 Alius est enim qui docet artem, alius qui agit secundum artem. Artifex ergo qui docet hanc artem dicitur arithmeticus, et qui secundum artem agit, computator.

35 Hec enim et ex arte contingit duplicitas. Scientia enim numerorum quam dicimus arithmetica, sicut et alie artes, bifariam dividitur, scilicet in scienciam et operationem, quam discrecionem Graii dicunt theoreticam et practicam. In utraque autem tres inspectiones occurrunt, sine quibus neutra sciri potest, scilicet de proprietatibus numerorum, de proportionibus eorundem et de caracteribus ipsorum. His ergo doctus et docens, ab horum distat operatore. 36 Quandoque vero hoc dignius, quandoque illud, maxime in magis naturalibus et necessariis ut grammatica et theologia.

37 Instrumentum<sup>40</sup> huius artis secundum quosdam abacus, quod interpretatur decenus; mensa est pitagorica, in qua multiplicationes et divisiones exercentur. 38 Sed dicimus nec huius instrumentum esse abacum, nec officium huius partis arismetice multiplicare et dividere. Nam abaciste unitatem etiam dividunt, quod recusa<n>t arithmetice.

39 Erit igitur eius instrumentum rimachia per quam ipsa exercetur, quod satis animadvertunt qui eius ludi sunt periti. Interpretatur autem rithmachia quod in ea docetur, id est pugna numerorum. 'Rithmus' enim est numerus, 'machia' est pugna, unde et sichomachia, id est anime pugna. 40 Sed videamus cui supponatur abacus, cuius causa omnium artium videamus instrumenta, que proprie sunt oblectationes. 41 Trivii, scedulis et tabellis exceptis, nullum est instrumentum nisi forte que et vocum sunt sumpseris .vii. instrumenta. In quadruvio vero predictum erit predictae, similiter et secundus modus scaccarii. 42 At abacus geometrie est instrumentum, quoniam quantitatis potius quam numeri habet speculationem. Rerum enim quantitatem investigans, dum per figure posituram per campeolos \arte/ vagatur, quam multum quamve parvum aliquid sit consideratur. 44 Troianum etiam vel Thebanum diludium quod a captura Scaccarium dicunt teste diligentia geometrica pollet industria. Quidque etiam figurarum geometrie non paucas in solido dant admirationes.

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39 artifex heading in margin

40 instrumentum heading in margin

45 Porro musice cum plura sint instrumenta, duo que priora nostris animis magis vicina plusque imperativa, scilicet fistula et monocordum, que nunc ab invencione prima conducta pro varietate cordarum varietatem compeg<er>unt instrumentorum. 46 Astrologie comprehensa iocunditas spectatur in horologio<sup>41</sup> vel horoscopio, necnon spera mundi vel celi et astrolapso Tholomei.

47 Septem vero mechanicarum artium infinita cuilibet sunt exempla, ut lanificii, id est vestiture, armature id est fabrilis, navigatio, id est negotiatio, quod trivium magis est ad ea que extrinsecus nos decet pertinent, relique magis ad ea que intrinsecus, id est agricultura, venatio vel piscatio, confectio, id est medicina. Sed hec nobis postponenda, quia adulterina dum opere artificis a natura mutuantur commercium.

48 'Liberalium' vero est philosophia vel quia ingenuis tantum et ingeniosis danda, vel quia liberos et expeditos requirunt animos, aut quia libere et caste et sole, aut libere, id est propter se quia sui merces est, et <non> propter aliud addiscenda.

49 Finis<sup>42</sup> huius artis est ut per ea que docentur in arte ista /fol. 2v/ generalis expellatur ignorantia. Humana enim natura triplici subiaccet incommoditati: vicio, egritudini, ignorantie. Contra has tres incommoditates rerum opifex deus triplex nobis contulit remedium: contra vicia ethicam, contra egritudines, fisicam, contra ignorantiam, .vii. artes liberales.

50 Unde eleganter Gal(ienus): Omni causa laborandum ut abscidatur ab animo vicium, a corpore langor et a ventre saturitas, que ignorantie fastidiens mater.

51 Utilitas ergo huius artis est excepta cognitione virtutum et habitudinum officiorumque numerorum universalis speculatio nature rerum visibilium et invisibilium. 52 Ars etiam ex re nomen habens dicitur arithmetica,<sup>43</sup> ab 'ares' quod interpretatur virtus, et 'rithmus' quod est numerus, quoniam in virtute numeri versatur.

53 Eo autem ordine<sup>44</sup> ars hec discenda, quo et docenda in singulis quidem libris specialiter, ad omnes autem communiter ut sit. 54 Premittantur petitiones arceanturque communia doctrinaliter, designenturque

<sup>41</sup> The variant form of 'h' is used here.

<sup>42</sup> Finis heading in margin

<sup>43</sup> The peculiar form of 'h' has been inserted between 'r' and 'm' of *arithmetica*, which has been corrected from *areth*-.

<sup>44</sup> ordo heading in margin

proprietas et differentie. Tunc secundum hec quelibet sunt arte cogenda. Sic presens instat liber. Isque modus agendi est neque multum distant ordo modusque agendi. De auctoribus<sup>45</sup> huius artis iam dicendum, eiusque gratia de reliquis.

55 Grammaticam unam .vii. liberalium artium quidam diffitentur, instantes tot esse posse grammaticas quot idiomata, tot ergo et artes, et loco suppremo phisicam efferunt, quam nos inter eas non connumeramus, que, teste Tholomeo rege, super artes causa[que] artium ponenda est. 56 Sed auctoritate nostrorum Aristotilisque dictis in primo elencorum ars erit. Manifestum est, inquit, quoniam et ars quedam hoc potest facere quod orationes non conligant soloecismum. 57 Hec ars primum in Egipto que mater est artium reperta est, tempore Osiris mariti Ysidis. Inde in Greciam crevit, sicque in Latinitatem est profecta et perfecta. 58 Herodianus et Apollonius Grece compegerunt artem primitus, licet antea per biblos et membranas sparsius vagaret. Sicut enim est hodie cernere, quod ars pictoria per volvolas et pitacia ob litteratorum in ipsa diligentiam scriptitetur, in solidum forsitan adhuc artis compegeta volumen, sic et de grammatica et aliis quodam constat factum artibus discrete Aristotile quoniam prius elaborata<sup>46</sup> sunt particulariter et deinde aumentabantur ab his qui acceperunt postea quousque in artem sint create. 59 Dionisius quidem sillabarum omnium aptissimas formas fecit; et ob id statua honoratus est. Aristarcus et Plinius et Cicero singuli singulas grammaticae dederunt artes. Seneca vero summus philosophus addens dictis Tullii libertati<sup>47</sup> Ciceronis, et aquile libertati<sup>48</sup> Mecnatis \et/ aliorum inventis artem scripsit notariam, cuius iam usus periit.

60 Totam autem Donatus artem digessit, sed novissime et perfectissime Priscianus. Servius quoque < ... ><sup>49</sup> et Ysidorus in libro ethimologiarum - id est origine vocabulorum - per interpretationem multa ad hanc artem descripsit utilia. 61 Huic etiam adiacet Priscianus de accentibus et Priscianus de barbarismis et Priscianus de xii versibus Virgilii. Lucilius quidem c. genera soloecismorum distinxit que omnia

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<sup>45</sup> auctores *heading in margin*

<sup>46</sup> 'e' above final 'a'

<sup>47</sup> or *liberti*.

<sup>48</sup> or *liberti*.

<sup>49</sup> space of about 30 letters



sum <m> opere vitanda profitentibus grammaticam. 62 Ad hanc etiam artem spectant quecumque sunt metrorum, figurarum, historiarum, fabularum.

63 Rhetoricam Aristotiles ampliavit prout a magistris suis, scilicet Socrate et Platone susceperat, contemporaneus quoque eius Gorgias ut idem dicit Aristotiles quod circa rethoricas orationes accidit plene et circa omnes alias artes <...>. Tisias quidem post priorum sparsas inventiones primus, Trasimachus vero post Tisiam, Theodorus autem post hunc et multi alii. 64 Novissime Grece digesserunt artem plenissime, Demostenes, Gorgias, Aristotiles et Ermagoras, Corax quoque apud Siracusas, Moises apud Hebreos. 65 Deinde apud Latinos magis translatores quam inventores pollebant, Tisias, Quintilianus, Tacianus, Cato. Cicero vero plenissime digessit<sup>50</sup> artem tribus voluminibus, scilicet de inventionibus rethoricis, et nova rethorica, et topicis suis. 66 Abhinc in immensum ars evehitur - scilicet omnium legum dequisitionibus, quid enim rethorica, quomodo rethorica docet et de orando. 67 In divisione orbis terre sparsim sibi queque leges sanxit natio. Moises primum Hebreis solempniter scripsit leges. Mercurius Egiptiis, Phoroneus Grecis, Solon Atheniensibus, Ligurius Lacedemoniis,<sup>51</sup> Socrates Archademicis, Belus Caldeis, Numa Pompilius qui Romulo successit Romanis, celebres primi statuere leges. 68 Consul vero Pompeius et Iulius Cesar primi post antiquas leges .x.virorum qui Solonis interpretes .xii. tabulis leges exposuere Romanis, in libros cepere redigere leges, sed morte preventi sunt. 69 Theodosius vero minor augustus ad similitudinem Grecorum codicem fecit omnium constitutionum a Constantini temporibus sub proprio cuiusque imperatoris titulo deposuit opusque 'Theodosianum' vocavit. Novissime Iustinianus imperator artem perfecit in libro 'de institutis' incipiens et Codice Digestisque consummans.

70 Dialecticam secundum plures sui partes diversi dederunt; alii enim incipiendo, alii augendo, alii perficiendo, artes invenerunt. Unde et plures eius artis auctores leguntur. 71 Primum a Parmenide qui cetus hominum fugiens in rupe consedit non modico tempore, dialectica inventa est. Plato vero post mortem Socratis magistri sui, primum Grecis ab Egipto Athenas rediens logicam instituit. Sed Aristotiles discipulus eius, primus et solus totam comprehendit, ampliavit, perfecit et in artem redegit. 72 Marcus Terentius Varro primus dialecticam transtulit, nobisque

<sup>50</sup> sic

<sup>51</sup> The scribe originally swapped 'Atheniensibus' and 'Lacedemoniis', but then corrected his mistake.

dedit. Nonnulla quoque de rethorice eiusque digessit discretione. Cicero quoque super hec nostris addidit.

73 Boetius vero plus omnibus nostris transtulit, et commentatus est, suaque multa auxit et invenit industria. Verbi gratia, Aristotiles x. chatheg(oricas) primus \post Architam/ duobus libris disposuit. De generatione sillogismi et inventione medii artem primus duobus libris digessit, similiter de soph(istic)is in duobus. 74 Commentati sunt super hec primum Greci ut Themistius, Andronicus, Alexander, Theofrastus. Deinde latini ut Porfirius, Cicero, Boecius. 75 /f. 3r/ His ergo non sine exercicio plena erit instructio, qui vetus novaque vocantur ars dialectica libris, qui sic ordiuntur, secundum quod queritur, quid, quo modo et ad quid et contra quid. Sit ergo prior Porfirius Ysagogarum ad Aristotilis predicamenta, sicque ipsa cum ea distinctione que est sex predicamentorum.

76 Quorum ut reliquorum genera, id est sentiuncule magistrorum infinite<sup>52</sup> commenta multa. Sequuntur post periarmentias Aristotilis, analecticorum libri eiusdem, priorum et posteriorum, precedentibus quidem de chategoricis et ypoteticis sillogismis Boetius voluminibus. 77 Deinde quod specialiter ars dicitur Aristotelis topicorum libri viii.<sup>o</sup> datis translatoribus Tullii topicis, Boetique topicis et divisionibus. Tandem elenchorum liber Aristotilis.

78 Quadruvio post trivium insistimus, in quo prior est presens. 79 Hanc igitur artem numerandi apud grecos Samius Pitagoras et Arist(o)tiles scripserunt, diffusiusque Nichomachus et Euclides, licet et alii in eadem florerent, ut Era<to>stones et Crisippus. Apud Latinos primum Apuleius, deinde Boecius. 80 Est autem et circa huius artis practicam qui dicitur liber operationis, et tractatus super abacum et rimachiam. Algorismi vero vel Helcep id est numerandi ipsis decentior est diligentia, quibus connumerandum quicquid de multiplicandi vel dividendi est sciencia.

81 Geometrie difficultas a Pitagora cepit, qui meten tetradem - id est librum de doctrina quadruvii - primus edidit. Deinde post Ypocratem et Aristotilem solus apud grecos Euclides totam digessit. Digessit et eandem arabice Cozzas filius Leuce arabs quidam. Extat et liber quidam Aristei de quinque figuris geometricis. Apollonii quoque libri duo quos Alexandro donavit regi. Boetius quidem apud nostros <magis> interpres et

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<sup>52</sup> intermin; *supra*

commentor quam inventor extitit. Sicut et quidam modernorum in eadem claruerunt, ut Alardus, Ioh(anne)s, Will(elmu)s.

Musicam<sup>53</sup>

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<sup>53</sup> Here the copy ends, except for two notes in the bottom margin of fol. 2v which might be reminders for what the scribe wished to write next:

1) quid circa fisicam amplius de his

2) pitag(oras), ypoc(ras), apoll(o), merc(urius) qui tetracord(um) (*these two words at right-angles to mercurius*) <invenit>, orpheus, linus, zeno (?), amphio(n).

FRANCESCO D'ELIA

Senso e dimensione della *reductio ad philosophiam*  
delle discipline matematiche nelle *Institutiones* di Cassiodoro

E' da premettere che Cassiodoro, più che un filosofo, si presenta come un raffinato divulgatore e un pensatore rivolto al concreto. Egli non dispone dell'*habitus* mentale del filosofo nel senso più appropriato del termine, poiché non esprime una viva passione per i problemi metafisici e le idee pure e nelle sue esposizioni dottrinali non raggiunge mai l'alto livello speculativo e il vigore intellettuale, che sono le note caratteristiche del pensiero del suo contemporaneo Boezio, in cui confluiscono in perfetto equilibrio i temi più ardui e le più vive speculazioni dello spiritualismo greco-romano, assunti e rielaborati in funzione di una filosofia cristiana.<sup>1</sup> Il fondamentale motivo di disinteresse o di ridotta attenzione da parte di Cassiodoro alle esigenze della metafisica è da ascrivere principalmente alle mutate condizioni storico-ambientali, che determinano, soprattutto dopo la tragica scomparsa del filosofo-senatore, il quadro di una cultura largamente depotenziata e in progressivo declino.<sup>2</sup>

Eppure il fondatore di *Vivarium*, nella prospettiva di fornire ai suoi monaci una valida formazione culturale, che affondi le radici nei presupposti teoretici del pensiero classico, elabora nelle sue *Institutiones* un piano di studi, articolato - anche se in gran parte inteso, in

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<sup>1</sup> Il cristianesimo di Boezio è fuori discussione da quando A. Holder ha scoperto in un ms. della Bibl. granducale di Karlsruhe, attualmente catalogato Karoliruhensis 106, un frammento della perduta opera di Cassiodoro, *Ordo generis Cassiodororum*, edito da H. Usener col titolo: *Anecdoton Holderi. Ein Beitrag zur Geschichte Roms in ostogothischer Zeit*, Bonn 1877, dove a p. 4 si fa esplicito riferimento all'attività teologica di Boezio: "Scripsit (Boethius) librum de Sancta Trinitate et capita quaedam dogmatica", ecc. Attualmente abbiamo altre due preziose testimonianze relative alle notizie dell'*Anecdoton* su Boezio: un ms. del sec. IX, scoperto da F. Troncarelli in London, British Libr., Harley 3095, f. 1v, e la trascrizione ad opera di Th. Ruinart, collaboratore del Mabillon, del ms. 90, ora perduto, della Biblioteca municipale di Chartres. L'attestazione di Cassiodoro a riguardo, come è dato così di rilevare, interessava nel passato i circoli di studio più di quanto non si potesse pensare. Cfr. F. Dolbeau, "Un nouveau témoin fragmentaire de l'*Anecdoton Holderi*", in *Revue d'histoire des textes*, 12-13 (1982-83), pp. 397-399.

<sup>2</sup> Tali considerazioni sono esposte in un nostro recentissimo saggio, *L'Antropologia di Cassiodoro tra ispirazione agostiniana e suggestioni del mondo classico. Note teoretiche e filologiche sul "De anima"*, Roma 1987, pp. 11-14.

corrispondenza alla prassi dell'insegnamento patristico-teologico, come fondamento indispensabile di metodologia e formazione propedeutica all'*intelligentia Scripturarum* - nella programmazione canonica delle arti liberali, ripartite in due gruppi distinti ma complementari nella formazione del *civis* medievale: grammatica, retorica e dialettica, cioè le *artes* propriamente dette, che nel corso del Medioevo costituiranno il *trivium*; aritmetica, musica, geometria e astronomia, cioè le vere e proprie *disciplinae*, nelle quali si articola la scienza *mathematica* e che verranno classificate con la denominazione di *quadrivium*.<sup>3</sup> Queste ultime, in linea di principio, vengono elevate nelle *Institutiones* da una funzione puramente empirica alla sfera del discorso filosofico, sia pure a livello teoreticamente riduttivo per l'accennata carenza o inadeguatezza di formazione filosofica del *magister* e ancor più per l'incapacità degli *auditores* a recepire un messaggio di autentico spessore culturale.<sup>4</sup>

<sup>3</sup> Per la denominazione delle arti e delle discipline e per l'importanza ad esse attribuita nel Medioevo, cfr. P. Rajna, "Le denominazioni 'Trivium' e 'Quadrivium'", in *Studi Medievali*, 1 (1928), pp. 4-36; R. Giaccone, "Arti liberali e classificazione delle scienze: l'esempio di Boezio e Cassiodoro", in *Aevum*, 48 (1974), pp. 58-72. Il termine *quadrivium* (che in appresso sarà fissato in *quadrivium*) compare per la prima volta in Boeth., *De institutione arithmetica* (I, 1), ed. G. Friedlein, Lipsiae 1867, p. 7: "Constare manifestum est, haud quemquam in philosophiae disciplinis ad cumulum perfectionis evadere, nisi cui talis prudentiae nobilitas quodam quasi *quadrivio* vestigatur"; *ibid.*, pp. 9-10: "Hoc igitur illud *quadrivium* est, quo his viandum sit, quibus excellentior animus a nobiscum procreatis sensibus ad intelligentiae certiora perducitur". Né si può pensare, come indurrebbe a credere il Rajna, che Cassiodoro ignori l'esistenza del "neologismo" boeziano; infatti lo ricorda nella lettera scritta a nome di Teodorico a Boezio, sia pure con una leggera variante lessicografica: "Fu artem praedictam ... per *quadrifarias mathesis ianuas* introisti", *Var.* I.45, ed. Å.J. Fridh, CCL 96, Turnholti 1973, p. 50. Perciò a buon diritto si può parlare di quadrivio in Cassiodoro, anche per il ruolo specifico, che egli, come vedremo meglio in seguito, attribuisce alle quattro discipline, configurandole essenzialmente come un quadruplice sviluppo della scienza *mathematica*.

<sup>4</sup> Cassiodoro, soprattutto perché consapevole del generale depauperamento culturale dei suoi tempi, intende adeguare il suo discorso alle capacità intellettive dell'uditorio (*fratres simplices et impoliti*), riducendo al minimo le nozioni teoriche e traducendo o traslitterando in latino la nomenclatura tecnica greca, quale si legge nell'edizione del Migne, che utilizza, almeno per il secondo libro, una redazione delle *Institutiones* diversa da quella definitiva. Per un aggiornamento degli studi sulla tradizione manoscritta del manuale di Cassiodoro cfr. L. Holtz, "Quelques aspects de la tradition et de la diffusion des *Institutions*", in *Flavio Magno Aurelio Cassiodoro* (Atti della settimana di studi Cosenza-Squillace 19-24 settembre 1983), a c. di S. Leanza, Soveria Mannelli 1986, pp. 281-312. Nonostante la carente formazione filosofica (occorre rilevarlo) si avverte in Cassiodoro, che è "l'ultimo retore e filologo di stampo antico in Occidente" (H. Hagendahl, *Von Tertullian zu Cassiodor*, Göteborg 1983, trad. ital. di D. Gianotti, *Cristianesimo latino e cultura classica da Tertulliano a Cassiodoro*, Roma 1988, p. 208), la preoccupazione di salvare e trasmettere alla posterità, adattandolo alla nuova realtà storica e ambientale, il patrimonio spirituale della classicità. Le *litterae saeculares*, subordinate in Cassiodoro alla vera *Sapientia*, sono tuttavia "garantite nella loro autenticità proprio dalla nuova sistemazione gerarchizzante, che ne recupera e ne



E' vero che nel contesto programmatico della cultura cristiano-medievale, dal fondamentale insegnamento di Agostino alle conclusioni bonaventuriane del XIII secolo, più che sulla *reductio artium ad philosophiam* il discorso verte sulla *reductio ad theologiam*, nel senso che le arti liberali rappresentano un'efficace base preparatoria all'intellectio delle Scritture e alla contemplazione degli *arcana Dei*. Cassiodoro aderisce pienamente al canone della gerarchizzazione delle arti e delle discipline che culminano nella teologia.<sup>5</sup> Ma, quando a proposito del suo orientamento programmatico, parliamo di *reductio ad philosophiam*, intendiamo rilevare che il maestro di *Vivarium*, senza prospettare alcuna forma di ancillarità delle scienze matematiche (cioè delle discipline canoniche del quadrivio medievale) alla filosofia, conferisce ad esse un supporto se non proprio un ruolo filosofico, naturalmente nel senso ricordato, perché, per definizione, l'aritmetica, la musica, la geometria e l'astronomia confluiscono o più propriamente sono le componenti essenziali e costitutive della filosofia teoretica. Cassiodoro segue a riguardo una linea in parte divergente dalla lezione agostiniana. Secondo l'Ipponese, per *reductio artium ad philosophiam* si deve intendere la funzione propedeutica delle discipline scientifiche all'attingimento del certo e del vero, per la conquista finale, in una progressiva ascensione dell'anima intellettuale, del Sommo Vero, cioè di Dio, in cui si placa ogni forma di sofferta ricerca dell'intelletto, si posa ogni ansia esistenziale del cuore dell'uomo.

Quando Cassiodoro denomina genericamente la filosofia *ars artium et disciplina disciplinarum*,<sup>6</sup> potrebbe sembrare che segua la traccia agostiniana del carattere preparatorio delle arti e delle discipline al raggiungimento della verità filosofica. Ma, allorché in prima istanza ne enuncia la definizione classica, compendiandola nella formula di *divinarum humanarumque rerum, in quantum homini possibile est, probabilis scientia*,<sup>7</sup> riconduce la conoscenza delle *humanae res* e quindi delle discipline matematiche nell'ambito dell'acquisizione filosofica. Considerando la

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finalizza - nobilitandone l'origine e giustificandone la presenza - il messaggio etico e culturale", come egregiamente si esprime G. Aricò, "Cassiodoro e la cultura latina", in *Flavio Magno Aurelio Cassiodoro*, cit., p. 172.

<sup>5</sup> Per una chiara e precisa valutazione della *quaestio*, cfr. T. Gregory, "La 'reductio artium ad theologiam': da Cassiodoro a S. Bonaventura", in *Il pensiero pedagogico del Medioevo*, a c. di B. Nardi, Firenze 1956, pp. 279-301.

<sup>6</sup> Cassiodori Senatoris, *Institutiones* (II, 3,5), edited by R.A.B. Mynors, Oxford 1937 (repr. 1961), p. 110. Per ogni ulteriore citazione si farà riferimento a questa edizione.

<sup>7</sup> *Ibid.*

tradizionale ripartizione triadica della filosofia in *moralis*, *naturalis* e *inspectiva* (trasposizione latina della terminologia greca: ἠθικὴ, φυσιο-λογικὴ, θεωρητικὴ), occorre notare che è proprio la terza (*inspectiva* o teoretica), che, trascendendo le sostanze corporee (*visibilia*) per attingere le realtà dello spirito (*invisibilia*), si colloca nella più alta area dell'attività speculativa. Ora la filosofia teoretica - secondo una più articolata classificazione risalente ad Ammonio di Ermia, seguita a preferenza da Cassiodoro<sup>8</sup> - comprende essenzialmente la *philosophia doctrinalis* (in greco μαθηματικὴ), la quale, connotandosi propriamente e significativamente nelle discipline del quadrivio, raggiunge il vertice e l'assolutezza dell'attività raziocinante: con essa "in sola ratiocinatione tractamus".<sup>9</sup>

Inoltre se, in una formulazione generica e semplificante, si può ricorrere alla denominazione di arti liberali per indicare l'insieme delle sette sorelle, in un linguaggio metodologicamente corretto e specificamente appropriato le scienze del quadrivio non devono essere assolutamente confuse o interscambiate con le *artes*, in greco τέχναι, perché queste operano nell'ambito delle realtà sensibili, *quae se et aliter habere possunt*,<sup>10</sup> mentre quelle vanno propriamente etichettate come *disciplinae*, in greco ἐπιστήμαι, perché si collocano in un contesto di necessità e di immutabilità e, in un processo astrattivo, elevandosi al di sopra delle

<sup>8</sup> In base allo schema delle *Institutiones* (II, 3,5, p. 110) la *philosophia* si divide in due branche principali: *inspectiva* e *actualis*. Quest'ultima si riparte in *moralis*, *dispensativa* e *civilis*. L'*inspectiva* si articola a sua volta in *naturalis*, *doctrinalis* e *divina*. La *doctrinalis* o *mathematica* si suddivide in quattro sezioni: *arithmetica*, *musica*, *geometria* e *astronomia*, che sono praticamente le quattro discipline del quadrivio medievale.

Tale classificazione della filosofia corrisponde a quella formulata dal filosofo neoplatonico Ammonio di Ermia nel proemio del Commento all'*Isagoge* di Porfirio (ed. A. Busse, in *Commentaria in Aristotelem graeca*, IV, 3, Berolini 1891, pp. 11-13). L'ascendenza ammoniana, segnalata dal Mynors nell'edizione delle *Institutiones*, è sostenuta con una serie di *loci paralleli* da P. Courcelle, *Les lettres grecques en Occident de Macrobe à Cassiodore*, Paris 1943, pp. 323-326. Ma secondo J.R.S. Mair, "A note on Cassiodorus and the seven liberal arts", in *The Journal of Theological Studies*, 26 (1975), pp. 419-421, non sarebbe da ricercare nell'opera di Ammonio la fonte di Cassiodoro, ma nel prologo del Commento al *Cantico dei cantici* di Origene nella versione di Rufino (PG 13, col.73), perché Cassiodoro riprende quasi *ad litteram* da questo testo le definizioni di *philosophia naturalis*, *moralis* e *inspectiva*. Il sorprendente raffronto sinottico, posto in evidenza dal Mair, lungi dal cancellare la tesi del Coureelle, "documenta un emblematico caso di contaminazione", come rileva in un'attenta riconsiderazione del problema U. Pizzani, "Cassiodoro e le discipline del quadrivio", in *Flavio Magno Aurelio Cassiodoro*, cit., pp. 52-56.

<sup>9</sup> *Inst.*, II, 3,6, p. 111; vedi anche 3,21, p. 130.

<sup>10</sup> *Ibid.*, 3,20, p.130.

realtà sensibili e contingenti, hanno per oggetto formale le verità necessarie, *quae aliter evenire non possunt*.<sup>11</sup> Procedendo ad una definizione descrittiva delle discipline o scienze matematiche, allo scopo di dilucidarne il pensiero, Cassiodoro afferma sulla scia di Boezio:

Disciplinae sunt quae ... numquam opinionibus deceptae fallunt et ideo tali nomine nuncupantur, quia necessariae suas regulas servant. Haec nec intentione crescunt nec subductione minuuntur, nec ullis varietatibus permutantur, sed in *vi* propria permanentes regulas suas inconvertibili firmitate custodiunt.<sup>12</sup>

Passando ad analizzare le singole discipline, Cassiodoro, sulla scia di Pitagora, considera l'aritmetica come la pura "scienza dei numeri", non condizionata cioè da fattori empirici e contingenti e, proiettando le sue vedute in una superiore dimensione teologica, vede il mondo ordinato secondo la puntualizzazione biblica *in mensura, numero et pondere*,<sup>13</sup> dominato in altri termini da leggi divino-matematiche. Dopo aver segnalato l'aritmetica come la disciplina regina, che presiede alle altre (le rimanenti discipline dipendono dall'aritmetica per essere inquadrare nella loro natura e intese nelle loro finalità, la scienza dei numeri per conto suo gode del privilegio dell'autosufficienza, perché non necessita del sostegno di discipline ausiliarie per essere in sé compresa), e dopo aver riferito le norme correnti sui rapporti numerici, annota, conformemente alla sua indole pragmatica, l'utilità della conoscenza dell'aritmetica per il computo delle ore, dei giorni, dei mesi e per il normale adempimento delle mansioni quotidiane: "Numerus est qui cuncta disponit; per ipsum discimus quid primo, quid secundo facere debeamus".<sup>14</sup> E poi per non perdere di vista l'obiettivo primario della sua *paideia*, applica, sulla scorta dei Padri, una sorta di simbologia numerica alla lezione biblica e all'indagine dei *mysteria Dei*,<sup>15</sup> dando il suo contributo a un determinato settore della metodologia ermeneutica, che sarà poi portato fino all'esasperazione dagli esegeti medievali.

<sup>11</sup> *Ibid.*

<sup>12</sup> *Ibid.*, 3,22, p.131. Qui Cassiodoro riprende nella sostanza e in parte nella forma le riflessioni di Boezio (*Inst. arithm.*, cit., I, 1, p. 8): "Esse autem illa dicimus, quae nec intentione crescunt nec retractatione minuuntur nec variationibus permutantur, sed in propria semper vi suae se naturae subsidiis nixa custodiunt".

<sup>13</sup> *Inst.*, II, 4,1, p.133. Cfr. *Sap.*, 11,20.

<sup>14</sup> *Inst.*, II, 4,7, p. 141.

<sup>15</sup> *Ibid.*, 4,8, pp. 141-142: "Et si causam tantae rei subtili praescrutacione discutias, nec miracula Domini a virtute numeri redduntur aliena ... et ut res summae atque omnipotentissimae intellegantur, numerus nobis necessarius invenitur".

Anche la seconda disciplina, la musica, che nella combinazione dei suoni ubbidisce alle leggi matematiche, è - sempre per definizione - una disciplina propriamente teoretica. Intimamente legata all'aritmetica (si spiega così l'assegnazione del secondo posto nella classificazione del quadrivio cassiodoreo) è soprattutto la "disciplina quae de numeris loquitur", non ovviamente *secundum se*, cosa che è prerogativa della scienza aritmetica, ma è lo studio astratto dei numeri, *qui ad aliquid sunt his qui inveniuntur in sonis*,<sup>16</sup> cioè dei suoni che si sviluppano con le tipiche proprietà aritmetiche dei multipli e dei sottomultipli. Questa definizione è data nel prologo, quando vengono enucleati in sintesi l'oggetto, la finalità e la suddivisione della *philosophia doctrinalis* nelle quattro discipline matematiche. Nel V capitolo, dedicato al *De musica*, anche se riprende in linea teorica la definizione precedente, Cassiodoro rivela ancora una volta l'aspetto prevalentemente pragmatico del suo ingegno e, tenendo fede all'orientamento sostanzialmente pedagogico delle *Institutiones*, si ricollega per la concezione della disciplina musicale all'accezione agostiniana di *scientia bene modulandi*,<sup>17</sup> recependone la dimensione pedagogica ed etico-catarctica e ricordando il potere attribuito da Varrone ai "toni" musicali:

... tantae utilitatis virtus ostensa est ut excitatos animos sedarent, ipsas quoque bestias, nec non et serpentes, volucres atque delfinas ad auditum suae modulationis attraherent.<sup>18</sup>

Per questo singolare potere della musica, tralasciando come non pertinenti gli esempi mitologici, Cassiodoro richiama opportunamente gli episodi della Scrittura e della storia letteraria del periodo classico:

Nam ut Orphaei lyram, Syrenarum cantus tamquam fabulosa taceamus, quid de David dicimus, qui ab spiritibus immundis Saulem disciplina saluberrimae modulationis eripuit, novoque modo per auditum sanitatem contulit regi, quam medici non poterant herbarum potestatibus operari? Asclepiades quoque, medicus maiorum attestazione doctissimus, freneticum quendam per symphoniam pristinae sanitati reddidisse memoratur. Multa sunt autem quae in aegris hominibus per hanc disciplinam leguntur facta miracula.<sup>19</sup>

Inoltre nell'ambito del microcosmo la musica è l'intima armonia dell'uomo, sempre operante nelle pieghe del suo animo, quando egli ubbidisce all'impulso del bene, assente quando declina per le vie

<sup>16</sup> *Inst.*, II, 3,21, p. 131.

<sup>17</sup> *Ibid.*, 5,2, p. 143. La definizione è in S. August., *De musica*, I, PL 32, col.1083.

<sup>18</sup> *Inst.*, II, 5,8, p. 148.

<sup>19</sup> *Ibid.*, 5,9, pp. 148-149.



dell'errore e dell'iniquità: "Si nos bona conversatione tractemus, tali disciplinae probamur semper esse sociati. Quando vero iniquitates gerimus, musicam non habemus".<sup>20</sup> Nel vasto panorama del macrocosmo la musica è, in un felice connubio di ricorrenti motivi pitagorici e di visione mistico-biblica del mondo, l'essenza e l'armonia dell'universo, con la presenza di Dio garante dell'armonia universale:

Caelum quoque et terra, vel omnia quae in eis dispensatione superna peraguntur, non sunt sine musica disciplina; nam Pythagoras hunc mundum per musicam conditum et gubernari posse testatur ... et ut breviter cuncta complectar, quicquid in supernis sive terrenis rebus convenienter secundum Auctoris sui dispositionem geritur, ab hac disciplina non refertur exceptum.<sup>21</sup>

Tra l'enunciazione teorica della scienza musicale e la caratterizzazione psicagogico-catarattica non si avverte l'eco neppure affievolita del luminoso *iter* ascensionale di Agostino, che, dopo essersi indugiato, in ben cinque dei sei libri del *De musica*, sulle modalità tecniche e le norme empiriche della ritmica e della metrica, ecco che infine si traspone, in un crescendo di annotazioni teoretiche, nel puro dominio della speculazione. Sale dalla considerazione che la melodia generata dalla decifrazione e scansione delle unità metriche è nella voce di chi declama, nella vibrazione dell'aria che è mossa, nell'orecchio di chi ascolta, per giungere a dichiarare che è ancor più nella memoria di chi ascoltando riconosce la natura del suono, e soprattutto nella ragione che pronunzia il giudizio di assenso e di plauso o di rigetto e disapprovazione; è percezione superiore e immateriale dell'anima che scorpora di ogni sensazione materiale (con un passaggio *a corporeis ad incorporea*) il dato dell'espressione musicale e rivela la suprema bellezza e autentica sapienza, che viene da Dio, fonte di ogni bene, fine dell'ordine universale e appagamento delle più autentiche aspirazioni dell'anima dell'uomo.<sup>22</sup> Agostino, partendo dalla percezione sensoriale del ritmo del verso, isolandone gli elementi nella loro essenzialità ed immaterialità e astraendoli con la mente come *numeri iudiciales*, arriva alla conclusione che è in definitiva l'attenzione e l'attività dell'anima ad operare la razionale percezione dei suoni in una

<sup>20</sup> *Ibid.*, 5,2, p. 143.

<sup>21</sup> *Ibid.*, 5,2, p. 143; 5,9, p. 149.

<sup>22</sup> S. August., *De Musica*, cit., VI, col.1173 ss. Cfr. H.-I. Marrou, *Saint Augustin et la fin de la culture antique*, Paris 1954<sup>4</sup> (trad. ital. di M. Cassola, *S. Agostino e la fine della cultura antica*, Milano 1987, pp. 250-254); S. Vanni Rovighi, "La fenomenologia della sensazione in Sant'Agostino", in *Rivista di filosofia neo-scolastica*, 54 (1962), pp. 18-32.



concezione essenzialmente spiritualistica della sensazione. Quale vistoso *hiatus* si viene così a riscontrare tra le conclusioni d'alto respiro speculativo di Agostino e le elementari norme empiriche dei metricologi sulla scansione dei versi e sulle clausole della prosa d'arte, comprese anche le annotazioni tecniche di Cassiodoro in riferimento alla triplice ripartizione della disciplina musicale (*armonica, rithmica, metrica*), al triplice genere di strumenti (*percussionalia, tensibilia, inflatilia*), all'enucleazione dei sei accordi o sinfonie e all'enumerazione dei quindici toni neoaristossenici.

Nella geometria si passa dall'analisi sulla determinazione contingente e concreta dei confini territoriali alla scienza delle numerazioni astratte, come dimostra l'enunciazione puramente mentale dei teoremi geometrici. Essa è, per definizione, "descriptio contemplativa formarum, documentum etiam visibile philosophorum", e più specificamente "disciplina magnitudinis immobilis et formarum",<sup>23</sup> che si divide, secondo la tradizione, in geometria piana con le due dimensioni della lunghezza e della larghezza e in solida con l'aggiunta della terza dimensione dell'altezza; studia le grandezze razionali e irrazionali; è di utilità pratica per la misurazione e divisione dei terreni (compito questo che fu assolto almeno nei primordi della storia umana per dirimere le contenziosità delle popolazioni nomadi); serve per la ripartizione in mesi del circolo annuale e per il calcolo della distanza della terra dalla luna e dal sole. Viene data, come si può notare, una presentazione sbrigativa e scontata della natura e dei compiti della scienza geometrica e delle sue utilità pratiche.

Avvertibile è anche lo spirito del "conversus", che vede nel perfetto intarsio della creazione l'opera di Dio e, cristianizzando il detto del mondo pagano "Iovem ... in operibus propriis geometrizzare", conclude affermando:

... geometrizat enim, si fas est dicere, Sancta Trinitas, quando creaturis suis, quas hodieque fecit existere, diversas species formulasque concedit; quando cursus stellarum potentia veneranda distribuit, et statutis lineis facit currere quae moventur certaue sede quae sunt fixa constituit. Quicquid enim bene disponitur atque completur, potest disciplinae huius qualitatibus applicari.<sup>24</sup>

Dalla geometria all'astronomia il passaggio è immediato e quasi d'obbligo, perché la scienza degli astri è regolata dalle immutabili norme geometriche iscritte nell'universo dalla mente divina, la quale sola può

<sup>23</sup> *Inst.*, II, 5,11, pp. 150; 6,2, p. 151.

<sup>24</sup> *Ibid.*, 5,11, p. 150.

apportare qualche mutamento all'ordine predisposto. L'affermazione che la volontà di Dio, nel suo disegno provvidenziale, possa effettuare in merito qualche deroga è una chiara conferma dei principi universali ed eterni della scienza astronomica, alla cui conoscenza si giunge con i canoni della metodologia filosofico-scientifica; occorre "illam machinam supernam (la natura degli astri e le recondite vie del cielo) *indagabili ratione* discutere, et *inspectiva mentis sublimitate* ex aliqua parte colligere quod tantae magnitudinis arcana velaverunt".<sup>25</sup>

A parte le scarse enunciazioni di carattere teoretico, Cassiodoro traccia di preferenza il quadro tecnico, in cui si articola l'astronomia, con la designazione dei quattro punti cardinali, dell'*antegradatio* e *retrogradatio stellarum*, della grandezza del sole, della luna e della terra, del fenomeno delle eclissi, delle varie fasce climatiche, del computo pasquale, ecc.; quindi procede a considerazioni ed avvertimenti di maggior ordine pragmatico, rilevando l'utilità che si può trarre dalle conoscenze astronomiche, ad esempio, per la navigazione e per l'aratura dei campi, e destituendo di ogni fondamento le previsioni fatalistiche desunte da pratiche astrologiche:

Est alia quoque de talibus non despicienda commoditas, si oportunitatem navigationis, si tempus arantium, si aestatis caniculam, si autumnus suspectos imbres inde discamus. Dedit enim Dominus unicuique creaturae suae aliquam virtutem, quam tamen innoxie de propria qualitate noscamus. Cetera vero quae se ad cognitionem siderum coniungunt, id est ad notitiam fatorum, et fidei nostrae sine dubitatione contraria sunt, sic ignorari debent, ut nec scripta esse videantur.<sup>26</sup>

Assistiamo, dunque, nella trattazione che Cassiodoro esegue delle discipline matematiche, ad un intreccio di enunciazioni teoriche e di connotazioni pragmatico-utilitaristiche, con la prevalenza delle seconde sulle prime, nonostante il dichiarato proposito dell'autore di voler imprimere un orientamento teoretico alle sue argomentazioni e connotare - a differenza delle *artes*, che sono di indiscutibile carattere tecnico e strumentale - le quattro *disciplinae* come scienze (ἐπιστήμαι) e componenti costitutive della *mathematica*, la quale investe il sapere scientifico mediante il più affinato metodo dell'indagine epistemologica, cioè l'astrazione mentale della quantità dal sostrato della materia e dalla "contaminazione" degli accidenti:

<sup>25</sup> *Ibid.*, 6,4, p. 152.

<sup>26</sup> *Ibid.*, 7,4, p. 156-157.

Mathematica, quam Latine possumus dicere 'doctrinalem', scientia est quae abstractam considerat quantitatem. Abstracta enim quantitas dicitur, quam intellectu a materia separantes vel ab aliis accidentibus, ut est par, impar, vel ab aliis huiuscemodi, in sola ratiocinatione tractamus.<sup>27</sup>

Pensiamo in conclusione che la preoccupazione di Cassiodoro di voler definire le singole discipline del quadrivio medievale, con la loro ascrizione alla sfera filosofica, rilevi in fondo (e non più di tanto) un estremo omaggio del *magister* di *Vivarium* alla scienza che indaga sui supremi principi delle cose, ma che è destinata per le circostanze storiche rilevate ad un lungo periodo di depauperamento del grande retaggio filosofico del periodo della classicità.

A parte, quindi, la proclamazione di appartenenza delle discipline matematiche al settore teoretico della filosofia, Cassiodoro - e questo è un dato irrefutabile della sua formazione e della sua *forma mentis* - si addentra in sostanza nei risvolti pratici e nelle linee concrete della *ratio studiorum*, adattandole alle mutate condizioni della società protomedievale. Del resto l'autentico *vir metaphysicus* nel periodo finale della civiltà antica, erede e geniale continuatore del pensiero greco-romano, è, come si è rilevato, Boezio, che addita nel quadrivio l'*instrumentum* per raggiungere, nella conquista del vero, il *cumulum perfectionis*<sup>28</sup> e attingere le certezze metafisiche: *intelligentiae certiora*,<sup>29</sup> chiudendo un'epoca per lasciar riaprire con il suo retaggio spirituale il discorso filosofico qualche secolo più tardi con l'affermarsi della grande Scolastica. Cassiodoro dal verso suo, ingegno pragmatico e pronto a cogliere il segno dei tempi, nell'intento di salvare la civiltà occidentale, lancia un messaggio a livello divulgativo e in gran parte impari all'assunto teoretico, ma più corrispondente e commisurato, sulle soglie del Medioevo, al volgere dei tempi.

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<sup>27</sup> *Ibid.*, 3,21, p. 130. Si fa qui un evidente cenno alla teoria dell'*abstractio*, che si affermerà compiutamente all'epoca della Scolastica, quando nelle accese dispute filosofiche prevarrà la tesi che gli universali, oggetto formale dell'intelletto, sono *fundamentaliter in re et formaliter in mente*, essendo dedotti dalle realtà sensibili in virtù dell'astrazione mentale, che libera i *sensibilia* dalle note individuanti per la pura formulazione delle idee.

<sup>28</sup> Boeth., *De inst. arith.*, I, 1, cit., p. 7.

<sup>29</sup> *Ibid.*, p. 10.

MARIO GRIGNASCHI

**Le *De divisione philosophie* de Dominicus Gundissalinus et les  
*Questiones II-V in Sextum Metaphysicorum* de Jean de Jandun**

Quand nous avons décidé de prendre part à cette section du Congrès, nous envisagions de présenter une communication sur le *Ihsâ'u-l-'ulûm*, l'ouvrage bien connu d'Al-Fârâbî, dont le chapitre V n'a pas retenu suffisamment l'attention. On y trouve une allusion au rôle éminent des *homines habentes rationes divinas* (des intellects divins) c.à.d. des rois prophètes, mais rien n'est dit à propos de l'utilité des lois de ces rois prophètes pour la connaissance de la Divinité. La science de la parole divine est rabaissée à un art pratique et ceux qui la professent sont présentés comme des rhéteurs et comme des sophistes se préoccupant uniquement de faire triompher leurs sectes. On dirait qu'au moment où il écrivait ce *Catalogue des Sciences*<sup>1</sup>, Al-Fârâbî considérait les lois religieuses, la *sarî'ah* islamique y comprise, comme ces *nomoi* dont avaient parlé Aristote<sup>2</sup> et Alexandre d'Aphrodise et qui, quoique puérides, étaient plus utiles pour la vie sociale que la connaissance des vérités philosophiques. On comprend que l'archidiacre Gundissalinus ait supprimé cette partie dans sa paraphrase du *Ihsâ'u-l-'ulûm* mais elle fut traduite intégralement par Gérard de Crémone et sa traduction était connue des Averroïstes.<sup>3</sup> Sans doute, ces derniers, qui étaient obligés à clore leurs débats et leurs *questiones* par des rétractations humiliantes, devaient se sentir à l'unisson avec le philosophe musulman. Cependant cet enseignement du *De scientiis* ne rentrait pas dans le thème de notre section. Par conséquent, afin de ne pas manquer à notre engagement, nous nous sommes rabattus sur les *Questiones II-V in Sextum librum Metaphysicorum* de Jean de Jandun.

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<sup>1</sup> Rappelons qu'à en croire à Ibn Sab'în (al-kalâmu 'alâ-l-masâ'ili-s-Siqiliyyah - Beyrouth 1941 p. 74) al-Fârâbî fut le seul aristotélien arabe qui, par trois fois, nia l'immortalité de l'âme rationnelle.

<sup>2</sup> *Métaphysique* 995 a 1-14.

<sup>3</sup> Petrus Apponensis cite dans le *Conciliator differentia IV* un passage de ce chapitre et précise qu'il l'a lu dans *Alpharabius in de ortu scientiarum*.

Ici, il nous suffira de dire que la *Questio II* prend en examen le problème "num practicum et speculativum sint essentialiter differente habitus intellectualis et ipsius philosophic" ainsi qu'Aristote l'avait enseigné dans la *Métaphys.* 1025 b 18-25. Jean fait semblant d'en douter parce que "practicum est in alio genere et habitu, quia habitus intellectus est in prima specie qualitatis sed esse practicum est in predicamento relationis".

Mais dans sa *conclusio*, Jean fait propre l'enseignement d'Aristote et il le justifie par des arguments si subtils qu'il serait inutile de s'y arrêter. Il est plus intéressant de noter qu'il ne nie nullement que la "practica mens invenit et ipsa verum, sed non usque ad hoc stat, sed opera est ipsi operatori per quam attingit appetibile de quo ratiocinatur".

Or, cette activité pratique fait son infériorité par rapport à la *mens speculativa* et Jean écrit:

"ut paternitas convenit homini et non lapidi...sic est in proposito quod habitus practicus et speculativus distinguuntur per respectum ad opus, quia competit practico et non habitui speculativo."

Notre philosophe ne semble même pas avoir soupçonné qu'une comparaison de ce genre établissait plutôt la supériorité du *habitus practicus*.

La *Questio III* "Num scientia speculativa dividitur in naturalem, mathematicam et divinam" se proposait de confuter deux objections possibles à la *Métaphysique E* 1026 a 18. Tout d'abord, la division qui y était proposée, ne laissait pas de place pour la logique. Ensuite, d'après les principes de la logique aristotélicienne, une bonne division doit être *bimembris*. A ces deux *argumentum in contrarium* Jean répondait que la logique est une *scientia pure practica*. De plus, la certitude des connaissances dépend de l'abstraction des formes de la matière, qui est la cause de la *deceptio*, de l'*ignorantia* et de l'*incertitudo*. Or, il existe trois degrés de l'abstraction. D'ailleurs il n'est même pas exact de dire qu'une *divisio* doit être toujours *bimembris*. Ce principe s'applique à ce qui est *univocum*, alors que l'*ens* est un *analogum*.

La *Questio IV* reprend l'argument de la *Questio III* sous un autre point de vue "num philosophia speculativa sit genus ad naturalem, mathematicam et divinam".

Il s'agissait cette fois de répondre à une objection fondée sur un principe énoncé dans les *Topiques* d'Aristote et dans la *Isagogé* de Porphyre, à savoir que "divisio cuiuslibet generis debet esse bimembris". Jean sentait la force de ce dernier argument et il se tirait d'embarras en



admettant qu'il aurait été préférable de dire que "quedam philosophia est de abstractis a materia et simpliciter et omnino, et quedam philosophia non est de abstractis de materia omnino" et que le second membre de cette partition comprenait la "philosophia de abstractis a materia sensibili sed non a materia intelligibili" (les objets des sciences mathématiques) et la "philosophia de abstractis a materia sensibili individuali".

On a l'impression que, dans ces *Questio*, Jean suivait le *Ihsâ'u-l-'ulûm* d'Al-Fârâbî et le *De divisione philosophie* de Gundissalinus plus encore que la *Summa I* du Grand Commentaire d'Averroès à la *Métaphysique VI*. En fait, il est bien certain que Jean connaissait le *de Scientiis* d'Al-Fârâbî. Dans sa *Questio II in primum Metaphys.* il cite en passant la *Logica Alfarabii* et on sait que Aegidius Romanus, Pierre de St. Amour et Gratiadeus Esculanus ont désigné par ce nom le *Ihsâ'u-l-'ulûm* qu'ils connaissaient soit à travers la traduction de Gérard de Crémone soit à travers la paraphrase de Gundissalinus.<sup>4</sup> De plus, dans la *Questio III in Sextum Metaphys.* Jean écrit:

"philosophia non est nisi de ente quia est universi esse cognitio cum studio bene vivendi coniuncta; hoc addicitur propter moralem. Ita describitur philosophia per Algazalem in libro de divisione philosophic."

Et encore:

"philosophia in quantum capitur pro actu secundo virtutis cognoscitive describitur in libro Algazelis de divisione philosophie et Lyncolnensis accipit in suo tractatu de ortu scientiarum quod philosophia est universi esse cognitio cum studio bene vivendi."

Or, la définition "philosophia est rerum humanarum divinarumque cognitio cum studio bene vivendi" que Jean a résumée, se trouve dans les *Etymologies* I. II ch. 24 l.9 d'Isidore de Séville. On ne la rencontre pas pour cause dans la *Philosophia* d'al-Gâzâlî. Néanmoins elle résume bien l'introduction de ce livre. Par contre, la définition "philosophia est rerum humanarum divinarumque cognitio etc." figure en toutes lettres dans le *De divisione philosophie* de Gundissalinus.<sup>5</sup> Cependant dans notre *Questio*, le *De divisione philosophie* de Gundissalinus est appelé *De ortu scientiarum* et par surcroît il est attribué au *Lyncolnensis*, sans aucun doute à Robert Grosseteste. En effet, dans les *Questiones in Metaphys. libros* de Jean, le *Lyncolnensis in primo et secundo Analyticorum* est l'auteur le plus cité

<sup>4</sup> Voir notre article "Traductions de logique arabe" dans *AHDLMA* 1972 p. 44. Dans le cas de Jean de Jandun il n'est pas possible d'établir laquelle des deux traductions il connaissait.

<sup>5</sup> Ed. Baur BGPHM n. 4 cah. 2-3 p. 7 lignes 13-14.

après Aristote et Averroès et, dans un cas, son nom est fait expressément "magister Robertus qui fuit unus de subtilissimis philosophis in Anglia". Jean le loue alors d'avoir défendu la *pluralitas formarum*, la théorie abandonnée ensuite sous l'influence d'Albert le Grand et de St. Thomas<sup>6</sup>. En réalité, c'était l'auteur de la *Summa* mise sous le nom de Robert qui avait défendu cette thèse dans les *tractatus* XI-XIII. Nous apprenons ainsi que cette *Summa* était attribuée à Robert déjà dans le premier quart du XIV siècle.

Ces citations de Jean illustrent bien l'incertitude dans laquelle les Scholastiques se trouvaient à propos de l'auteur du *De divisione philosophie* et la confusion qu'ils faisaient entre les titres des différents ouvrages sur ce sujet traduits ou composés à Tolède à la fin du XII siècle. Aujourd'hui il est possible de distinguer ces ouvrages grâce aux travaux des Pères Bédoret et Alonso.<sup>7</sup> Mais les paroles de Jean nous ont quand même obligé à reprendre l'examen d'un problème déjà résolu par Baur<sup>8</sup> puisque l'attribution du *De divisione philosophie* à Robert Grosseteste par un savant du début XIV siècle n'aurait pu être écartée avec la même facilité que l'apostille d'un lecteur anonyme du XVII siècle dans la marge du ms Cambridge Univ. Libr. H 4 13 du XVI siècle. Il n'y avait, il est vrai, aucune raison pour préférer le témoignage de Jean de Jandun à ceux de Robert Kilwardby et de Jean de Galles, même si ce

<sup>6</sup> "Ed. princeps" Venise 1505 f. 35 v a.

<sup>7</sup> Voir *Revue néoscholastique* 39 (1936) "Les premières traductions tolédanes de philosophie" et *Andalus* 12 (1947) "Traducciones del arcediano Domingo Gundisalvo". Pour autant que nous le sachions, le *Ihsâ'u-l-'ulûm* n'est jamais cité avec le titre qui figure dans le catalogue de la *Vita Gherardi* n. 42: *De scientiis* (Sudhoff:Archiv für Geschichte der Medizin Band 8 p. 78). Vincent de Beauvais parle de "Alpharabius in libro de divisione scientiarum" (Spec. Doctr. L. II ch. 13) et ses citations sont empruntées à la paraphrase de Gundissalinus. Le titre *de ortu scientiarum* appartenait proprement à la "Epistula Alfarabii de assignanda causa ex qua oritur scientie philosophicæ" publiée par Baeumker (BGPHM 19) et citée déjà par Daniels de Morley (voir H. Bédoret). Morley avait pu réellement trouver dans son ms. l'attribution de cette épître à Aristote car une indication analogue se rencontre dans le ms. de Bibliotheca Angelica de Rome: "Flos Alfarabii secundum sententiam Aristotelis". Elle figure même dans l'original arabe, les '*Uyûnu-l-'ahbâr*'. Sans doute, le *De ortu scientiarum* fut traduit par Gundissalinus et non pas par Gérard de Crémone puisque dans le seul passage où, en arabe, devait se trouver le mot '*aql*', on lit *intellectus* et non pas *ratio*, le terme préféré par Gérard (BGPHM vol. 19 éd. Cl. Baeumker p. 23 l. 3). L'incertitude à propos du titre et de l'auteur de notre ouvrage est confirmée par les mss. Ainsi, dans le ms. Digby 76, on lit: "Explicit liber Gundisalvi de divisione philosophicæ; alii putant quod sit Alfarabii". Peut-être, le titre original était-il celui du ms. Vatican latin 2186 *de divisione et ortu scientiarum* qu'on pouvait abrégé indifféremment en *de ortu scientiarum* voire en *de divisione philosophicæ*.

<sup>8</sup> Voir Baur l.c. p. 152 note 3 et BGPHM n. 9 p. 124-126.

dernier a attribué tout d'abord et dans la même ligne le *De divisione philosophie* à al-Fârâbî et à Gundissalinus et ensuite il a parlé seulement d'al-Fârâbî.<sup>9</sup> Mais nous n'aurions su exclure tout à fait la possibilité que le *De divisione philosophie* fût de l'auteur de la *Summa* attribuée au Grosseteste, un auteur qui dans la préface et au chap. 6 cite le *Ihsâ'u-l-ulûm*. Et cela pour plusieurs raisons. Tout d'abord Vincent de Beauvais, qui a recueilli des passages d'un ouvrage analogue de Michel Scot<sup>10</sup> ne connaissait pas par contre le livre de Gundissalinus. Ensuite, dans le chapitre sur la médecine, nous avons rencontré une phrase empruntée au *Prognostica* d'Hippocrate, un livre traduit du grec en latin avant 1283, peut-être au VI siècle.<sup>11</sup> Par surcroît, le rattachement de la logique à la *civilis ratio* dans le *De divisione philosophie*<sup>12</sup> s'expliquerait plus aisément si ce livre appartenait au ps. Grosseteste qui avait en grande estime Hugues de St. Victor. Depuis des siècles dans le cours du *trivium* la logique préparait à l'étude de la rhétorique, l'art des *jura civilia*.<sup>13</sup> Cependant Hugues avait d'une part mis l'accent sur les liens entre la logique (*dialectica*) et la rhétorique et de l'autre il les avait opposées aux sciences spéculatives qui seules méritent le titre de *sapientia*<sup>14</sup>. Et selon Hugues la logique rentrait dans la catégorie de la *prudentia* en considération de la *vocis eloquentia*. On croirait comprendre qu'à ses jeux

<sup>9</sup> Dans son "Compendiloquium" édité par L.W. Waddings sous le titre *Florilegium de vita et dictis illustrium philosophorum* et dont la première section s'intitule "Pars I que est de philosophia in communi", Jean de Galles écrit (éd. de Venise 1496): "Est enim philosophia...divinarum humanarumque rerum cognitio" ait Damascenus in logica sua cap. XLIX. Huic ultime definitioni addit Gundissalmus (sic) in libro de ortu sanctorum (sic:recte:scientiarum) cum studio bene vivendi..." Jean de Galles donne aussi la seconde définition de la philosophie: "Ait Alfarabius de divisione philosophie et Gundissalmus ubi supra "vel philosophia est sui ipsius ab homine cognitio". Ensuite il cite quelques fois encore notre ouvrage, mais alors il écrit seulement: "Ait Alfarabius in libro de divisione philosophie", voire "ait Alfarabius ubi supra" et toutes ces citations correspondent à ce qu'on lit dans le *De divisione philosophie*. La première définition de la philosophie est citée aussi dans la *Summa collectionum ad omne genus humanum de republica*, c.à.d. dans le *Breviloquium* de Jean de Galles, où l'on lit (Wolfenbüttel ms. 83.27 Aug. 2 f. 136 v) "Et similiter Alphagianus i.e. Alpegianus in libro de divisione philosophie".

<sup>10</sup> Ces fragments ont été recueillis et ordonnés par Baur BGPHM n. 4.

<sup>11</sup> I.c. p. 86 ligne 17: "oportet autem medicum et preterita cognoscere et presenciam scire et futura providere". La traduction gréco-latine des *Prognostica* n'appartient pas à Niccolo de Reggio puisqu'on la trouve déjà dans le ms CLM 183 qui porte la date "Parisius 1283".

<sup>12</sup> I.c. p. 70 l. 14-16.

<sup>13</sup> *Didascalion* I.I ch. 12; *Etymologie* I. II ch. 23§§ 1-2.

<sup>14</sup> *Didascalion* I. II ch. 14.

elle servait surtout à la *civilis practica*. Or, Gundissalinus aurait pu difficilement trouver quelque chose d'analogue chez les philosophes arabes et, différemment de Baur, nous ne croyons pas qu'il ait connu suffisamment l'arabe pour lire directement les ouvrages écrits dans cette langue et choisir les passages qui faisaient à son cas. Il a toujours cité Aristote d'après les traductions latines faites du grec. Mlle d'Alverny a prouvé qu'il n'a pu jamais se passer d'un collaborateur mozarabe<sup>15</sup> et, pour son *De divisione philosophie*, il s'est servi des traductions d'Avicenne faites dans ces années-là à Tolède et des paraphrases du *Ihsâ'u-l-'ulûm* et des *Definitiones* d'Isaac Israéli préparées par lui-même.<sup>16</sup> Un seul passage du *De divisione philosophie* laisserait penser qu'il était à même de découvrir dans les parties de l'*Encyclopédie* d'Avicenne, qui n'avaient été pas encore traduites, des sections correspondantes à ses intérêts: le *de convenientia et differentia scientiarum*, le chapitre II de la II partie du *Kitâb-al-Burhân*. Mais nous avons déjà prouvé qu'il existait une traduction latine de ce livre qu'Albert le Grand a utilisée.<sup>17</sup>

Toutefois, à la réflexion, avons-nous dû reconnaître que ces indices en faveur du ps. Robert Grosseteste ne résistent pas à un examen critique. Vincent de Beauvais ne connaissait pas le *De divisione philosophie* mais il ne connaissait pas non plus les traductions latines des *Grands Commentaires* d'Al-Fârâbî qu'Albert avait consultées à Paris quelques années auparavant lorsqu'il avait composé sa logique. La phrase des *Prognostica* d'Hippocrate figure aussi dans la traduction arabo-latine de Gérard de Crémone du *Commentaire* de Galène sur cet ouvrage d'Hippocrate.<sup>18</sup> Et il n'y a aucune raison pour imaginer que le *Didascalion* d'Hugues de St. Victor ait été inconnu à Tolède à la fin du XII siècle. Le père Alonso avait déjà eu l'impression que Gundissalinus se fût inspiré du *Didascalion* dans la définition de la géométrie qu'il a interpolée dans sa version du *Ihsâ'u-l-'ulûm*.<sup>19</sup> Or, cette conjecture du savant espagnol devient presque une certitude quand on tient compte

<sup>15</sup> "Notes sur les traductions médiévales d'Avicenne" *AHDLMA* 1973.

<sup>16</sup> Voir A. Alonso l.c. p. 325-327.

<sup>17</sup> *AHDLMA* 1972 p. 79-83.

<sup>18</sup> Voir Sudhoff l.c. n. 45.

<sup>19</sup> l.c. p. 300.



d'une variante de ce passage dans le *Speculum doctrinale*.<sup>20</sup> Et enfin, il est évident que dans les fragments conservés par Vincent de Beauvais, Michel Scot a transcrit maints passages du *De divisione philosophie* qui donc avait été composé bien avant le ps. Grosseteste. Dans un cas<sup>21</sup>, Michel a pris même soin de noter qu'il juxtaposait deux passages du texte qu'il avait sous ses yeux et on retrouve ces deux passages à la page 10 l. 3 et à la page 11 l. 20 de l'édition Baur. Et, surtout, si le ps. Robert s'était inspiré de Michel Scot, il n'aurait pas supprimé l'affirmation de ce dernier que la *scientia civilis* constitue la *pars practica* de la *scientia divina*. Elle était justifiée par la *Métaphysique* d'Avicenne, où le *Tractatus X* (l'Éthique et la Politique) développe le dernier chapitre du *Tractatus IX*, le *De promissione divina*. Et le ps. Robert n'aurait pas non plus supprimé la distinction introduite par Scot, probablement à la suite de Sénèque, entre les sciences pratiques *civiles* et *vulgares*.<sup>22</sup> Elle lui aurait permis de ménager la susceptibilité des logiciens.

Ici, nous ne pouvons pas entrer dans les détails de la longue *Questio V* in *VI Métaphys.*: "Num logica sit scientia speculativa". Soulignons tout de suite que, différemment de Kildwarby<sup>23</sup>, Jean n'a pas fait propre la thèse de Gundissalinus d'après laquelle la logique fait partie de la *civilis ratio*. Il l'a considérée comme une *scientia practica* pour des raisons tout à fait différentes. Il a concédé à son adversaire que la logique n'est pas une branche de l'économie, de la morale et de la politique. Cependant, l'argument principal de son *opponens*, c'était que la logique est la science des *predicamenta que sunt a natura*. Or, on avait déjà réfuté cet argument par l'observation que la logique prend en examen les *predicamenta* en tant qu'*intentiones exercite ab homine per cognitionem et electionem*. Elle ne les étudie pas en tant qu'*entia realia*. Mais Jean préférait de ne pas concéder l'existence des *entia rationalia* à

<sup>20</sup> Gundissalinus: paraphrase du *Ihsâ'u-l-'ulûm* (éd. Camerarius p. 15/16): "(Geometria) activa vero considerat lineas tribus modis...vel quia in altum...vel in profundum et bene dicitur profundimetria". *Speculum Doctrinale* L. XVII cap. 37 "...vel in profundum et hec perymetria". *Didascalion* l. II cap. 14 "Geometria tres habet species, planimetriam, altimetriam, cosmimetriam...Altimetria altum metitur et extenditur sursum et deorsum, nam et mare altum dicitur...Kosmos mundus interpretatur et inde dicta est cosmimetria, id est mensura mundi, hec metitur spherica".

<sup>21</sup> *Speculum Doctrinale* L.II ch. 16.

<sup>22</sup> *Epist* 88 éd. Hense 1898 p. 353.

<sup>23</sup> Voir Baur l.c. p. 293.



côté des *entia realia* et il définissait la logique comme l'art qui se sert des *res predicamentales* afin de parvenir *de cognitione noti ad ignotum*. Il ne voulait pas non plus admettre qu'elle fût un *organon*, ainsi que l'avaient définie Simplicius dans son *Super predicamenta* et le *Commentator* in I *Phys.* et in VII *Metaphys.* Et il n'acceptait pas que la logique fût une *scientia adminiculativa* pour la raison assez spécieuse que la métaphysique elle-même fournit des principes aux autres sciences mais qu'elle ne cesse pas pour autant d'être une *scientia speculativa*. Le caractère *adminiculativus* ne saurait donc constituer une classe particulière des sciences. Pour tenir compte de l'*auctoritas* d'Aristote in *primo Topicorum* il reconnaissait seulement qu'il existait des *problemata practica ratiocinalia* employés également dans les spéculatives et dans les sciences pratiques. Toutefois la raison la plus profonde de l'acharnement avec lequel Jean a voulu réduire la logique à une science pratique, réside-t-elle, croyons-nous, ailleurs. Personne ne contestait le fait que, dans la *Métaphysique* 1026 a 28, Aristote avait enseigné que la philosophie théorique comprend trois seules disciplines: la théologie, la mathématique et la physique. Averroès l'avait répété. Dans son commentaire 6 il avait même mis en vedette comment, dans la *Métaphysique* 1025 b 22, Aristote avait indiqué le caractère spécifique des sciences pratiques: dans ces dernières les "cogitationes sunt arguentes secundum aliquid, non arguentes simpliciter, cum scientia in eis non sit nisi propter opus". Et ces paroles du Commentateur fournissaient une justification à l'*opinio* de Jean, d'après lequel la logique était une science pratique précisément parce que son but était celui de s'élever *de cognitione noti ad ignotum*. Cependant Averroès n'a jamais dit qu'il considérait comme un *opus* la découverte de l'*incognitum*. Et Jean lui-même sentait le besoin de souligner qu'en dépit de cet *opus* la logique était une *scientia factiva liberalis et non banausa* ou, ainsi qu'il le disait quelques lignes plus bas, une *scientia activa rationalis*, l'une des deux branches de la *scientia activa*, l'autre étant la *scientia activa moralis*. Ce que Jean refusait de concéder, c'était que, dans la *Métaphysique* 1026 a 18, Aristote eût parlé exclusivement de la *philosophia speculativa realis* et passé sous silence la *philosophia speculativa rationalis*. Déjà dans la *Questio IV* il avait fait allusion à cette *cavillatio* et écrit "quod non invenitur ab aliquo, nec ab Aristotele nec ab Averroë divisio scientie per realem et rationalem". Il feignait d'ignorer que la tradition stoico-platonicienne conservée par Cicéron et par Boèce divisait précisément la philosophie en logique, éthique et

théorique. Isidore de Séville en avait pris note dans ses *Etymologies* I. II §§ 2 et 3 et Hugues de St. Victor avait repris et commenté cette division dans son *Super Angelicam Hierarchiam*. Mieux encore, au livre IV, dans la *Questio* "utrum metaphysica et dyalectica versentur circa idem", Jean avait reconnu qu'Avicenne in *primo Metaphysice sue cap. II* et le Commentateur in *IV metaphysicorum cap. II* avaient admis l'existence des *entia rationis*, "ut vult Avicenna, quia logica est de secundis intentionibus adjunctis primis". Dans le livre VI, à la *questio X*, Jean parla à son tour des *entia rationis* à propos des *prime intentiones*, dans lesquelles la "intellectio rei accipitur a proprio modo essendi" et des *secunde intentiones* qui reflètent les *modi essendi communes*. Mais Jean se méfiait de ces *intentiones* et il préférait que les "intentiones rerum capiantur a quiditate rei, ut vult Lincolnensis primo Posteriorum". Et toute cette *Questio X*, l'une des plus longues de notre livre, est dirigée contre la "opinio modernorum doctorum dicentium quod preter differentiam realem et rationis oportet dare tertiam differentiam (la distinction formelle)...et dicunt se habere ex doctrina scotica". La réduction de la logique au rang d'une *scientia activa* de la part de Jean et son rejet de l'existence d'une *scientia speculativa rationalis* s'expliquent, croyons-nous, par son hostilité envers la nouvelle logique formelle.

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### La notion d'*ingenium* dans la médecine médiévale

Dans un article paru en 1975, Guy Beaujouan<sup>1</sup>, cherchant à appréhender le problème si complexe des échanges entre pensée spéculative et vie réelle, porte son attention sur les termes *ingeniator* (d'où vient le français "ingénieur") et *ingenium*. Après avoir relevé le sens d'*ingeniator* appliqué, au XII<sup>e</sup> siècle, aux architectes militaires, qui, à l'aide de machines de guerre (*ingenia*), organisent la défense ou l'attaque d'une place forte (*ingeniare*), il pose la question de savoir s'il y a lieu d'établir un rapport avec la définition de la *scientia ingeniorum* donnée peu après 1150 par Dominicus Gundisalvi s'appuyant sur al-Fārābī:

"Scientia vero ingeniorum docet modos excogitandi et adinveniendi qualiter, secundum numerum, corpora naturalia coaptentur<sup>2</sup> per artificium aliquod, ad hoc ut usus quem querimus proveniat ex eis".<sup>2</sup>

A travers cette définition, qui se rapporte à la fois à l'algèbre et à la science des machines, Guy Beaujouan voit l'une des manifestations d'une nouvelle approche:

"Dans son interprétation d'al-Fārābī, Dominicus Gundisalvi trahit certes sa connaissance de Hugues de Saint-Victor; pourtant, selon ce courant nouveau d'origine arabe, le propos est tout différent. Il n'est plus question d'arts mécaniques plagiant la nature et servant donc à la comprendre; il s'agit bien de techniques appliquant des sciences théoriques en vue d'une certaine efficacité".

Les sources arabes introduites au XI<sup>e</sup> siècle par Constantin l'Africain imposent à la médecine médiévale une répartition entre théorie et pratique<sup>3</sup>, qui, certes, lui permet d'accéder au statut de science, mais qui

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<sup>1</sup> G. Beaujouan, Réflexions sur les rapports entre théorie et pratique au Moyen Age, dans J.E. Murdoch et E.D. Sylla (eds.), *The Cultural Context of Medieval Learning*, Dordrecht-Boston, 1975, p.437-84.

<sup>2</sup> Ibid., p.441; éd.M.Alonso, Madrid, 1954, p.109.

<sup>3</sup> Cette répartition est imposée par l'*Isagoge Iohannitii* et le *Pantegni*. La division entre théorie et pratique appliquée à la médecine a peut-être des origines hellénistiques: L. Englert, Untersuchungen zu Galens Schrift *Thrasylbulos*, dans *Studien zur Geschichte der Medizin*, 18(1929), p.23. Avant l'introduction des oeuvres arabes, elle était exprimée, en Occident, dans des traductions ravennates de commentaires alexandrins (cf. A.Beccaria, *Sulle tracce di un antico canone latino di Ippocrate e di*

fait aussi obstacle à une définition satisfaisante de la démarche thérapeutique. De nombreuses questions scolastiques témoignent de la difficulté que rencontrent les médecins à séparer science du général et art du particulier, connaissance spéculative et savoir orienté vers l'action, lorsqu'il s'agit de la mise en oeuvre d'un traitement rationnel. C'est dans ce contexte du passage de la théorie à la pratique, de la spéculation à l'action que sont employés le mot *ingenium* et ses dérivés.

*La faculté nécessaire au médecin.*

Les *Aphorismi Iohannis Damasceni*, version latine des *Nawādir aṭ-ṭibbiya* de Yūḥannā Ibn Māsawayh (+857), furent fort répandus au Moyen Age, depuis leur traduction, probablement dans l'Italie de la fin du XI<sup>e</sup> siècle<sup>4</sup>. Ibn Māsawayh, qui fut l'ami d'al-Kindī et le maître du célèbre traducteur Ḥunayn ibn Isḥāq, y définit les qualités nécessaires au bon médecin et les règles à suivre pour le devenir. Il s'agit de préceptes généraux concernant la pratique.

La version latine propose, en plusieurs occurrences, *ingenium* pour traduire différents mots arabes: *nafs* (âme), *ra'y* (avis), *ḥads* (intuition). En outre, *per ingenium* et *ingeniare* rendent le verbe *taḥayyala*, qui, issu de la même racine que *ḥilat* dont le pluriel est traduit par *ingenia* chez Dominicus Gundisalvi, signifie dans son acception commune "employer des moyens rusés, habiles pour arriver à une fin". Ibn Māsawayh utilise ce verbe lorsqu'il est question de trouver un expédient pour s'adapter à la nature, pour se substituer à elle. Par exemple: "Il faut que le médecin, lorsqu'il veut purger l'humeur à l'intérieur des veines, rende le médicament d'une qualité faible et s'ingénie (*yataḥayyalu, per ingenium*) à le rendre semblable à la nourriture, afin que la nature l'accepte, le conduise aux veines et ne l'ait pas en aversion".<sup>5</sup> Le choix du mot *ingenium* opéré par le traducteur renvoie à l'acception qu'il a, par exemple, chez Pline ou dans la *Mappae clavicula* lorsqu'il se réfère à la

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Galeno, III, dans *Italia medioevale e umanistica*, 14(1971), p.1-23.

<sup>4</sup> Cf. Yūḥannā Ibn Māsawayh (Jean Mésué), *Le livre des axiomes médicaux (Aphorismi)*, édition du texte arabe et des versions latines avec traduction française et lexique par Danielle Jacquart et Gérard Troupeau, Genève, 1980.

<sup>5</sup> Aph.51, *ibid.*, p.154-5.

technique alchimique<sup>6</sup>: par son *ingenium*, l'homme tente de se substituer à la nature, de l'imiter à tel point qu'elle-même s'y trompe.

Les cas où *ingenium* traduit *nafs*, *ra'y*, ou *ḥads* seraient sans grand intérêt - tellement vagues et généraux sont les propos auxquels ils appartiennent - s'ils n'avaient retenu l'attention du commentateur latin des *Nawādir*. On ne sait rien de cet auteur, nommé Isidore, mais l'analyse de son oeuvre, conservée dans une vingtaine de manuscrits, permet de le situer dans l'Italie du Nord vers le milieu du XIII<sup>e</sup> siècle.<sup>7</sup> Isidore ne soupçonne évidemment pas que l'original arabe propose différents mots là où la traduction n'en offre qu'un seul. *Ingenium* apparaît dès le premier aphorisme, dans lequel l'auteur arabe dit: "La vérité, en médecine, est une fin qui ne peut être atteinte; et le traitement par ce que prescrivent les livres, sans qu'un médecin habile n'émette son avis (*ra'y*), est dangereux". "Sans qu'un médecin habile n'émette son avis" est rendu en latin par *absque sollerti ingenio*, l'adjectif *sollers* traduisant *māhir* (habile, expert, expérimenté). Le commentateur ne livre pas ici de définition d'*ingenium*. Il signale cependant que c'est la faculté qui permet au médecin d'agir dans le domaine du particulier: les livres n'offrent que des règles générales, alors que les situations particulières sont infinies.<sup>8</sup> Par exemple, l'eau froide préconisée pour traiter la fièvre tierce ne convient pas si le patient est âgé, de tempérament flegmatique, s'il souffre d'une obstruction de la rate ou du foie etc. La *sollertia ingenii* est l'attention portée à la recherche et à l'examen des causes des maladies, ainsi qu'à la prescription des médicaments. Elle détermine et met en oeuvre le traitement de tel cas particulier.

Dans deux aphorismes, qui soulignent l'importance d'un don inné pour permettre au médecin de perfectionner son art en s'accordant avec les exigences de la nature, *ingenium* traduit *nafs* (âme): "L'âme naturellement douée aide l'art médical, ainsi que la nature régnante", "L'âme douée naturellement, chez le médecin, aide le traitement et

<sup>6</sup> Cf. R. Halleux, *Les alchimistes grecs*, t.I, Paris, 1981, p.75.

<sup>7</sup> La tradition manuscrite de ce texte est fortement liée à celle du *Colliget* d'Averroès, avec lequel il est souvent transcrit. L'auteur ne connaît pas le *Colliget*, ce qui le situe avant les années 1280. Liste des manuscrits dans Yūhannā Ibn Māsawayh, éd.cit., p.36-43.

<sup>8</sup> "Actores in suis libris solum res generales posuerunt quia non potuerunt ponere particularia cum infinita sunt, propter hoc oportet medicum circa ea operari cum diligenti ingenio" (ms. Erfurt, Amp1. F.239, XIV<sup>e</sup>s., f.1v.).



s'accorde avec le désir de la nature de traiter".<sup>9</sup> Le commentaire de ces deux aphorismes amène Isidore à définir *ingenium* comme "l'artisan de l'intellect" ou "l'acte de distinguer".<sup>10</sup> Suit la référence au passage du *De anima* d'Avicenne, dans lequel *ingenium* traduit en réalité *ḥads* et signifie l'intuition intellectuelle, l'éclair de compréhension qui permet d'atteindre une vérité jusqu'alors inaperçue:

"Il est manifeste, dit Avicenne, que les intelligibles que l'homme s'attache à acquérir, il ne les acquiert que lorsqu'il a obtenu le moyen terme dans un syllogisme. Ce moyen terme est trouvé de deux façons: parfois il est découvert par l'intuition (*ingenium*), c'est-à-dire l'acte de la raison qui permet grâce à sa propre force de trouver le moyen terme, cette intuition émanant de la sagacité; parfois il est découvert par l'enseignement. Mais le principe de l'enseignement est l'intuition: tout repose sans aucun doute sur les intuitions (*ingenia*) qu'ont eues les hommes intuitifs (*ingeniosi*) et qu'ils ont transmises à leurs disciples".<sup>11</sup>

Chez Avicenne, cette intuition appartient à l'intellect saint et, outre son application dans le domaine intellectuel, elle est l'un des modes d'accession à la prophétie. Ces prolongements échappent au modeste médecin Isidore qui retient seulement du texte d'Avicenne que l'*ingenium* est la faculté permettant l'invention. L'exemple qu'il en donne paraît dérisoire et burlesque après la référence à la pensée avicennienne: un maître réussit à sauver un léthargique en lui enduisant le visage de miel; ce subterfuge fit qu'assailli par les mouches le patient se réveilla et guérit. A travers cet exemple, *ingenium* semble plus proche de l'astuce incluse dans l'ancien français *engin*<sup>12</sup> que de l'intuition avicennienne.

Continuant à tenter de cerner la notion d'*ingenium*, le commentateur se réfère ensuite aux vertus de *prudentia* et de *sapientia* définies dans l'*Ethique à Nicomaque*.<sup>13</sup> La *prudentia*, vertu de l'artisan,

<sup>9</sup> Aph.2 et 40, éd., p.112-3 et 146-7.

<sup>10</sup> Ms.Erfurt, Amp1. F.239, f.2r et 8r.

<sup>11</sup> *Avicenna latinus. Liber de anima seu Sextus de naturalibus IV-V, édition critique de la traduction latine médiévale par S. Van Riet*, Louvain-Leyde, 1968, p.151 (*De anima* V.6). Dans la version latine, le mot *ingenium* traduit aussi *ihūyal* (V.3, p.40) et *fiṭna* (V.7, p. 166-7), termes se référant plutôt à l'astuce, à l'habilité. Sur la notion de *ḥads* chez Avicenne, voir: A.M.Goichon, *Lexique de la langue philosophique d'Ibn Sina*, Paris, 1938, n°140; F.Rahman, *Avicenna's psychology*, Oxford, 1952, p.36-7, 93-4.

<sup>12</sup> Cf. "Engin in Twelfth-century courtly texts", dans R.W.Hanning, *The individual in twelfth-century romance*, New-Haven-Londres, 1977, p.105-38.

<sup>13</sup> Isidore paraphrase le passage de l'*Ethique à Nicomaque*, VI,5, dans lequel Aristote définit la prudence comme la vertu ne se bornant pas à l'acquisition de formules générales, mais s'appliquant au savoir des solutions particulières. Le commentateur reprend aussi l'exemple médical cité par Aristote.

est aussi l'apanage du médecin compétent qui ne peut se borner à connaître les règles générales, mais doit trouver des solutions particulières. La manifestation de la "prudence" du médecin est l'*ingenium* qui permet de déduire, à partir de la cause, le mode de traitement chez tel individu particulier. Le couple *prudencia-ingenium* paraît, en effet, particulièrement uni en latin médiéval: dans l'un des exemples que cite Guy Beaujouan, un certain Richard, *ingeniator*, est qualifié de *prudens architectus*.<sup>14</sup> De même, Guillaume de Conches glose l'expression *prudētissime nature* qu'il trouve chez Calcegius, par *id est ingenii*.<sup>15</sup> Malgré l'embarras qu'il manifeste à interpréter d'une façon unique un terme dont le vaste champ sémantique en latin classique s'est encore diversifié à travers les traductions de l'arabe, il est clair qu'Isidore place l'*ingenium* au centre de la démarche thérapeutique, au moment du choix, voire de l'improvisation, que nécessite la pratique quotidienne.

#### *La démarche thérapeutique.*

Prédécesseurs antiques des *Nawādir* d'Ibn Māsawayh, les *Aphorismes* d'Hippocrate donnent lieu également dans les nombreux commentaires médiévaux à une réflexion sur ce qu'est la science ou l'art du médecin. Le terme *ingenium* apparaît dans ces commentaires à partir du XIII<sup>e</sup> siècle, non pour désigner une faculté mentale, mais une opération. Les deux affirmations du premier aphorisme "l'expérience est trompeuse" et "le jugement difficile" amènent à analyser la démarche médicale et, en particulier, l'action thérapeutique. Après avoir rappelé que l'expérience est dangereuse lorsqu'elle s'applique à l'être humain et qu'elle est trompeuse ou que le jugement est difficile, car la détermination de ce qui a entraîné l'effet produit s'avère peu sûre, Taddeo Alderotti (+1295) en vient à définir ce qu'est le traitement uniquement guidé par le raisonnement<sup>16</sup>:

<sup>14</sup> Réflexions..., op.cit., p.441.

<sup>15</sup> E.Jeauneau, *Guillaume de Conches, Glosae super Platonem*, Paris, 1965, p.250-1. Guillaume de Conches donne par ailleurs (ibid., p.65) une définition d'*ingenium* inspiré d'Isidore de Séville: "Ingenium est vis naturalis ad aliquid cito intelligendum: unde dicitur ingenium quasi "intus genitum"" (cf. Etym. X,122: "Ingeniosus, quod intus vim habeat gignendi quamlibet artem").

<sup>16</sup> Thaddej Florentini, *Expositiones in arduum Aphorismorum Ippocratis volumen*, Venise, 1527, f.2r.

"Cela commence par la détermination de la maladie et du membre concerné, puis des choses avec lesquelles on doit soigner telle maladie dans tel membre. Par exemple, si un patient souffre d'un apostème dans le foie, alors l'*ingenium curationis per rationem* est déduit de la détermination de cet apostème, sachant qu'une telle maladie provient de la surabondance de telle ou telle humeur et qu'il se situe dans un membre principal qui transmet une vertu à tous les autres membres. A partir de ce savoir, nous considérons les choses avec lesquelles nous pouvons traiter cette maladie dans ce membre et, puisqu'elle provient d'une réplétion, nous faisons une saignée de la veine basilique droite, nous administrons des aliments et des breuvages apéritifs et nous appliquons sur l'hypocondre droit des résolutifs, en leur mélangeant des astringents aromatiques afin que le membre principal ne soit pas affaibli".

Cet *ingenium curationis* s'opère sans recours à l'expérience; il est déduit des signes qui sont la manifestation de l'essence des choses et de la nature des maladies. Il est donc l'application de principes. Une même approche et un exemple voisin se trouvent au XV<sup>e</sup> siècle dans le commentaire d'Ugo Benzi<sup>17</sup>:

"Pour acquérir l'art médical par la raison, il faut connaître la vraie essence des choses, c'est-à-dire des membres, de la santé, des maladies, des vertus et de tous les accidents: à partir de cela nous tirons l'*ingenium curativum*...Je réfléchis au fait que la maladie du coeur vient d'une mauvaise complexion chaude, que le coeur est un membre principal et qu'il est assez éloigné de la peau de la poitrine. Je conclus qu'il faut appliquer des refroidissants dans lesquels sont mêlées quelque chose d'une substance subtile pour faire pénétrer et quelque chose de chaud pour conserver la chaleur".

L'*ingenium curativum* ne consiste pas seulement en une action sur la cause de la maladie, mais il doit rendre le corps apte à accepter cette action, en tenant compte du lieu de la détérioration et en prévenant les accidents qui pourraient empêcher l'efficacité du médicament agissant sur la cause.

L'introduction du terme *ingenium* dans ce contexte vient sans aucun doute de la version arabo-latine par Gérard de Crémone (+1187) du *Therapeutiké methodos* de Galien, intitulée *De ingenio sanitatis*. Cet ouvrage envisage exclusivement les modalités du traitement selon la raison, laissant de côté le problème de l'expérience. Dans le schéma galénique, l'*ingenium sanitatis* est l'application à chaque cas particulier, dans l'ordre d'enchaînement des causes manifestées par les signes, de principes généraux rationnels. La version arabe de Ḥunayn ibn-Ishāq a

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<sup>17</sup> *Expositio clarissimi doctoris Ugonis Senensis super Aforismos Hippocratis*, Venise, 1517, f.2v.

pour titre *Kitāb fī Ḥīlat al-bur*.<sup>18</sup> Gérard de Crémone traduit avec constance *ḥīlat* par *ingenium* à la fois dans l'ouvrage galénique et, à l'instar de Dominicus Gundisalvi, dans le *De scientiis* d'al-Fārābī. Un même mot arabe et un même mot latin renvoient ainsi à deux notions grecques, celle de *methodos* d'une part, celle de *méchané*<sup>19</sup> d'autre part. L'une et l'autre contiennent, certes, le sens d'astuce et de ruse, mais le choix d'un seul mot en arabe et en latin répond sans doute à une autre logique. Ainsi que le rappelle George Saliba, "une machine (*ḥīlat*) est tout procédé qui permet de surmonter la résistance naturelle et d'accomplir des actions contraires à la tendance naturelle".<sup>20</sup> Pour Galien, traduit de l'arabe par Gérard de Crémone, "*l'intentio ingeniandi sanitatis* n'est rien d'autre que de restaurer la santé dans les corps malades, c'est-à-dire de traiter tout préjudice survenant dans l'action des membres".<sup>21</sup> Il s'agit aussi d'aller à l'encontre d'un processus en utilisant les moyens propres à la *techné*, c'est-à-dire, dans une perspective aristotélicienne, en tentant d'actualiser des principes existant en potentialité.

Les médecins italiens des XIII<sup>e</sup>, XIV<sup>e</sup> et XV<sup>e</sup> siècles connaissent le *De scientiis* d'al-Fārābī, qu'ils citent généralement à propos des deux vertus nécessaires au médecin: la connaissance à travers les livres des principes universels et le savoir acquis par une longue observation de l'action des médicaments dans de nombreux corps particuliers.<sup>22</sup> Il n'est alors pas impossible d'imaginer qu'ils aient établi un parallèle entre *l'ingenium sanitatis* et la *scientia ingeniorum* (ou science des machines)

<sup>18</sup> Signalons que les *Nawādir* d'Ibn Māsawayh mentionnés ci-dessus sont adressés à Ḥunayn à un moment où celui-ci est en train de traduire le *Thérapeutique methodos*. On lit en effet, à la fin des *Nawādir*: "N'abandonne pas, ô mon fils, l'achèvement du service que tu rendras au commun des hommes et par lequel tu réjouis mon âme, grâce au livre, d'une importance considérable et d'une grande utilité, dont tu as entrepris la traduction en langue arabe, livre que composa celui qui fut assisté de l'aide de Dieu et solidement versé dans la sagesse, l'éminent Galien, qui l'intitula *Kitāb ḥīlat al-bur*" (éd. D.Jacquart et G.Troupeau, op.cit., p.222). Le traducteur latin rend le titre de l'ouvrage galénique par *Megategni*.

<sup>19</sup> Cf. R.Bourgne, "Mechane", "Mechanastai" chez Platon, dans *Documents pour l'histoire du vocabulaire scientifique*, n°8, Institut national de la langue française (CNRS), 1986, p.9-31.

<sup>20</sup> G.Saliba, The function of mechanical devices in medieval Islamic society, dans *Annals of New York Academy of sciences*, 1985, p.14-51.

<sup>21</sup> Ms.Paris, Bibl.nat., lat.11860, XIV<sup>e</sup>s.,f.167rb. (*De ingenio sanitatis* I,5).

<sup>22</sup> Cette citation d'al-Fārābī est des plus répandues; elle figure notamment dans le *Conciliator* de Pietro d'Abano (Diff.IV, "Quod medicina non sit theorica ostenditur sed practica").



d'al-Fārābī, les deux démarches nécessitant une préparation, une adaptation des corps naturels à subir l'action conçue par l'esprit humain:

"Ingeniorum vero scientia est scientia preparationis ad faciendum convenire omnia quorum modi demonstrantur in doctrinis quarum narratio preterit cum sermone et demonstratione super corpora naturalia et in acceptione eorum et situ ipsorum in eis actu".<sup>23</sup>

Le principal obstacle à la fiabilité de la "machine thérapeutique" réside dans la difficulté de la mesure, celle-ci devant s'appliquer, en médecine médiévale, à l'intensité des qualités. Au XIV<sup>e</sup> siècle, Gentile da Foligno constate: "en résumé toute connaissance en cette science pour laquelle le médecin doit émettre un jugement sur une mesure déterminée de quantité intensive ou extensive est conjecturale ou arbitraire ou estimative".<sup>24</sup> Arnaud de Villeneuve, dont les *Aphorismi de gradibus*<sup>25</sup> proposent, en se fondant sur al-Kindī, une méthode mathématique pour calculer l'intensité des qualités contenues au sein des médicaments composés et pour en déterminer le dosage précis, insiste sur le problème de la mesure dans son commentaire au *De malitia complexionis diverse* de Galien:

"La définition de la *malitia complexionis diverse* en général est bien exposée ci-dessus; c'est en effet une qualité non naturelle en acte, altérant le membre et corrompant sa complexion naturelle. Cette considération n'est utile à l'*ingenium sanitatis*, vers lequel cette science est ordonnée, que pour connaître la *virtus* de la cause responsable de la santé; cette connaissance est des plus faciles et très banale; en revanche mesurer la *virtus* de cette cause est difficile et demande une évaluation à l'aide de l'art (*artificiali estimatione*)".<sup>26</sup>

En effet, savoir que telle fièvre est chaude en général ne suffit pas; il faut en déterminer la qualité et sa variation depuis le point de départ jusqu'au point d'aboutissement: "Sic enim ad operandum potius regulabitur artifex, etenim opus istud ad ingenium sanitatis ordinatur".<sup>27</sup>

<sup>23</sup> A.Gonzalez Palencia (éd.), *Al-Farabi, Catalogo de las ciencias*, Madrid-Grenade, 1932 (rééd., 1953), p.154 (traduction de Gérard de Crémone).

<sup>24</sup> *Comm. au Canon d'Avicenne*, éd. Venise, 1520, t.I, f.32 (question "Dubitatur utrum omnium fere scibilium in hac arte vel scientia possit haberi certa cognitio").

<sup>25</sup> Ed. M.R.Mc.Vaugh, *Arnaldi de Villanova Opera medica omnia II*, Grenade-Barcelone, 1975.

<sup>26</sup> *Commentum super tractatum Galieni De malicia complexionis diverse*, éd. L.García Ballester et E.Sanchez Salor, *Arnaldi de Villanova Opera medica omnia XV*, Barcelone, 1985, p.164-5.

<sup>27</sup> *Ibid.*, p.224.



L'assimilation du *De ingenio sanitatis* de Galien, au cours des XIII<sup>e</sup> et XIV<sup>e</sup> siècles, donne à *ingenium* associé à *curativum* ou *curationis* ou d'autres termes semblables un sens précis en médecine: il s'agit de l'approche thérapeutique dans son ensemble, indissociable des principes universels de la science naturelle dont elle est l'application dans le domaine du particulier. Cette démarche englobe la connaissance livresque, la réflexion, l'observation des signes présents, le souvenir des expériences passées, la décision et le choix détaillé du traitement. D'autres traductions de l'arabe recourent au même mot ou à ses dérivés dans une perspective semblable. Dans le *Colliget* d'Averroès, traduit à la fin du XIII<sup>e</sup> siècle, la septième partie de la médecine est nommée *ingenium remotionis egritudinum*.<sup>28</sup> Dans le *Grabadin* du pseudo-Mésué, *ingeniatio* qualifie l'ensemble des mesures destinées, par exemple, à traiter une pleurésie. Cela comprend l'action sur la matière responsable (dont un *regimen ingeniativum* variable suivant la nature humorale ou venteuse de la cause), la correction des accidents, un régime d'accompagnement.<sup>29</sup>

Grâce à l'emploi du mot *ingenium*, pour qualifier une faculté mentale ou une opération, il semble qu'un certain nombre de médecins aient pu éviter l'impasse dans laquelle les menaient le plus souvent les questions du type: "La médecine est-elle une science ou un art?", "Est-elle théorique ou pratique?". Grâce à l'ambiguïté du terme, à son emploi dans d'autres contextes (en particulier chez al-Fārābī), les auteurs pouvaient insensiblement passer de la science à l'art, de la théorie à la pratique, de l'universel au particulier, sans avoir à justifier leur démarche d'un point de vue philosophique.

Centre National de la Recherche Scientifique, Paris

<sup>28</sup> Ed. Venise, 1497, L.I, c.1 et L.7.

<sup>29</sup> *Opera divi Ioannis Mesue*, s.1, 1541, I,2,2. On ne connaît pas le nom du traducteur latin de ce texte dont l'original arabe n'a pas été retrouvé à ce jour.

JEAN JOLIVET

### Le jeu des sciences théorétiques selon Gilbert de Poitiers

Jean de Salisbury résume en deux phrases la méthode pratiquée par Gilbert dans son travail scientifique, et particulièrement en théologie: "selon les requêtes de son sujet il usait des ressources de toutes les disciplines, sachant qu'en chaque domaine toutes choses dépendent de l'aide qu'elles se prêtent mutuellement. Il considérait en effet que les disciplines sont liées les unes aux autres, et il les mettait au service de la théologie; il maintenait aussi les règles de chacune dans les limites de son genre propre"<sup>1</sup>. Ce texte associe la pluralité des sciences, l'assignation à chacune d'un domaine particulier, et les connexions qui font de leur ensemble un système; clair en surface, il demande en fait pour être compris entièrement une analyse que nous allons tenter de faire ici, en nous bornant aux trois sciences dont Gilbert parle le plus souvent et autrement que par allusions; ce sont les seules sans doute que Jean avait en tête.

L'énumération des sciences théorétiques (*scientie speculative*) est, du moins dans ses grandes lignes, un des points les mieux connus de la pensée de Gilbert; je veux dire, un de ceux qui sont le plus souvent cités. Rappelons-en cependant l'essentiel. Il y a la science naturelle (*naturalis*), la science mathématique (*mathematica*), la science théologique (*theologica*)<sup>2</sup>. Cette énumération est reprise du *De Trinitate* de Boèce, que Gilbert suit encore quand il énumère les objets et méthodes respectifs de chacune de ces sciences. Elles se distinguent quant à l'objet, en ce que celui de la physique (nous appellerons dorénavant ainsi la *scientia naturalis*) est "en mouvement et non séparé"; celui de la mathématique, "sans mouvement et non séparé"; celui de la théologie, "sans mouvement

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<sup>1</sup> *Historia Pontificalis*, ed. R. L. Poole, Oxford, 1927, 28<sup>16-20</sup>: "Utebatur, prout res exigebat, omnium adminiculo disciplinarum, in singulis quippe sciens auxiliis mutuis universa constare. Habebat enim connexas disciplinas easque theologie servire faciebat, et cohibebat omnium regulas infra proprii generis limitem".

<sup>2</sup> *The Commentaries on Boethius by Gilbert of Poitiers*, ed. N.M. Häring, Toronto, 1966, 80<sup>53-55</sup>. Les citations des commentaires de Gilbert et du texte de Boèce qu'il suivait renverront dorénavant à cette édition.

et séparé<sup>3</sup>. Gilbert, sollicitant d'ailleurs une expression de Boèce, ajoute pour sa part que les objets de la physique sont "extérieurs", ceux de la mathématique, "intérieurs", et ceux de la théologie, "secrets"<sup>4</sup>. Quant à la méthode, la physique procède *rationaliter*, raisonnant donc discursivement sur les subsistants, les êtres concrets; la mathématique procède *disciplinaliter*, c'est-à-dire par abstraction; la théologie, *intellectualiter*, par une intuition spécifique des êtres qui sont en eux-mêmes séparés<sup>5</sup>. Tous les esprits ne sont pas capables de ces sciences, et selon leurs capacités respectives ils se rangent en une hiérarchie parallèle à celle de leurs objets<sup>6</sup>. Ce bref tableau n'a pas le seul intérêt de rappeler, pour la commodité du lecteur, des choses bien connues. Il semble surtout contredire le contenu essentiel du texte de Jean de Salisbury cité plus haut: s'il y a entre les sciences théorétiques de telles différences quant à l'objet, la saisie des choses, la méthode, la dignité, et même l'acuité d'esprit que chacune requiert, où peuvent donc s'accrocher les "connexions" que Gilbert y aurait vues? Pourtant Jean ne peut être tenu pour un mauvais témoin; et de fait, nous allons le voir, ces connexions sont évoquées en de nombreux passages des commentaires de Gilbert à Boèce.

Avant de les examiner, considérons quelques lignes du commentaire au *De Trinitate*, voisines de celles qu'on a déjà citées: elles précèdent l'énumération des trois sciences. On y lit une suite de dichotomies où le choix des termes est particulièrement significatif en ce qu'il annonce, et en quelque façon prépare, un résultat que nous rencontrerons plus loin. Voici donc l'essentiel de ce nouveau tableau: les sciences sont soit théorétiques (*theorice*), c'est-à-dire spéculatives (*speculative*), soit pratiques (*practice*), c'est-à-dire concernant l'action (*active*). Les sciences

3 80<sup>57-61</sup>, 85<sup>85-91</sup>, 85<sup>6-7</sup>; le texte de Boèce est en 371<sup>5-13</sup>. Ce classement combinatoire remonte évidemment à Aristote, *Métaphysique*, E, 1, notamment 1026 a 13-16. On laisse de côté la question de savoir s'il faut lire, conformément à la tradition la plus ancienne dont Boèce est un témoin, "non séparés" (*akhōrista, inabstracta*) ou "séparés" (*khōrista*, ce qui deviendrait *abstracta*), selon la correction moderne (Schwegler, 1848). On trouvera une bibliographie résumée de la question et une justification de la leçon traditionnelle dans V. Décarie, "La Physique porte-t-elle sur des 'non-séparés'", *Revue des Sciences Philosophiques et Théologiques*, 38 (1954), 466-468 (repris dans *Etudes aristotéliennes. Métaphysique et Théologie*, Vrin, 1985, 7-9).

4 *Exterioribus, interioribus, intimis*: 67<sup>42-43</sup>, Boèce, 369<sup>13-15</sup>.

5 86<sup>16-87<sup>45</sup></sup>; Boèce 371<sup>14-17</sup>.

6 184<sup>23-45</sup>; ce passage n'est plus, comme les précédents, dans le commentaire au *De Trinitate*, mais aux *Hebdomades*.

spéculatives "s'appellent", les unes physiques (*phisice*) c'est-à-dire naturelles (*naturales*), les autres éthiques, c'est-à-dire morales, les autres logiques, c'est-à-dire rationnelles. Les sciences naturelles, que plus souvent on appelle "spéculatives" ("que uno nomine naturales dicuntur que etiam usu majore speculative vocantur") se répartissent en trois: "l'une, sous le nom qui est universellement celui de toutes, est appelée spécialement naturelle ("una que universali omnium nomine specialiter dicitur naturalis")", l'autre s'appelle mathématique, et la troisième, théologique<sup>7</sup>. Suivons le fil des sciences premières nommées à chacun des trois étages de ces divisions, nous observons ceci: le mot "spéculatives" désigne, génériquement, les sciences dites autrement "théorétiques", et, spécifiquement, les sciences "physiques" ou "naturelles"; ce mot: "naturelles", désigne, génériquement, les trois sciences dites autrement "physiques", et, spécifiquement, l'une des trois, la *naturalis*, celle qui, comme le dira un peu plus bas Gilbert recopiant Boèce, "étudie les formes des corps avec leur matière". Remontons maintenant cette cascade de synecdoques: par glissements successifs la science naturelle en vient à apparaître comme la science spéculative ou théorétique par excellence, puisque son nom se donne aussi en commun aux trois sciences énumérées par Boèce, et qu'en ce dernier usage il équivaut à "spéculative", qui d'autre part s'applique aux sciences théorétiques dans la division première qui les sépare des sciences pratiques. Croyons Jean de Salisbury quand il dit que Gilbert faisait servir toutes les sciences à la théologie; mais nous retiendrons que sa nomenclature donne à la physique une place privilégiée. Cette présomption se confirme d'un autre point de vue quand nous abordons le commentaire du passage où Boèce examine l'attribution à Dieu des prédicaments. Dès les premières lignes Gilbert expose que certes les spécialités scientifiques (*facultates*) sont diverses "selon les genres de choses dont il y est traité", mais qu'il en est une, c'est la physique, qui se tient au plus près du langage usuel et est la source première des transpositions analogiques de termes d'une discipline à l'autre<sup>8</sup>. Les lignes suivantes en donnent quelques exemples: *quantum* et *quale*, qui se disent proprement en physique (*quantus et qualis homo vel lapis*) se transposent (*transferuntur*) en mathématique (*quanta et qualis linea*) et en théologie

7 79<sup>43</sup>-80<sup>56</sup>.

8 "...cum facultates secundum genera rerum de quibus in ipsis agitur diverse sint... una tamen est, scilicet naturalis, que in humane locutionis usu promptior est et in transferendorum sermonum proporcionibus prior"; 115<sup>2-6</sup>.

(*quantus et qualis Deus*), notamment. La relation de contrariété se transfère de la physique, qui oppose le blanc et le noir, à la mathématique, qui oppose la blancheur et la noirceur, et à la théologie qui oppose le bien et le mal<sup>9</sup>. Puis Gilbert entame le commentaire de la liste des prédicaments reproduite par Boèce; nous lirons de plus près le début de ce passage, là où sont étudiées la substance, puis la qualité et la quantité: nous y verrons mieux les rapports entre la physique et la mathématique, quant aux transpositions de mots.

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Commençons par le second cas, celui de *qualitas* et *quantitas*: ainsi les nomme Boèce. Ces mots propres aux "mathématiciens" désignent le genre le plus général de toutes les qualités et toutes les quantités respectivement. Celles-ci font que les subsistants où elles résident sont *qualia* et *quanta*. Or *qualitas* et *quale*, *quantitas* et *quantum*, diffèrent en tant qu'ils sont, deux à deux, "les noms qui expriment l'abstraction mathématique ou la participation physique" (*mathematice abstractionis, naturalis participationis*); mais cette différence ne fait pas de *qualitas* et *quale*, ou de *quantitas* et *quantum*, "des genres différents" (*genera diversa*)<sup>10</sup>. "Genre", notons-le, ne doit pas être compris ici au sens le plus abstrait, comme le premier terme de la liste porphyrienne des prédicables, mais au sens de genre de l'être, catégorie: c'est bien la même catégorie qui est signifiée par *qualitas* et par *quale*, ou par *quantitas* et *quantum*. Mais cette coïncidence dans le même genre n'empêche pas une différence dans la prédication, selon qu'on prend l'un ou l'autre des termes de ces couples<sup>11</sup>: "de tout ce dont on peut prédiquer quelque chose, il est impossible que soit prédiqué le genre de cela même"<sup>12</sup>. Il ne s'agit clairement pas ici de rapports de classes - à moins qu'on n'accepte de

<sup>9</sup> 115<sup>7-18</sup>, nous avons laissé de côté quelques allusions à la politique (*in civilibus*) et à la logique (*in rationalibus*); l'exemple donné à la l. 12 est surprenant.

<sup>10</sup> 116<sup>46-54</sup>.

<sup>11</sup> Si l'on suit le *Compendium Logicae Porretanum* (mais dans le texte qu'on étudie ici Gilbert paraît moins strict) ce n'est qu'en physique que l'on peut parler à la rigueur de prédicaments, et de prédication: *tantum in naturalibus proprie praedicamentum dici potest* (78<sup>75-76;99</sup>), et un prédicament est "l'instrument de la prédication (*instrumentum praedicandi*; 4<sup>11</sup>); dans les autres "facultés" on n'a que des "quasi-prédicaments" (78<sup>80-82</sup>; 78<sup>99-79</sup><sup>4</sup>, où les *mathematici* sont nommément cités: ils distinguent "leurs" genres et espèces en se fondant sur ceux des subsistants qui sont, nous le savons, l'objet propre des *naturales*). Voir *Compendium Logicae Porretanum*, éd. S. Ebbesen, K.M. Fredborg, L.O. Nielsen, Copenhague, 1983 ("Cahiers de l'Institut du Moyen Age et latin", 46).

<sup>12</sup> "De quocumque enim aliquid praedicatur, impossibile est genus ejusdem praedicari"; 117<sup>59-60</sup>.



faire soutenir à Gilbert que si l'on attribue "homme" à Socrate, on ne peut lui attribuer "animal". Il s'agit en fait du rapport entre le prédicat (*quale, quantum*) et le genre (la catégorie) dont il relève (*qualitas, quantitas*); c'est-à-dire du rapport entre les objets et pratiques de deux sciences différentes: la mathématique dégage les formes abstraites, par exemple la blancheur, et la physique énonce la participation de cette forme par un substantif en lui attribuant le prédicat "blanc"<sup>13</sup>. La règle énoncée par Gilbert s'interprète ainsi: Socrate est blanc, mais on ne peut dire "Socrate est blancheur". Les rapports entre les deux sciences se précisent: outre ceux qu'on a déjà énumérés - diversité d'objets, de méthodes, différence entre la *participatio* et l'*abstractio* - apparaît une autre différence, connexe de cette dernière et d'ordre logico-grammatical, puisqu'elle concerne la prédication et les rapports entre le lexique propre à la mathématique et celui de la physique. En termes empruntés au *Compendium logicae porretanum*, ce sont les rapports entre le *nomen principale* et le *nomen sumptum*, par exemple entre "blancheur" et "blanc"<sup>14</sup>. Or, nous l'avons vu plus haut, la contrariété constatée par la physique entre le blanc et le noir "se transpose" en mathématique en contrariété entre la blancheur et la noirceur; comme c'est par abstraction que la mathématique tire la blancheur du blanc. Il s'opère donc un renversement entre l'ordre réel de la connaissance d'une part, et d'autre part les relations entre noms telles que les implique la terminologie grammaticale (*principale, sumptum*) et le mode d'efficience - de la qualité au *quale*, de la quantité au *quantum* - que la philosophie exprime en termes de mathématique tout en y bornant la réalité de ces qualités et quantités<sup>15</sup>. De ces relations extrêmement complexes ressort en dernière analyse la priorité réelle de la physique et de ses objets - du moins par rapport à la mathématique et aux siens.

Si nous remontons maintenant de ces accidents à la substance, comme aurait dû nous y inciter d'abord l'ordre du texte de Gilbert, nous

13 Voir plus haut la *naturalis participatio* vs. la *mathematica abstractio*; et, dans le commentaire aux *Hebdomades*: au sens strict un substantif ne participe que de ses accidents, et non de ses genres et différences, lesquels constituent son *esse* (210<sup>93-95</sup>).

14 Op. cit. n. 11, 26<sup>68-69</sup>

15 "Qualitas vero in mathematicis omnium qualitatum generalissimum est; et quantitas omnium quantitatum. Et sunt quod dicuntur non a causis que in ipsis intelligantur sed ab *efficiendo* ea, in quibus sunt, subsistencia, ille quidem qualia, ista vero quanta" (116<sup>46-49</sup>; souligné par moi). Cf. 241<sup>79-81</sup>; "nichil enim naturalium nisi per causam et nichil mathematicorum nisi per efficiendi potestatem concipi potest".

trouvons une situation complexe aussi, mais d'une autre façon. Le mot "substance" en effet n'est pas tiré "du genre des choses physiques" mais d'une "raison" commune à tout ce qui est l'esse des subsistants, c'est-à-dire aux subsistances, pour être dans un second moment attribué et aux subsistances et aux subsistants: parce qu'il n'existe pas de nom qui pourrait être attribué à tous les subsistants, corporels et incorporels, à titre de leur nom le plus général en vertu de la subsistance qui leur est commune, les Latins mettent souvent à cette place vide le nom de "substance"<sup>16</sup>. - Ce texte présente plusieurs difficultés. Il y est question d'une métonymie qui va des subsistances aux subsistants: la physique en est donc le point d'arrivée et non l'origine, par exception à la règle qui nous semblait établie. En second lieu Gilbert ne précise pas dans quelle *facultas* cette métonymie a été instaurée; la physique prend-elle en compte la "raison commune" des subsistances? C'est douteux; on pense alors à la mathématique, qui opérerait alors une double abstraction à partir des subsistants. D'autre part nous lisons un peu plus loin que les mathématiciens rangent les "subsistances ou substances", simples ou composées - *animatio, humanitas* - sous un ou plusieurs des "neuf genres", c'est-à-dire des catégories qui précisément ne sont pas la substance au sens que Gilbert vient de dégager; il semble en outre que ce soient les logiciens qui aient pris en charge ces "subsistances ou substances", ce sont eux du moins qui les nomment<sup>17</sup>.

Un peu plus loin encore, nous lisons qu'il n'y a pas assez de noms pour que chaque chose ait le sien, que pour cette raison des noms sont "transférés", en vertu d'une certaine analogie, de facultés à d'autres, "et surtout à partir des choses naturelles (*et maxime a naturalibus*)". Ainsi nous disons que Dieu "est nommé Dieu par substance, juste par qualité, très grand par quantité"<sup>18</sup>. Il semble bien maintenant que ce transfert vers la théologie - celui, précisément, du mot "substance" qui a ici le sens de "subsistance" - ait pour origine la physique. Cela nous remet dans une perspective connue mais ne peut entièrement nous satisfaire. La

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16 "Hoc nomen, quod est substancia, non a genere naturalium sed a communi ratione omnium que sunt esse subsistentium, inditum est non solum illis que sunt esse i.e. subsistentibus sed etiam illis quorum ipse sunt esse i.e. omnibus subsistentibus. Quoniam tamen omnium, i.e. et corporalium et incorporalium subsistentium, quod ab illorum subsistentia communi generalissimum esset, nomen non habetur, sepe Latini hoc pro eo ponunt"; 116<sup>36-42</sup>.

17 117<sup>84</sup>-118<sup>96</sup>.

18 120<sup>60-69</sup>.

théologie, manquant d'un certain terme, l'emprunte à la physique qui elle-même l'a emprunté parce qu'il lui manquait, mais toutefois pour signifier autre chose: enchaînement de catachrèses donc, mais qui nous ramène à notre interrogation: où le nom originel s'est-il constitué? Il semble, tout bien pesé, que ce soit dans la mathématique, opérant en quelque sorte au second degré; nous avons là un transfert, médiatisé par la physique, de la mathématique à la théologie.

Un couple de concepts voisins de celui de substance, puisque ce sont les concepts d'individualité, ou diversité numérique, et de nature, pose d'une autre façon la question des rapports entre la physique et la théologie, par le biais des inférences que ces concepts autorisent ou non dans chacune de ces deux sciences. Car (c'est ici Boèce qui parle) on dit: le Père est Dieu, le Fils est Dieu, l'Esprit saint est Dieu, donc le Père, le Fils et l'Esprit saint sont un seul Dieu et non trois dieux. Gilbert oppose à cette inférence théologique celle qui vaut en physique (*secundum naturalium rationem*): Platon est homme, Cicéron est homme, Aristote est homme, donc Platon, Cicéron et Aristote sont trois hommes, et non un seul homme dans la singularité de sa subsistance. Cette opposition reflète dans les règles de la logique propre à chacune des deux sciences la différence en leurs objets respectifs, des rapports entre la nature et la diversité numérique. Cette diversité est réelle, que l'on parle de trois hommes ou des trois Personnes de la Trinité: dans chacune des prémisses qu'on a citées le prédicat: homme, Dieu est affirmé de plusieurs sujets (*de diversis*). Mais dans le cas de la prémisse physique le prédicat trois fois répété signifie en fait à chaque fois des natures différentes (*diversas naturas; de alio aliud dicitur*); en théologie au contraire "la singularité de l'essence trois fois prédiquée est jointe aux trois sujets". Au point de vue des termes et de leur signification la proposition physique s'analyse en identité de noms et diversité de choses ("homme" signifiant des natures différentes dans chacun des trois sujets dont il est successivement prédiqué: Platon, Cicéron, Aristote); la proposition théologique, en répétition du nom et de la chose ("Dieu" signifie la même essence dans le Père, le Fils et l'Esprit, dont il est successivement prédiqué). Au point de vue ontologique l'analyse de la proposition physique implique la doctrine de la *conformitas*; selon celle-ci, Gilbert le dit ailleurs, les subsistances sont diverses dans des sujets divers, de sorte qu'à la pluralité des hommes correspond une pluralité d'humanités, leur conformité permettant cependant de dire qu'ils sont "un homme" (spécifiquement: "diverses

substances sont une espèce"); l'analyse de la proposition théologique implique la "non-différence", *indifferentia*, entre les trois Personnes<sup>19</sup>. - On voit clairement ici comment une logique de la physique peut se comparer et s'opposer à une logique de la théologie: se comparer parce qu'elles ont en commun les concepts d'unité, de diversité, d'essence - communauté du moins formelle ou fonctionnelle, pour ce dernier concept; s'opposer parce que leurs contenus respectifs ne sont pas homogènes l'un à l'autre. Or ces relations entre ces deux sciences se projettent également dans un jeu d'identité et de diversité entre leurs "raisons" et leurs axiomes: leurs *rationes* et leurs *regulae*.

Dans son commentaire du *Contra Euticen* Gilbert formule avec une grande précision abstraite, comme il le fait souvent quel que soit son sujet, les rapports entre les "raisons" des diverses sciences. Dans le domaine de la théologie les choses se passent parfois comme dans les autres sciences, parfois de façon différente; donc les conceptions de la physique et de la mathématique ne doivent être, en théologie, ni toutes acceptées ni toutes refusées: il faut donc marquer quelles sont les raisons communes à toutes ces sciences, et celles qui sont propres à chacune<sup>20</sup>. Ou en d'autres termes, comme il l'écrit dans son commentaire au *De Trinitate*, "ou bien la théologie dans sa majesté revendique pour elle seule des raisons qui lui sont propres, ou bien quelque analogie entre elle et la philosophie des hommes permet que certaines leur soient communes"<sup>21</sup>. Or ce discernement "est le fait d'une philosophie très perspicace et de longue expérience", comme il le dit à la fin du passage du *Contra Euticen* qu'on vient de citer: c'est pourquoi beaucoup d'hérésies en matière de théologie

<sup>19</sup> Jusqu'à son avant-dernière phrase ce paragraphe reprend, en en modifiant la disposition interne, un passage de Gilbert: 72<sup>30</sup>-73<sup>72</sup>. Notre analyse finale repose sur cet autre: "sepe multa unum dici contingit, vel conformitate aliqua, qualiter plures homines dicuntur unus homo quoniam scilicet qui suis subsistentiis, que a mathematicis nominari possunt humanitates, sunt homines et earum numerali pluralitate plures, earundem conformitate similes et similitudine sunt conformes", 167<sup>8-12</sup>; mais la conformité implique, autant que la ressemblance, la diversité: "conformes, tamen diversas, immo quia conformes ergo numero diversas, a se invicem naturas", 72<sup>61-62</sup>. A rapprocher du premier texte cité dans cette note, celui-ci: "diverse ... subsistentie que una sunt species", 75<sup>34</sup>. Voir encore 78<sup>3</sup>: *indifferentia* comme raison propre à la théologie.

<sup>20</sup> "Sed hec omnia non nisi de rebus creatis intelligi volumus. In theologicis enim aliqua quidem similiter, aliqua vero aliter esse sequentia nos docebunt. Non enim omnia neque nulla que in naturalibus aut mathematicis intelliguntur, in theologicis accipienda sentimus: ideoque subtilissime atque exercitatissime philosophie esse communes utrisque et proprias singulorum rationes notare"; 294<sup>88-93</sup>.

<sup>21</sup> "...rationibus quas vel theologice majestas sibi proprias vindicat vel humane philosophie ad ipsam qualiscumque proportio communes admittit"; 53<sup>15-17</sup>.



trinitaire résultent d'un mauvais usage des raisons, selon qu'on a étendu à plusieurs spécialités des raisons qui étaient propres à une seule ou qu'on en a considéré comme propres à une seule, qui étaient communes à toutes<sup>22</sup>. Gilbert en fait une sorte de déduction dans le second prologue du *De Trinitate*<sup>23</sup>. Soient d'abord deux raisons propres à la physique: à propriétés diverses, subsistances diverses; une subsistance fonde un seul subsistant. Si on les transfère à la théologie, on rejoint Arius, entre d'autres. Si outre ce transfert on néglige aussi une raison qui vaut dans tous les "genres de choses": divers propres ne peuvent se rencontrer en une seule personne, on obtient l'hérésie de Sabellius, et d'autres. Ces deux hérésies qu'on juge généralement inverses ont donc selon Gilbert une racine commune, et, dit-il expressément, une conclusion commune: "concevant correctement la singularité de la divinité, ils ont estimé, selon une raison propre aux physiciens, non seulement que le seul Dieu est un, mais encore que Dieu est seul en son unicité"<sup>24</sup>. "Maintenant, d'autres ont compris, correctement, que le Père, le Fils et l'Esprit saint sont des Personnes numériquement diverses du fait de leurs propriétés diverses" - car, dirons-nous, ils ont retenu cette raison commune à tous les genres qu'a oubliée Sabellius; mais il ont, comme Arius, transposé à la théologie une raison propre à la physique: les propriétés de sujets numériquement divers sont diverses, et de même sont numériquement diverses leurs subsistances. De cette raison indûment jointe à la première ils ont conclu que le Père, le Fils et l'Esprit n'étaient pas de même essence mais d'essence semblable<sup>25</sup>. Parmi ceux-ci certains retiennent la raison propre à la physique selon laquelle des caractères divers sont attachés aux subsistances diverses d'un subsistant unique: chez le même homme par exemple, la couleur à la corporéité, la passion à la sensibilité, la connaissance à la rationalité; ils attribuent donc à la toute-puissance de Dieu le fait d'être le Père, à sa sagesse d'être le Fils, à sa bonté d'être

22 "Et hec quidem propter imperitos, qui diversarum facultatum rationes aut communicant proprias aut appropriant communes, tetigimus"; 294<sup>94-96</sup>.

23 58<sup>40-61</sup>15.

24 "Et hi quidem omnes, de divinitatis singularitate recte sentientes, juxta naturalium rationem opinati sunt non modo quod unus sit Deus solus verum etiam quod solus unus sit Deus"; 60<sup>86-88</sup>. L'essence divine étant commune aux trois Personnes, chacune d'elles a l'unicité divine, et réciproquement: point qu'Arius et Sabellius ont, selon la théologie catholique, différemment mais également méconnu.

25 Là-dessus se greffe l'hérésie de Macédonius: le Père et le Fils sont de même substance ou essence et sont un seul Dieu; l'Esprit n'est pas Dieu, mais la divinité commune aux deux, et il n'a aucune substance.



l'Esprit saint; ils conçoivent donc un Dieu "triforme", avec des essences diverses comme si elles étaient des parties diverses. On a reconnu là le point principal de la théologie trinitaire d'Abélard<sup>26</sup>.

De ces divers textes retenons seulement que la théologie a certes des raisons qui lui sont propres, mais qu'y ont aussi leur place des raisons qui valent en d'autres sciences; à vrai dire Gilbert ne cite que des raisons physiques. Réduite à ses lignes principales, la théologie trinitaire se concentre en deux doctrines: celle de "la singularité et simplicité de l'essence divine" et celle de "la diversité nombrable des Personnes"; or, dit Gilbert, Boèce a exposé la première selon des raisons théologiques, la seconde selon des raisons physiques<sup>27</sup>. Dans son commentaire des *Hebdomades* il fait remarquer à plusieurs reprises que seule est propre à la théologie la septième des règles énoncées par Boèce: "tout simple concentre en un seul son être et ce qu'il est", *omne simplex esse suum et id quod est unum habet*<sup>28</sup>. Cette règle concerne exclusivement l'essence divine. Mais, redisons-le, la théologie ne se referme pas sur une série de principes qui lui seraient propres, elle en accueille qui sont valides ailleurs aussi, notamment sinon exclusivement en physique. Voici donc une fois de plus que les sciences théorétiques admettent des communications que ne laissait pas prévoir la première présentation qui en a été donnée.

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Jusqu'ici nous n'avons considéré, en fait de rapports entre la physique et la théologie, que des cas où les objets de chacune de ces sciences étaient pris indépendamment l'un de l'autre. Nous allons maintenant examiner trois textes où ces objets apparaissent en tant qu'ils sont, respectivement, les créatures et le Créateur, donc dans cette relation particulière qu'est la création, c'est-à-dire la communication de l'être et la communication du bien. Le premier est tiré des *Hebdomades*, à l'endroit où Gilbert commente la seconde des règles formulées par Boèce: celle qui concerne l'esse et l'*id quod est* en leur diversité (leur unité n'étant qu'en Dieu comme nous venons de la rappeler). Il en prend occasion pour présenter les conceptions différentes de l'être et de l'être quelque chose que se font les théologiens d'une part, les philosophes de

<sup>26</sup> Voir aussi 78<sup>8</sup>-79<sup>34</sup>: distinction entre raisons théologiques et raisons physiques, avec une réfutation d'Arius fondée sur ce principe.

<sup>27</sup> 61<sup>26</sup>-62<sup>29</sup>.

<sup>28</sup> 194<sup>86-89</sup>; 199<sup>19-20</sup>.

l'autre<sup>29</sup>. Donc, selon les premiers, quand nous disons "Dieu est", nous prédisons de Dieu l'essence divine, or cette essence est l'être de toutes les créatures: dans des propositions comme "le corps est", "l'homme est", cet être est exprimé "par une certaine dénomination extrinsèque (*quadam extrinseca denominatione*) à partir de l'essence du Principe" du corps, de l'homme. Cependant le corps, l'homme, "sont quelque chose" par la corporéité, par l'humanité. En un mot: tout subsistant, toute créature, *est* par l'essence de son principe, qui est Dieu, et *est quelque chose* par une subsistance qui en lui est créée, c'est-à-dire par un genre, quel qu'il soit, qui est sien. Quant aux autres philosophes, qui considèrent leurs objets indépendamment du fait qu'ils ont été créés<sup>30</sup>, ils se répartissent sur ce point en deux écoles. Pour certains il est équivalent de dire *être* et *être quelque chose*: ainsi le verbe "est" est un prédicat équivoque. D'autres font des distinctions; selon eux les subsistants *sont* par leurs subsistances et *sont quelque chose* par ce qui s'y ajoute, à savoir par les mesures de leurs dimensions et leurs qualités; les sept autres prédicaments n'attribuent à ces subsistants ni l'être, ni l'être-quelque-chose, pas plus que ne le font tous les prédicats que l'abstraction mathématique sépare (*dividit*) de ce à quoi ils sont attribués<sup>31</sup>. - Donc entre la théologie et la physique la différence d'objet engendre des différences dans la nature du prédicat "est"; des propositions d'une science à celles de l'autre ce prédicat est donc équivoque. Plus loin, dans son commentaire de la règle 7, Gilbert reviendra sur cette différence à propos des rapports entre l'être et l'être-quelque-chose. Il y fera même une brève allusion au mode d'être des objets mathématiques: ils n'ont en eux rien qui les fasse être ni être quelque chose, ni réellement ni analogiquement (*nec re nec proportione*); toutefois certains d'entre eux "sont constitués des parties de leur contenu rationnel" (*ex sue rationis partibus constant*): ce sont la "propriété pleine des substances premières" - c'est-à-dire, d'après le contexte, la subsistance singulière de chacune, évoquée plus haut - et sa

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<sup>29</sup> 193<sup>51</sup>-194<sup>77</sup>.

<sup>30</sup> "Illorum vero philosophorum quibus sue facultatis genera sunt sola illa que ex principio esse ceperunt...", 193<sup>66-67</sup>.

<sup>31</sup> On retrouve dans le commentaire du *De Trinitate* cette distinction entre les trois prédicaments principaux - substance, qualité, quantité - et les autres (voir p. 115-138). Gilbert ne nomme pas les philosophes qu'il range dans l'une et l'autre de ces deux classes; pour la première le nom d'Aristote nous vient à l'esprit; pour la seconde celui de Gilbert lui-même, à la suite de Boèce.

"subsistance spécifique"<sup>32</sup>. Ces quelques lignes, qui d'ailleurs mériteraient une analyse spéciale, sont intéressantes en ce qu'elles mettent en jeu une science sur laquelle Gilbert ne s'étend guère: il s'intéresse principalement à la physique et à la théologie.

La relation complexe qui va de l'essence divine à l'être des créatures s'exprime au plan du langage par l'équivocité du prédicat "est". Une analyse de même allure décrit la relation entre le Bien qu'est Dieu et le bien qui est celui des créatures. On sait que l'objet des *Hebdomades* de Boèce est de fonder ontologiquement cette dernière attribution; la solution qu'il apporte à ce problème se concentre en une phrase: "les créatures sont dites bonnes parce que leur être a émané de la volonté du Bien"<sup>33</sup>. Gilbert dans son commentaire à cette phrase développe la mention de l'être d'une façon qui bien entendu évoque ses propres analyses, fait le lien entre la question du bien et celle de l'être, et introduit dans son analyse linguistique un concept plus opératoire que celui d'équivocité dont il se contentait plus haut à titre provisoire sans doute: "puisque tout *esse* des créatures - non seulement ce qui est et qui est quelque chose [le subsistant], et aussi ce par quoi cela est ou est quelque chose [la subsistance], mais encore l'être et l'être-quelque-chose [rappel de la question de l'essence] a émané de la volonté du Bien, les créatures sont dites bonnes par dénomination (*denominative*)"<sup>34</sup>. Je ne reprendrai pas ici une interprétation que j'ai proposée ailleurs<sup>35</sup>. Je relèverai simplement que les statuts ontologiques différents de Dieu et de la créature, objets respectifs de la théologie et de la physique, et leurs rapports, trouvent dans le langage une expression dont Gilbert emprunte les moyens à la rhétorique. Le mot *denominative*, que plus haut on a simplement transposé en français, désigne en réalité, comme *denominatio*, la métonymie (*quadam denominatione que Graece methonomia vocatur*) ou la métalepse (*transsumptio*)<sup>36</sup>, et non la paronymie comme chez d'autres

32 199<sup>21-25</sup>. Cf. 86<sup>27-28</sup>: les objets de la mathématique "ne sont absolument rien à moins d'inhérent à des subsistants".

33 "Iccirco quoniam esse eorum a boni voluntate defluxit, bona esse dicuntur"; 382<sup>49</sup>. Le raisonnement entier de Boèce est en 382<sup>38</sup>-383<sup>55</sup>.

34 220<sup>58-61</sup>.

35 J. Jolivet, *Aspects de la pensée médiévale: Abélard; doctrines du langage*, Paris, 1987, 293-311 (et *Aux origines de la Logica Modernorum: Gilbert de Poitiers et ses contemporains*, édité par J. Jolivet et A. de Libera, Napoli, 1987, 183-197).

36 220<sup>71-72</sup>, 221<sup>95-96</sup>.

auteurs de la même époque. Entre la théologie et la physique s'introduit ici la médiation d'un art du langage, en pleine clarté méthodologique.

Les analyses partielles dont ces deux textes nous ont donné l'occasion nous ont acheminé vers celle d'un troisième, tiré celui-ci du *De Trinitate*. En voici la traduction:

On ne dit pas de n'importe quel sujet (*de quolibet*) qu'il *est* par la propriété de son essence. Mais, de Celui qui *est* à proprement parler, par sa propre essence et non par une autre, à ce qui *est quelque chose* en vertu d'une forme créée par Lui, à cette forme créée elle-même, et enfin à tout ce qu'on peut véridiquement attribuer à ces choses (*ad omnia que de ipsis vere dicuntur*), puisque ces choses sont à partir de Lui comme de leur principe ce mot [*est*] se transpose par métonymie (*dictio ista transsumitur*) de sorte qu'on est en droit de dire de chacune: *elle est*, par participation de la forme divine. Or cela n'est pas sans rapport avec la façon de raisonner des physiciens (*quod non omnino a naturalium ratione diversum est*), puisqu'en physique tout être chez les subsistants vient de la forme.<sup>37</sup>

Ces lignes parlent d'elles-mêmes, on peut cependant faire à leur propos quelques observations. D'abord, la physique et la théologie s'y touchent. En second lieu, cette communication va de l'une à l'autre et réciproquement, mais ce croisement ne se fait pas sur le même plan. On va de la théologie à la physique sur celui de l'ontologie, censée exprimer la réalité des choses: l'être divin descend, pour s'y infuser en quelque façon (on se rappelle le *defluxit* des *Hebdomades*), dans les subsistants, les substances et les accidents qui s'y attachent. Et le mot suit le même chemin que la chose: c'est par métonymie qu'on dit des créatures qu'elles sont, et cela implique que le sens propre du mot "est" se trouve dans les propositions où le mot "Dieu" est sujet. Mais inversement ce schème théologique est compris, au plan des structures méthodologiques, par analogie avec le principe de physique selon lequel l'être vient de la forme: c'est sans doute parce que cette science a établi ce point que les théologiens ont pu le transposer dans la leur. On peut même apercevoir dans ce texte la mathématique, présence muette. Car la physique ne saisit pas bien un *esse aliquid* si la mathématique n'en explicite le fondement: la causalité de la forme est perçue en elle-même par cette science-ci, et en

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<sup>37</sup> 88<sup>70-77</sup>; formule presque analogue à la dernière phrase: 89<sup>5-6</sup>. On aura noté que Gilbert n'est pas constant dans sa façon de comprendre la participation (voir plus haut n. 13; et surtout 208<sup>64</sup>-210<sup>95</sup>, où toutefois il dit que la participation des accidents l'est "proprement").

son effet: l'esse *aliquid*, par celle-là<sup>38</sup>. Cela, notons-le, donne à la mathématique le statut d'une science auxiliaire, les sciences principales étant les deux autres, entre lesquelles une certaine homologie permet des passages, des échanges, où la théologie paraît avoir le premier rôle à cause de la dignité et du caractère originaire de son objet; et la physique a de son côté une certaine priorité puisque, tout étant dit, c'est en elle que s'élaborent les schèmes et une grande partie des concepts et des méthodes qui permettent aux spécialistes de l'une et de l'autre d'élaborer des discours démonstratifs.

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Mais parler de discours c'est s'engager dans la voie d'une autre sorte d'analyse, dont plusieurs aspects ou exemples sont déjà apparus au cours de cette étude: celle des procédés de langage par lesquels ces sciences se constituent et s'offrent à la compréhension. Nous allons pour finir étudier celui dont l'importance s'est affirmé - le transfert, quel qu'il soit, des termes d'une science à l'autre.

Dès le début de cette étude nous avons rencontré un texte où Gilbert expose en général ce qu'est le transfert des mots d'une *facultas* à l'autre, et particulièrement à partir de la physique; et plus loin, un second, qui présentait plus spécialement l'usage des prédicaments dans des propositions théologiques ("Dieu est nommé Dieu par sa substance, juste par une qualité, très grand par une quantité"). On trouverait bien d'autres exemples de ce procédé dans l'oeuvre de Gilbert. Ainsi, à propos de la septième règle énoncée par Boèce dans ses *Hebdomades* ("tout ce qui est simple possède en unité son être et ce qu'il est"), il explique que nous ne disposons pas de mots qui soient apparentés (*cognatos*) à ce dont nous parlons quand nous faisons de la théologie: nous sommes donc obligés d'en emprunter à la physique pour parler de Dieu (*a naturalibus ad ipsum verba transsumimus*), disant "il y a en Dieu une essence par laquelle il est, une puissance par laquelle il est puissant, une sagesse par laquelle il est sage". Mais bien entendu cet énoncé ne correspond pas au sens que nous souhaitons lui faire exprimer, puisque "nous ne *pensons* pas que sa puissance et sa sagesse... soient par aucune raison (*nulla ratione*) distinctes de l'essence par laquelle nous *énonçons* qu'il est (*qua illum esse*

<sup>38</sup> "Neque enim rationalis speculatio perfecte id quod est esse aliquid capit nisi disciplinalis quoque id unde illud est quid sit firmiter teneat", 84<sup>74-76</sup>; "nichil enim naturalium nisi per causam et nihil mathematicorum nisi per efficiendi potestatem concipi potest", 245<sup>79-81</sup>.



*praedicamus*)<sup>39</sup>. Dans le commentaire au *De Trinitate* nous trouvons quelque chose d'analogue, à propos cette fois du mot "personne" qui, emprunté à la physique, ne convient pas aux Personnes divines en son plein sens (*secundum plenitudinem ejus a qua nomen est rationis*) mais partiellement et par analogie (*ex proportione*); il faut donc concevoir à la fois une convenance et une différence entre ces deux disciplines, la théologie et la physique<sup>40</sup>. - En un mot le transfert des noms d'une discipline à l'autre est inévitable du fait que, on l'a vu, nous n'avons pas toujours à notre disposition les termes qu'il faudrait; mais aussi il exige une rectification de la pensée, un déplacement du sens que le nom a en physique à celui que nous voulons lui faire contenir quand nous en usons en théologie. Ce décalage est celui-là même qu'implique l'analogie, la *proportio*, qu'évoque Gilbert à plusieurs reprises sans en faire l'objet d'une réflexion spéciale qui pourrait être d'ordre métaphysique, puisque l'analogie suppose dans les choses un mixte d'identité et d'altérité. Du moins nous trouvons chez lui, un peu avant le texte dernier cité, les éléments d'une épistémologie du transfert des termes, c'est-à-dire une interprétation de ce double déplacement parallèle, dans le registre du lexique et dans celui des conceptions.

L'occasion lui en est fournie par deux incisives de Boèce; celui-ci, traitant des Personnes divines qui, tout en étant diverses, diffèrent par la seule relation, ajoute "si l'on peut dire" et "cela peut à peine se comprendre" - et non pas, commente Gilbert, "on ne peut pas le dire", "cela ne peut se comprendre". En effet: quant au langage, "l'expression ne contredit pas (*non omnino abhorrere*) notre façon ordinaire de parler"; quant à la pensée, "la chose n'est pas entièrement étrangère à ce que l'intelligence humaine peut concevoir (*non omnino ab humane intelligentie sensu remotam*); mais le mot, transposé en vertu d'une certaine analogie (*ex aliqua rationis proportione transsumptum*), ne peut en rien révéler (*explicare*) la chose elle-même"; en définitive: "la perception intellectuelle (*sensum mentis*) n'atteint pas la raison (de la chose) en sa plénitude et reste en peine de ce qu'elle ne peut concevoir que partiellement"<sup>41</sup>. L'opposition entre la *rationis plenitudo* et la *rationis proportio* se projette

39 200<sup>28-35</sup>.

40 147<sup>41</sup>-148<sup>72</sup>. La différence, on l'aura compris, est que les Personnes divines ont une seule essence; la convenance, en ce qu'une même Personne ne peut être à la fois Père, Fils, Esprit procédant.

41 143<sup>31-51</sup>.

dans le langage en un transfert de mots, et dans la pensée en une insuffisance de conception; du point de vue de l'épistémologie, l'usage en théologie du lexique de la physique et donc de ses concepts trouve sa limite dans cette incapacité de former des propositions théologiques qui expriment exactement leur objet: soit, comme Gilbert le dit plus loin dans le même commentaire: "en théologie nous ne pouvons avoir des mots qui soient apparentés (*cognatos*) aux choses dont nous parlons"<sup>42</sup>. Le second passage<sup>43</sup> reprend des thèmes que nous avons déjà rencontrés; ce sont l'analogie de raison, dont il note les conséquences sémantiques en une formule intéressante: la diversité des "modes de signifier" selon laquelle tels termes "imitent", quand ils apparaissent en théologie, les prédicables et prédicaments dont le sens véritable est celui qu'ils ont en physique<sup>44</sup>. Et la nécessité où est la théologie d'emprunter des mots à la physique, dont le lexique est moins pauvre (*ubi non tanta est inopia verborum*)<sup>45</sup>.

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Nous pouvons chercher maintenant à voir d'ensemble la question du jeu des sciences théorétiques selon Gilbert. A première approche on peut le résumer en un exemple simple et déjà rencontré: dans la proposition *Deus est justus qualitate*, le mot *Deus* relève de la théologie, *justus* de la physique, et *qualitas* de la mathématique. La première de ces sciences emprunte son lexique aux deux autres. Mais nous avons vu aussi que cette simplicité n'est qu'apparente, puisqu'en Dieu *justus* ne signifie pas autre chose que *est*, et que la *qualitas* reflue dans l'*essentia*: les rapports entre les trois disciplines se brouillent. Laissons de côté la mathématique, qui dans ces relations a toujours joué le rôle de la parente pauvre, et reprenons le rapport principal: celui de la physique à la théologie. La première étudie les *exteriora*, les objets qui nous sont immédiatement présents, elle fournit donc le lexique de base; la théologie, qui étudie les *intima*, n'a pas de lexique propre, mis à part le mot *essentia*, qui ne

42 "...in theologicis...cognatos rebus de quibus loquimur non possumus habere sermones"; 170<sup>87-88</sup>.

43 169<sup>82</sup>-170<sup>93</sup>.

44 "Quia tamen id quarundam rationum proportionibus sepe diversis significandi modis ostenditur i.e. vel ad generum vel ad qualitatum vel ad quantitatum imitationem cum dicimus 'Deus bonus magnus' et hujusmodi aliis nominibus significatur..."; 169<sup>82</sup>-170<sup>85</sup>.

45 170<sup>87-91</sup>. Les deux lignes qui suivent reprennent d'une autre façon le thème des "modes de signifier" (voir note précédente), en citant des noms qui, substantifs ou adjectifs, signifient "la même chose mais de façon différente", *idem sed diverso modo*; les exemples fournis sont *corpus*, *corporale*, *corporeum*; *animal*, *animale*; *homo*, *humanum*; voir, pour ce dernier, 220<sup>65-67</sup>, et l'étude citée plus haut, n. 35.

s'applique proprement qu'à Dieu et n'est employé ailleurs que par l'effet d'une transposition. Elle empruntera donc la plus grande part de son vocabulaire à la physique; mais le sens des mots changera quand ils seront transposés d'une science dans une autre, à raison de la nature même des objets qu'ils seront alors chargés de signifier. Dans certains cas l'analogie sera suffisante, d'une sphère à l'autre, pour que le sens des mots soit partiellement identique et partiellement différent dans leur double emploi: c'est ainsi que les développements de Boèce sur les Personnes divines utilisent des "raisons physiques". Mais dans d'autres cas il en ira autrement: de l'*essentia* divine à celle des créatures, du *Bonum* qu'est Dieu à la chose bonne qu'est chacune d'entre elles, il y a le processus d'une émanation volontaire et cela fait que d'un domaine à l'autre l'identité des noms n'est que métonymique. Quant aux Personnes divines, leur nature est toute différente de celle des personnes humaines: de celles-ci à celles-là, dans l'ordre des transferts de termes, nous passons du statut de *conformitas* (autant d'humanités que d'hommes) à celui d'*indifferentia* (une seule essence pour le Père, le Fils et l'Esprit, distincts entre eux par la seule relation). En somme, le seul discours qui soit adéquat à son objet est le discours physique, et encore il ne l'est que partiellement: Gilbert note que, généralement parlant, e mot ne peut montrer tout ce qu'est la chose, ni l'intelligence tout en comprendre; et même le mot reste en-deçà de la conception<sup>46</sup>. Le discours mathématique paraît n'avoir que peu de champ, puisque les mots où s'expriment les abstractions qui sont son objet propre ne peuvent être des prédicats; et le discours théologique est compromis par tout ce que nous avons vu. Ici s'impose une dernière remarque; Gilbert, avons-nous remarqué en commençant, et il ne le fait qu'en suivant Boèce, marque toutes les différences qui séparent les sciences théorétiques: différences d'objets, de saisie des choses, de méthode, de dignité et de pénétration requise pour les comprendre. Il semble que nous ne soyons pas loin d'Aristote, qui en plusieurs endroits note les écarts qui séparent ces trois sciences<sup>47</sup>. Toutefois celui-ci relève des possibilités de passage entre des sciences mathématiques et des sciences physiques<sup>48</sup>. Chez Gilbert ces analyses

46 67<sup>55</sup>-68<sup>80</sup>. Dans le cas de la théologie l'écart entre le discours et la réalité est encore plus grand, du fait de toutes les transpositions de termes.

47 Voir *Metaphysique*, E, 1, 1026 a 6-32; K, 7, 1064 a 30-1064 b 14; M, 3, 1077 b 17-1078 a 31.

48 Voir *Analytiques Seconds*, A, 7, 75 b 14-17; 9, 76 a 9-15; 13, 78 b 34-79 a 16.

épistémologiques ont pour pendant des réflexions sur le langage des sciences, et particulièrement de la théologie. L'un et l'autre posent un problème général qui est formellement le même: dans quelles conditions peut-on attribuer des prédicats à des sujets? Mais pour Aristote ce problème se pose au sein d'un ensemble de sciences de la nature en voie de constitution et homogènes entre elles malgré leurs différences de situation dans ce système; pour Gilbert, c'est en présence de sciences moins nombreuses (deux en fait) et nullement homogènes: l'une porte sur des êtres naturels, l'autre sur des réalités suprasensibles dont nous n'avons connaissance que par deux sources: des écrits révélés et des décisions conciliaires d'une part, et d'autre part des spéculations néoplatoniciennes à travers lesquelles ils avaient été repensés. On comprend qu'il ne se soit posé que deux questions: quels sont les rapports entre le mot, l'idée et la chose, donc dans quelle mesure pouvons-nous comprendre les écrits? comment peut-on parler des choses divines, c'est-à-dire quels prédicats physiques peut-on attribuer à Dieu et aux Personnes, et dans quelles conditions?

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John of Reading on the Subalternation of the Sciences\*

When Ephrem Longpré published his initial article on John of Reading in 1924, he noted that the details of John's life were little known.<sup>1</sup> Unfortunately, some sixty years later, much the same can still be said. He was ordained subdeacon at Northampton on September 20, 1292, and two years later became deacon at Dunstable.<sup>2</sup> In both cases he is listed among those in religious orders, and from this information, we may conclude that John must have been born before 1272.<sup>3</sup> Eccleston's *Tractatus* lists John as the forty-fifth lector of the Oxford Convent, and on the basis of this, Longpré argued that this must have occurred in or after 1319. A citation of Reading in Richard de Bury's *Liber Epistolaris* might move his attainment of the magisterium up two years,<sup>4</sup> but in any case, it seems that Longpré was wrong in arguing that Reading's commentary on the *Sentences* dates from 1319 as well, for as Stephen Brown has shown, Reading served as a source for as well as a critic of Ockham's commentary on the *Sentences*.<sup>5</sup> It seems likely that he produced the first version of the commentary as a bachelor, and that subsequently he made a revision of the text either at Oxford or at Avignon sometime after 1321. Eccleston reports that John died at Avignon, although the date of his death is unknown.

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<sup>1</sup> E. Longpré, "Jean de Reading et le B. Jean Duns Scot," *La France franciscaine* 7(1924) 99-109 at 101.

<sup>2</sup> *The Rolls and Register of Bishop Oliver Sutton*, ed. Rosalind M.T. Hill, v. 7 (Lincoln: J.W. Ruddock & Sons 1975) pp. 31, 56.

<sup>3</sup> *Decretum* I, dist. 77, c. 4; *Corpus Iuris Canonici*, ed. A. Friedberg, vol. I (Graz: Akademische Druck- u. Verlagsanstalt 1955) p. 273.

<sup>4</sup> *Formularies Which Bear on the History of Oxford, c. 1214-1420*, ed. H.E. Salter, W.A. Pantin, and H.G. Richardson, vol. 1 (Oxford: Oxford Historical Society 1942) 17.

<sup>5</sup> Stephen F. Brown, "Sources for Ockham's Prologue to the *Sentences*," *Franciscan Studies* 26(1966) 36-65 at 37.



The focus of this paper will be John's position on the subalternation of the sciences, preserved most directly in two questions from the prologue to his commentary on the *Sentences*. As is well known, medieval discussions of the subalternation of the sciences were grounded in Aristotle's works, principally in the *Posterior Analytics*, the *Physics*, and shorter sections of the *Ethics* and the *Metaphysics*. In the most extended discussion, subalternation first appears as an exception to Aristotle's contention that because demonstrations must be  $\tilde{\eta}$   $\alpha\lambda\upsilon\tau\acute{o}$  of the subject, crossing from one subject to another in demonstration must not take place. And while it is not possible to entertain all the aspects of Aristotle's theory, it seems clear that one of the underlying motives or at least assumptions was that unlike Plato's dialectic, scientific demonstration precluded the creation of an umbrella or master science to which all the other distinct sciences could be reduced.<sup>6</sup>

In discussing the scientific status of theology and its accommodation of the technique of subalternation, John of Reading was, of course, following a well-established precedent among theologians of the late thirteenth and early fourteenth centuries. Questions 6 and 7 of his Prologue ask whether theology is subalternated to another science or whether other sciences are subalternated to it. In the process of his investigation, he examines the previous positions of, among others, Thomas Aquinas, Henry of Ghent, Peter Aureol, and his confrère at the Oxford Convent, Richard Conington. Because of the constraints upon the length of this paper, it is impossible to present John's discussion in full, but several features emerge from his criticism of these earlier positions.

The first is John's tremendous reliance upon Robert Grosseteste for his material and his ideas about subalternation. That is hardly surprising, for by the early fourteenth century, Grosseteste's commentary was well-known to scholars across Europe, and as a Franciscan at Oxford, John would have had special reason for consulting the work. John cites Grosseteste's text some 34 times in these two questions and a third - question 10 on the unity of science - and in many cases quotes him extensively and accurately. But a comparison of these quotations and the variants noted in the critical edition of Grosseteste's commentary and

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<sup>6</sup> *Posterior Analytics* I.2 71<sup>b</sup>9-13, 20-23; I.4 73<sup>a</sup>25-27, <sup>b</sup>25-31; I.7 75<sup>a</sup>38-<sup>b</sup>6; I.9, I.13. *Physics* II.2 193<sup>b</sup>23-194<sup>a</sup>11. Concerning this issue, see my "Metabasis: The Interrelationship of the Sciences in Antiquity and the Middle Ages," (Unpublished PhD dissertation, The University of California at Los Angeles, 1982) volume I, chapter 1.

other manuscripts suggests that Reading's text diverged from all the extant witnesses.<sup>7</sup> If John took no liberties with his source - and in general, he seems scrupulous about copying many sources - it would suggest that he was using the text of a tradition that has not been preserved.

More important still, John appropriated the central features of Grosseteste's theory of subalternation into his own account. The hallmark of Grosseteste's theory was the so-called superadded condition, whereby the subject of the subalternate science is differentiated from the subject of the subalternating science by the addition of an extraneous condition. By careful selection, such conditions insure that the subordinated science is neither identical with, nor merely a specific and integral subdivision of the superior science, but rather a separate and in a limited sense autonomous science in its own right.<sup>8</sup>

Second, subalternate sciences in general are subordinated not to one, but rather two superior sciences. As Grosseteste and Reading both note, sciences like perspective or music or astronomy depend upon both mathematics and natural philosophy for their principles, the former providing the formal cause, the latter the material or efficient cause, but neither wholly sufficient to provide complete understanding of phenomena. The subalternate sciences are dually subordinated to superior sciences, and their subjects possess an accidental rather than essential unity. As John sums up his position in question 6,

the principle of the subalternate science does not pertain *per se* to the subalternating science, since it is neither the principle nor the conclusion of [the subalternating science] ... Therefore it follows ... that the subject of the subalternate science is some one thing *per accidens*, composed of two sciences or at least from two things considered in two sciences. And therefore no subalternate [science] is subalternated to only one science.<sup>9</sup>

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<sup>7</sup> I should like to thank Professor Pietro Rossi for generously providing microfilms of several manuscripts beyond those cited in the critical apparatus of his edition.

<sup>8</sup> *Commentarius in Posteriorum Analyticorum libros*, ed. Pietro Rossi (Florence: L. Olshki 1981) 261.

<sup>9</sup> Qu. 6; Florence, BN Centrale, Conv. Soppr. D.IV.95, p. 87: "... principium scientie subalternate per se non pertinet ad scientiam subalternantem, quia nec est eius principium nec eius conclusio... Ergo sequitur .. quod subiectum scientie subalternate est aliquid unum per accidens, compositum ex duobus scientiis vel saltem ex duobus consideratis in duabus scientiis. Et ideo nulla subalternata subalternatur tantum uni scientie." For the parallel passage in Grosseteste, see *Commentarius* p. 150. I am in the process of editing questions 6, 7, and 10 of Reading's prologue.

Clearly, in these basic issues, Reading was hardly original. But near the beginning of question 6, in a section on the distinction of sciences, John undertook an extension of the theory which, if not wholly original, suggests his underlying motive for addressing the issue. The context is his criticism of an anonymous opinion that presents the most general conception of subalternation as a relationship involving something above and something beneath, in which the superior virtually contains the inferior, and in which the inferior depends on the superior for the cognition of its subject matter. John responds by attempting to show the inadequacies of the theory as well as its incompatibility with Grosseteste's doctrine, which of course he finds more compelling. In particular, the suggestion that the subalternate science is merely the superior science with an added *differentia* would make it a species of the superior, not a separate science subordinated equally to two superior sciences.<sup>10</sup>

This leads John to an extended discussion of predication and the several ways by which logical ascent and descent can occur in superior and inferior sciences. He isolates seven such ways, and while it would be impossible here to discuss all of these, he finds all but one - or perhaps two, since in a passing remark he suggests that there may be an improper and incomplete kind of subalternation - inadequate. Thus, for example, ascent made by predication *per se* in the first way does not take one outside the original science, and in fact produces the same conclusion, so that according to John, such an ascent is not characteristic of subalternation. Conversely, descent under the subject by a predication *per se* in the first way also does not transcend the original science.<sup>11</sup> On the other hand, subalternation properly speaking occurs only when descent is made under a quidditative concept that is *per se* one to a concept that is one *per accidens*, in which the higher subject is joined to an accidental property. Here both the primary genus is transcended - since the superior science cannot consider that which is accidental to it - and yet the inferior science takes its principles from the more common ones of the superior science. What this means, says John, is that no one principle in

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<sup>10</sup> Qu. 6; Florence, BN Centrale, Conv. Soppr. D.IV.95, pp. 84-85.

<sup>11</sup> Qu. 6; Florence, BN Centrale, Conv. Soppr. D.IV.95, p. 86.

the lower science is a conclusion in the higher science, since if it were, its resolution would be in the subject of the higher science alone. Rather, the principle of the subalternate science is one thing *per accidens*, that one thing being the subject. It has proper predicates which are not contained in only one part of the subject or another; they can, however, be taken up from different conclusions of different subalternating sciences.<sup>12</sup> John exemplifies this with the familiar case of perspective. The principle "perfect vision arises from straight lines" is known in perspective *per experientiam*, but it is contained virtually in the concept of the whole subject '*linea visualis*.' Nevertheless, this principle is resolved in concepts of parts of that subject which are considered in two superior sciences, so that it is known *propter quid* by a proposition from geometry, "the straight line is the shortest line," but also known by a proposition from natural philosophy, "the closer the agent and patient, the stronger the action." From both of these propositions specific to geometry and physics, the proposition "vision along a straight line is most perfect" follows in perspective.<sup>13</sup>

In only one other way does John even suggest that subalternation can occur. Sometimes, he says, ascent or descent is made under the subject as much as the predicate. What John seems to have in mind is the case of generic sciences that touch upon in an incidental way the proper attributes of specific sciences beneath them. Properly speaking, this does not constitute a relationship of subalternation, for there is no *per accidens* descent under the subject; this, says John, occurs only when a condition is superadded to the subject of the superior science, one that effectively subalternates it simultaneously to two superior sciences. Instead, among generic and specific sciences, the subject of the superior science is never transcended. None of this should be very surprising, given John's discussion of proper subalternation. More interesting, however, is the qualification John adds in the middle of the discussion, for he says that the inferior is "not properly and completely subalternated to the [superior science], although in a certain way perhaps it can be said [to do so]." Despite his reliance upon the added condition as the *sine qua non* of subalternation, at least here John suggests the

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<sup>12</sup> Qu. 6; Florence, BN Centrale, Conv. Soppr. D.IV.95, p. 87.

<sup>13</sup> *Ibid.*

possibility of a defective or incomplete form of subalternation, although he says nothing more about it.<sup>14</sup>

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It should be fairly clear from even this brief summary that John of Reading's theory of subalternation derives substantially from the work of Robert Grosseteste. The non-identity of the subalternating and subalternate subjects, the superadded condition, the dual subordination of the subalternate science, and the accidental unity of the subalternate subject are all positions that can be traced to the bishop of Lincoln. But if Reading was not original in these matters, it is also true that he displayed some innovation in their presentation, largely in two specific areas.

We have seen in this paper that Reading took particular care to develop and interpret Grosseteste's theory of subalternation in the context of logical ascent and descent. Although Grosseteste made no explicit mention of the issue in his commentary on the *Posterior Analytics*, somewhat younger scholars like William of Sherwood (ca. 1200-ca. 1270) and Peter of Spain (d. 1276) were incorporating these topics into their treatises,<sup>15</sup> and subsequently it became a regular part of supposition theory.<sup>16</sup> The relationship between the general issue of ascent and descent and subalternation of the sciences originated still earlier, for in referring to those sciences which are subordinate, Aristotle had occasionally used the term ἐπ' ἄλληλα ("under one another");<sup>17</sup> but elsewhere in the *Posterior Analytics* and the *Categories*, he uses the same

<sup>14</sup> Qu. 6; Florence, BN Centrale, Conv. Soppr. D.IV.95, p. 86: "Assumptum - quod scilicet scientia de inferiori non subalternetur scientie de superiori, non sic proprie subalternata illi et complete, licet aliquo modo posset forte dici - patet."

<sup>15</sup> See for example, William of Sherwood, *Synkategoremata* I.17, VI.4, X.12, and XVII.17; ed. J. Reginald O'Donnell in *Mediaeval Studies* 3(1941) 46-93 at 51-52, 55, 61, 80. William of Sherwood, *Introductiones in logicam* V.2-3, V.12-14; ed. Martin Grabmann, *Sitzungsberichte der Bayerischen Akademie der Wissenschaften*, Philos.-hist. Abteilung (Munich: die Bayerische Akademie 1937) 74-75, 78-82. Peter of Spain: *Summulae logicae* XII.15; ed. L.M. de Rijk (Assen: Van Gorcum 1972) 219.

<sup>16</sup> See, for example, Ockham's discussion at *Summa logicae* Pt. I, ch. 70; *Oph* I.211.

<sup>17</sup> *Posterior Analytics* I.7 75<sup>b</sup>15; I.13 79<sup>a</sup>14. Elsewhere, he uses the preposition πρὸς, perhaps with the meaning "source" or "origin"; *Posterior Analytics* I.13 78<sup>b</sup>37.



terminology to refer to the more general issue of predication.<sup>18</sup> While it has been observed that Grosseteste seems to have coined the technical terms *subalternans* and *subalternata* to refer to the higher and lower sciences,<sup>19</sup> he by no means was responsible for the creation of the more general terms *subalterna* or *subalternatim*. In his commentary on the *Categories*, Boethius used these terms to translate Aristotle's ὑπ' ἄλληλα, and the twelfth-century *translatio Ioannis* of the *Analytics* likewise had used these terms to refer to both the subalternate sciences and the procedure of predication.<sup>20</sup> Thus, by the end of the thirteenth century, there was a tradition of using the terms in related, but non-identical senses.

I would suggest that it may not be purely accidental that John of Reading chose to present the theory of subalternation of the sciences in the context of logical ascent and descent, for the whole matter arises after John's presentation of the *opinio communis*, in which subalternation is presented in a somewhat superficial way as characteristic of sciences that are mutually superior and inferior. John's response reflects a concern for more precision in the details of subalternation. Throughout his discussion, the central point is that not all such hierarchical relationships among the sciences produce subalternation, but rather only one. Furthermore, as we have seen, he is at pains to point out that a proper interpretation of that ascent and descent yields Grosseteste's theory of the subalternation as a corollary.<sup>21</sup>

Secondly, and finally, we have seen that throughout John of Reading's discussion of subalternation, he returns repeatedly to the contention that subalternation serves to unite sciences that are otherwise distinct, but subalternation is not the rule among sciences in general. His reason is fundamentally that of Aristotle: there can be no master science uniting ultimately all subordinate sciences. Although Grosseteste chose not

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<sup>18</sup> *Posterior Analytics* I.17 81<sup>a</sup>27; *Categories* II 1<sup>b</sup>22. As in the case of the subalternate sciences, Aristotle also uses the preposition πρὸς in the former.

<sup>19</sup> Walter Roy Laird, "The *Scientiae mediae* in Medieval Commentaries on Aristotle's *Posterior Analytics*," (Unpublished PhD dissertation, University of Toronto, Centre for Medieval Studies 1983) 34.

<sup>20</sup> Boethius, *In Categoriae Aristotelis*; PL 64, 178B. *Aristoteles Latinus IV.1-4. Analytica Posteriora*, ed. L. Minio-Paluello and B.G. Dod (Bruges-Paris: de Brouwer 1968) 131, 136.

<sup>21</sup> Note, for example, John's statement at Qu. 6; Florence, BN Centrale, Conv. Soppr. D.IV.95, p. 87: "Ex isto sequitur corollarium quod principium scientie subalternate per se non pertinet ad scientiam subalternantem...."

to emphasize this point explicitly, the reasons John cites against the existence of a 'master science' once again show his dependence upon the bishop of Lincoln. In particular, because subalternation always requires two superior sciences upon which the inferior depends, one can never form a binary tree that leads by subalternation to such a 'master science'.

While this general conviction underlay, as we have suggested, Aristotle's own theory of the sciences, John once again had a powerful secondary reason for asserting it in his own commentary. The central issue of questions 6 and 7 of the prologue concerned the theory of subalternation as it touched the science of theology, and aside from the philosophical issues involved, there were significant theological concerns that militated - in John's mind - against viewing theology either as subalternated to another science or subalternating itself to other sciences. As he summarizes his position near the end of his discussion in question 6, if another science subalternated itself to theology,

it would require that it descend to something one *per accidens*, for otherwise it would not pass out of the genus of the subalternating science. ... in this way, the inferior takes its principles from the superior, [and] not merely from one, but from two superior [sciences]. However, the subject of theology is not one thing *per accidens*; hence neither is subalternated.<sup>22</sup>

According to John, Aristotle's theory of subalternation, under the lens of Grosseteste's interpretation, served to distinguish theology from the subalternating and subalternate sciences.

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<sup>22</sup> Qu. 6; Florence, BN Centrale, Conv. Soppr. D.IV.95, p. 87: "Requiritur etiam quod descendat ad unum per accidens, quia aliter non exiret genus subiecti subalternantis. Illo autem modo exit, quia scientia non considerat quod accidit subiecto. Isto etiam modo, inferior accipit principia a superiori, non una tantum sed duabus superioribus. Subiectum autem theologicum non est sic unum per accidens; ideo nec est subalternata."

PIERO MORPURGO

I commenti salernitani all'*Articella*

A Patrizia,  
incontrata ad Helsinki

Uno dei punti di partenza, della rinascita del. sec. XII<sup>1</sup> delle scienze della natura, sarà proprio quel *De nuptiis Philologiae et Mercurii* di Marziano Capella, oggetto di numerosi commenti.<sup>2</sup> Il riferimento a Capella non è casuale; c'è infatti una relazione diretta tra i testi salernitani e i commenti al *De nuptiis* che si svilupparono in ambito francese.<sup>3</sup> Ne furono autori Thierry di Chartres, Guglielmo di Conches, Giovanni di Salisbury, Bernardo Silvestre, Henri d'Andeli<sup>4</sup>, e soprattutto Alexander Nequam<sup>5</sup>. Infatti vi sono risposdenze tra il ms. Digby 221, contenente il commento del Nequam, e i commenti salernitani. Si consideri poi che i commenti francesi al *De nuptiis* dicono anche di più: offrono l'esempio di come successivamente i salernitani imposteranno le loro glosse. Furono Remigio di Auxerre<sup>6</sup> e Martino di Laon<sup>7</sup> a creare quella distinzione tra *textus* e *commentum* che verrà adottata dai salernitani. Inoltre nei commenti di

<sup>1</sup> R.L. Benson - G. Constable (edd.), *Renaissance and Renewal in the Twelfth Century*, Oxford 1982.

<sup>2</sup> C.E. Lutz, "Martianus Capella", in P.O. Kristeller (ed.), *Catalogus translationum et commentariorum: Mediaeval and Renaissance Translations and Commentaries*, vol. II, Washington 1971, pp. 367-383.

<sup>3</sup> Cfr. C. Leonardi, "I codici di Marziano Capella", *Aevum*, 33 (1959) pp. 434-488; 34 (1960) pp. 1-99, 411-524.

<sup>4</sup> G. Nuchelmans, "Philologia et son mariage avec Mercure jusq'à la fin du XII siècle", *Latomus*, 16 (1957), pp. 99-107.

<sup>5</sup> R.W. Hunt, *The Schools and the Cloister. The Life and Writings of Alexander Nequam (1157-1217)*. Edited and revised by M. Gibson, Oxford 1984.

<sup>6</sup> C.E. Lutz, "The Commentary of Remigius of Auxerre on Martianus Capella", *Mediaeval Studies*, 19 (1957), pp. 137-156; M. Manitius, "Zwei Remigius-Kommentare", *Neues Archiv*, 49 (1930-1932), pp. 173-176.

<sup>7</sup> J.J. Contreni, "A propos de quelques manuscrits de l'ècole de Laon: découvertes et problèmes", *Le Moyen Age*, 78 (1972), pp. 5-39; Id., "The Formation of Laon's Cathedral Library in the Ninth Century", *Studi Medievali*, 13 (1972), pp. 919-939; J. Preaux, "Le commentaire de Martin de Laon sur l'oeuvre de Martianus Capella", *Latomus*, 12 (1953), pp. 437-459; C.E. Lutz (ed.), *Dunchad: Glosae in Martianum*, American Philosophical Ass. - Monograph. XII, Lancaster 1943 e cfr. C.E. Lutz, *Iohannis Scotti Annotationes in Marcianum*, Cambridge 1939.

Remigio<sup>8</sup> è presente quella forma di *accessus* che ritorna nelle *glossule salernitane*. E sarà a questa tipologia, che introduce il lettore al testo, che si rifaranno anche gli autori delle tre diverse tradizioni di commenti anonimi al *De nuptiis*, quelle rappresentate dai mss. di Cambridge, Trinity College B.1.29; di Roma, BAV, Barberiniano, lat. 10; e Ottoboniano lat. 3291. Si aggiunga che dal commento di Thierry di Chartres dipende il ms. di Avranches, Bibl. Mun. 226 contenente un altro testimone della tradizione dei commentarii anonimi. E non sarà poi un caso che a Montecassino è conservato il ms. 332 testimone di un'ulteriore tradizione di glosse a Marziano. Sembrerebbe dunque che l'ipotesi di una dipendenza dei maestri salernitani dai centri della rinascita del XII secolo che si erano formati in Inghilterra e in Francia<sup>9</sup> possa avere una sua validità. Queste osservazioni confortano quanto dicevo su una possibile dipendenza dei maestri Bartolomeo, Mauro e Ursone da una scuola parigina come quella di Petit Pont. Proprio nel suo commento alla *Microtegni* Ursone aveva ricordato il *magistrum meum Adam*.<sup>10</sup> Questo Adam poteva essere individuato come Adamo di Petit Pont. L'ipotesi trovava un suo riscontro nel fatto che Giovanni di Salisbury, tenace oppositore della dialettica dei Parvipontani, aveva definito i Salernitani come dei pessimi filosofi.<sup>11</sup> Per di più sappiamo da Henri d'Andeli che nella scuola di Petit Pont c'era una sezione dedicata alla medicina. Infine il dato più significativo ci veniva offerto da Alexander Nequam, questi nel suo soggiorno parigino - tra il 1175 e il 1182 - era stato alla scuola dei Parvipontani. Ed è nel suo *Sacerdos ad altare*<sup>12</sup> che il Nequam ricorda quale fossa il corso di studi in medicina elencando esattamente quei testi che poi verranno identificati

<sup>8</sup> C.E. Lutz, "One formula of accessus in Remigius' Works", *Latomus* 19 (1960), pp. 774-780; cfr. mss. Roma, BAV, Vat.Lat., 2743 e Firenze, Riccardiana, 916.

<sup>9</sup> J.W. Baldwin, "Masters at Paris from 1179 to 1215: A Social Perspective", in R.L. Benson et al. (edd.), *Renaissance and Renewal*, Oxford 1982.

<sup>10</sup> P. Morpurgo, "Le traduzioni di Michele Scoto e la circolazione dei manoscritti scientifici in Italia meridionale: la dipendenza della scuola medica salernitana da quella parigina di Petit Pont", in *La diffusione delle scienze islamiche nel Medioevo europeo*, Roma - Acc. Lincei, 1987, pp. 169-191.

<sup>11</sup> Ioannis Saresberiensis, *Metalogicon*, Lib. I,IV, p.13,14.

<sup>12</sup> C.H. Haskins, "A list of Textbooks from the Close of the Twelfth Century", *Harvard Studies in Classical Philology*, 20 (1909), 75-94, p.93: "Studium medicine usibus filiorum Ade perutile subire quis desiderans audiat Iohannicum, et tam *Aphorismos* quam *Pronostica* Ypocratis, et *Tegni* Galieni et *Pantegni*. Huius operis auctor est Galienus sed translator Constantinus. Legat etiam, tam particulares quam universales, *Dieta*s Ysaac, et *Libro Urinarum*, et *Viaticum* Constantini cum *Libro Pulsuum*, et Dioscoriden in quibus de naturis herbarum cogitur." Dal ms. di Cambridge, Gonville and Caius College Lib. 385.

col nome di *Articella*<sup>13</sup>, ma quel che è più significativo è che dice che questo avveniva *usibus filiorum Ade*, dunque secondo gli usi della scuola di Petit Pont. Il fatto diventa ancor più rilevante se si considera che, in assoluto, questa del Nequam è la prima e l'unica testimonianza di un *curriculum* analogo a quello usato dai commentatori salernitani.

Per avere altre indicazioni così esplicite bisognerà attendere la scuola bolognese di Taddeo Alderotti<sup>14</sup> del tardo sec. XIII. Inoltre da questi schemi vediamo come nella tradizione dei *commentaria* che va da Galeno sino ad Alfano e Costantino Africano sia assente il metodo di introduzione alle *artes*:

GALENO  
Commentaria ed. Kuhn, 19, p.62

IOHANNITIUS  
*Expositio Aforismi*

al-Razi: *In Isagoge*

Alfano di Salerno:  
*De pulsibus*

Assenza di *accessus ad auctores*

AGNELLUS RAVENNATIS, sec. VI  
*Scolia Peri Hereseon Galeni*

intentio  
utilitas  
verus  
causa suprascriptionis  
ordo legendi  
habitus doctrine  
particularis divisio  
modus didascalicus

NON  
in versio Burgundionis  
anno 1185

In questo caso, la non utilizzazione della *versio Burgundionis* fa pensare che l'adozione degli *accessus* sia avvenuta prima dell'incontro del traduttore pisano con i maestri salernitani.

Pertanto bisogna pensare che i maestri salernitani dovrebbero aver avuto modo di conoscere i testi della scuola alessandrina attingendo a una circolazione libraria diversa da quella cui proveniva il testo tradotto da Burgundione. Non c'è dubbio che questo fosse possibile, infatti i medici

<sup>13</sup> Questa antologia prese il nome dall'*Ars parva* di Galeno poi volgarizzato in *Artesella*; originariamente si componeva dell'*Isagoge* di Ioannizio, degli *Aforismi* e dei *Pronostica* di Ippocrate e dei relativi commenti di Galeno, del *De urinis* di Teofilo, del *De pulsibus* di Filareto, della *Tegni* o *Ars* di Galeno e del relativo commento di Haly ibn Ridwan, del *De regimine acutorum* di Ippocrate. Sulla *multiplicatio* a stampa dell'*Articella* dal 1483 al 1535, cfr. T. Pesenti, "Editoria medica tra Quattro e Cinquecento - L'Articella e il Fasciculus medicine", in E. Riondato, *Trautai scientifici nel Veneto fra il XV e il XVI secolo*, Vicenza 1985, pp. 1-29.

<sup>14</sup> Taddeo Alderotti seguirà la cosiddetta *translatio antiqua* attribuita a Costantino Africano, ma vedi Durling *infra*, adducendo queste ragioni: "Et translationem Constantini persequar, non quia melior sed quia communior. Nam ipsa pessima est et superflua quandoque nam ille insanus monachus in transferendo peccavit quantitate et qualitate, tamen translatio Burgundionis pisani melior est", cfr. *Thaddei florentini Expositiones in arduum aphorismorum Ipcratis ... In subtilissimum Joannitii Isagogarum librum*, Venetiis 1527, fol. 1 rA; Kibre, "Hippocrates latinus", *Traditio*, 32 (1976), p.289.



salernitani potrebbero esser stati legati a quella tradizione testimoniata dal ms. Ambrosiano G. 108 inf. e dal ms. Vat. greco 300 contenente il commentario al libro VI delle *Epidemie* di Ippocrate attribuito a Giovanni Alessandrino.<sup>15</sup>

## PARVIPONTANI

*Summa sophisticorum elenchorum:*

Nos igitur sequentes predictos  
auctores artem extrinsecam  
premittamus. In qua hec sint  
consideranda:  
quid sit hec ars  
que intentio  
que materia  
quod officium vel quod opus  
quis finis  
quod genus  
que partes vel species  
quod instrumentum  
quis opifex et unde dicatur

*Commentaria Johannis  
Alexandrini* ms. BAV, Pal. lat.  
1079  
intentio  
titulus  
ordo  
  
suppositio  
divisio

GUNDISSALINUS<sup>16</sup>

*De divisione  
philosophiae*  
quid sit  
genus  
materia  
partes  
species  
officium  
finis  
instrumentum  
artifex  
quare sic vocetur  
quo ordine  
et discenda sit  
*Circa librum*

intentio  
utilitas  
nomen auctoris  
titulus  
ordo  
ad quam partem  
philosophie  
spectet  
distinctio libri

Qui va detto che Hunt nel suo studio sull'origine degli *accessus* aveva ben messo in evidenza come al principio del secolo XII vi fossero quattro modi di introdurre alle arti, e queste *introductiones* erano in parte mediate dalla tradizione della retorica antica:

- A) con *persona, locus, tempus* di cui si continuò a servire Ugo di San Vittore.<sup>17</sup>
- B) con *vita, titulus operis, qualitas carminis, scribentis intentio, numerus librorum, ordo librorum, explanatio* usato da Servio nel commento a Virgilio.
- C) basato sui commenti di Boezio alla *Isagoge* di Porfirio e alle *Categorie* di Aristotele.
- D) dipendente dal *De differentiis topicis* di Boezio.

<sup>15</sup> Cfr. J. Duffy, "Greek Fragments of John of Alexandria", *Byzantine Studies Conference. Abstracts of Papers* 4 (1978), p.13.

<sup>16</sup> Thierry di Chartres nella *Summa super Rhetorica* ha: genus/ quid sit ars/ materia/ officium/ finis/ partes/ species/ instrumentum/ cur vocetur.

<sup>17</sup> W.M. Green, "De tribus maximis circumstantiis", *Speculum*, 18 (1943), pp. 488-492.

Quest'ultima forma di *accessus* fece ritenere a Hunt che "the first masters to revive it, as far I have been able to discover, were those of the school of Chartres".<sup>18</sup> Questo è dimostrato dal fatto che questo tipo di *accessus* fu "riutilizzato" da tutti quei filosofi che caratterizzarono la "rinascita scientifica" del dodicesimo secolo: dal Gundisalvi a Gilberto Porrettano, da Pietro Lombardo a Pietro Elia, a Thierry di Chartres. Se dunque la teoria è valida,<sup>19</sup> occorrerà aggiungere, ai nomi ricordati da Hunt, anche i Parvipontani e i Salernitani. Appare così un quadro più completo di chi "reinventò" la utilizzazione degli *accessus* nella Francia del sec. XII, si impone anche così la questione di una dipendenza "francese" della *Schola Salernitana*.

GILBERTUS PORRETANUS  
ante 1117 *Glossa in Psalterium*<sup>20</sup>

materia  
modus  
finis  
titulus  
genus prophetie  
nomen libri  
numerus psalmodum

THIERRY di CHARTRES  
*Summa super rhetoricam*

genus  
quid sit ars  
materia  
officium  
finis  
partes  
species  
instrumentum  
artifex  
cur vocetur

*Circa librum*

intentio  
utilitas

PETRUS ABAELARDUS  
*Glossa in Categorias*

intentio  
materia  
utilitas  
utrum logice supponitur  
inscriptio  
nomen auctoris  
modus tractandi

PETRUS HELIAS  
*Summa super grammaticam*

quid sit genus  
genus  
materia  
officium  
finis  
partes  
species  
instrumentum  
artifex  
quare g. dicatur  
quo ordine sit docenda

<sup>18</sup> R. Hunt, "The introduction ...", cit., p. 129.

<sup>19</sup> R. Hunt, "The introduction ...", cit., p. 125: "It may be objected that is unsafe to draw any conclusions from these *didascalica*. The schemata, it may be said, are traditional, a common fund on which all teachers draw. Such an objection might be serious if we were dealing with certain types of prologue; but we are dealing with a clearly defined type, which was in vogue for a comparatively short space of time."

<sup>20</sup> Oxford, mss. Balliol Coll. 36; Auct. D.2.1 2312.

MAURUS SALERNITANUS  
*Super Ysagogas*<sup>21</sup>

Iohannicius vero Iohannis  
 Alexandrini filius ut quidam  
 asserit ...<sup>22</sup>

*Super Tegni*

Omnium igitur arcium, teste  
 Varrone, duplex doctrina  
 traditur *extrinsecus*:  
 unde dicatur hec ars  
 et quid sit ipsa  
 quod genus eius  
 que species  
 que materia  
 que partes  
 quod officium  
 quis finis  
 quod instrumentum  
 quis artifex  
 que causa inventionis  
 qui inventores  
 ... et *intrinsecus*:  
 que sit auctoris intentio  
 que causa intentionis  
 que utilitas operis  
 cui parti philosophic  
 quis modus et ordo tractandi  
 libri titulus

Questa divisione espositiva ritor-  
 na nel commento di Guglielmo di  
 Conches *Super Priscianum*:

WHILELMUS de CONCHIS

*extrinsecus*:  
 quid sit  
 genus materia  
 partes  
 species  
 instrumentum  
 artifex de arte  
 officium ex arte  
 finis  
 quare vocetur  
 quo ordine sit docenda et  
 discenda  
*intrinsecus*:  
 intentio  
 utilitas  
 causa suscepti laboris  
 modus agendi  
 ordo  
 titulus

<sup>21</sup> Nel commento a Ioannizio Mauro si era limitato a dividere in: materia/ intentio/ intentionis causa/ utilitas/ suppositio operis/ eiusdem particio/ modus et ordo tractandi.

<sup>22</sup> Il ms. Digby 108 nel commento a Ioannizio: "Sed quia liber iste tante difficultatis erat, ut penitus a scolaribus dimittentur, Iohannis Alexandrini discipulus, hac de causa inductus, has Ysagogas id est introductiones, composuit; ut ad librum Galieni facilius esset adhitus."

E così, a nel commento contenuto nel ms. di Erfurt 335 e attribuito ai quesiti del re Manfredi:

MANFREDI  
*Glose circa Ysagogas Iohannici  
 Alexandrini*

que materia  
 que causa suscepti operis  
 quis modus agendi  
 quid ergo doctrine  
 que divisio operis  
 quis libri titulus

Il confronto tra questi tipi di *accessus* mette in luce una unità di metodi sostanziale, tuttavia sarebbe stato certamente più probante una totale identità, su questo ostacolo si sono arenati tutti i tentativi di ricostruzione di una teoria degli *accessus* tale da poter permettere distinzioni e accorpamenti in indirizzi di scuole. L'origine dell'utilizzazione degli *accessus ad auctores* risale al testo di Boezio *In Isagogen Porphyrii commenta*, a questa fonte si aggiungevano - sin dal sec. IX - il commento di Servio a Virgilio e il *De inventione* di Cicerone. In seguito - con la diffusione dell'Aristotele latino del sec. XIII - nelle formule che si fondavano sul *quae consideranda sunt*, nell'introdurre un libro o un campo di studi, furono inserite le quattro cause aristoteliche: formale, efficiente, materiale e finale.<sup>23</sup> E' pertanto evidente la complessità di un'indagine che voglia ricondurre ad un unico centro la diffusione del sistema degli *accessus*, tuttavia l'ipotesi, fatta da Hunt, di un'origine "francese" resta la più valida; e qui vorremmo rilevare che è un'ipotesi che si concilia anche con la tesi di una dipendenza parigina dei maestri salernitani. In realtà, se da un lato gli elementi offerti da queste tabelle possono essere ritenuti in parte insoddisfacenti, in quanto non sufficientemente unificanti, dall'altro questi dati aprono un'altra strada: i testi possono essere analizzati non solo nelle loro forme di *accessus*, ma anche nella loro composizione. Questo vuol dire che se in codici non miscellanei,<sup>24</sup> di datazione non incerta, si ritrovino non solo gli *accessus*, ma anche una disposizione antologica che permetta di riscontrare affinità di "scuola" allora si potrà ben parlare di *communis opinio*, e questa potrà ben essere assunta come necessario carattere distintivo di una scuola. Intendo dire

<sup>23</sup> Cfr. J.B. Allen, "Commentary as Criticism: Formal Cause, Discursive Form and the Late Mediaeval Accessus", in J. Ijsewijn - E. Kessler (edd.), *Acta Conventus Neo-Latini Lovaniensis* (1973), pp. 29-48.

<sup>24</sup> Cfr. L. Thorndike, "The problem of the composite manuscript", in *Miscellanea Giovanni Mercati*, Studi e Testi 126, Roma 1946, vol. 6, pp. 93-104.

che se vi fu una *schola*, all'interno di questa dovevano essere comuni non solo gli stessi metodi di ricerca e di commento (*accessus*), ma anche, oltre a un canone di testi da glossare (*Articella*), doveva esserci una produzione libraria tale che forniva manoscritti in cui si potevano leggere tutte quelle opere che costituivano il fondamento culturale della *schola*. Ad esempio un manoscritto che contenesse Marziano, Calcidio, Aristotele, Galeno, e il commento di Bartolomeo a Ioannizio, che si possa far risalire al sec. XII-XIII potrebbe costituire un'ottima traccia dell'esistenza di una *schola* già così affermata che è capace di incidere sulla produzione libraria o di averne addirittura una propria. Questa ricerca si è presentata ovviamente assai laboriosa dovendosi cercare non più un'opera, ma un complesso di testi ed esprimere poi un giudizio di omogeneità. Qui mi limito ad indicare tre esempi estremamente significativi, e non è di poco conto che due siano tratti dai censimenti dell'Aristoteles Latinus:

1) Il ms. di Parigi, BN, Par. lat. 14700 del sec. XIII, proveniente da San Vittore presenta una collezione di autori che comprendono *Adamus Parvipontanus*, *Aristoteles*, *Algazel*, *Adelardus Bathoniensis*, *Galenus*, *Alfredus Anglicus*, ovvero tutti quei testi che circolavano in ambienti vicini alla "schola salernitana". Occorre dunque chiedersi: è possibile rintracciare un canone di testi, non limitato alla medicina ipocratico-galenica, ma che possa offrire il quadro del *curriculum* che veniva intrapreso da chi volesse studiare filosofia naturale?

2) Il ms. di Oxford, Bodleian Library, Laud. lat. 67, del. sec. XII, proveniente dall'abbazia di St. Alban sembra offrire una risposta: in questo caso è presente il *De temperamento* di Galeno, Prisciano, un commento agli *Elenchi Sophistici* di Aristotele, una *Glossa super Introduct. Porphyry* di Rabano Mauro, un frammento del commento di Guglielmo di Conches a Prisciano. Dunque qui ci sono sia la medicina galenica sia la dialettica fondata sugli *accessus* e che Hunt ricollega a centri francesi come Chartres.<sup>25</sup>

3) Del ms. di Oxford, Bodleian Library, Selden, sup. 24, del sec. XII, proveniente da St. Albans, tratteremo anche più avanti, certamente si presenta come uno dei più importanti nella ricerca di un canone di filosofia naturale. Questo codice contiene: la *Metaphysica vetus*, l'*Ethica Nicomachea*, il *De generatione et corruptione*, i *Metereologica*, sono queste le opere che rappresentano una delle prime testimonianze dell'ingresso dell'Aristotele latino nelle correnti filosofiche del sec. XII.

<sup>25</sup> R.W. Hunt, "Studies on Priscian in the Twelfth Century II", *Mediaeval and Renaissance Studies*, 2 (1950), pp. 1-19.



Quel che è veramente considerevole è che il testo presenta le glosse di Alfredo Anglico, medico in contatto con Salerno, l'organizzazione di queste glosse sembra essere un antecedente di quello stile che si può riscontrare nelle *glossule* dei salernitani. Inoltre è proprio da questa *translatio vetus* del *De generatione* che Bartolomeo, Mauro e Ursone hanno preso le loro citazioni. E' ben ovvio che andranno sviluppati ulteriori riscontri tra questi manoscritti antologici e le opere dei salernitani, ma l'ipotesi di lavoro in questo caso si presenta ricca di prospettive.

Quanto abbiamo esposto offre elementi sufficienti perchè all'idea di Minio Paluello, che riteneva che centro di diffusione delle traduzioni dell'Aristotele latino fosse la Normandia o l'Inghilterra, si possa affiancare la tesi di Hunt su un'origine francese degli *accessus ad auctores*, per poi verificare se da questo *milieux* siano partiti Bartolomeo, Mauro e Ursone alla ricerca di nuovi testi.

Università di Roma

### L'arbre de la philosophie

La comparaison faite par Descartes dans la lettre-préface de ses *Principes de la philosophie* entre la philosophie et un arbre est assez connue et fréquemment citée:

Ainsi toute la philosophie est comme un arbre dont les racines sont la métaphysique, le tronc est la physique, et les branches qui sortent de ce tronc sont toutes les autres sciences, qui se réduisent à trois principales, à savoir la médecine, la mécanique et la morale; j'entends la plus haute et la plus parfaite morale, qui, présupposant une entière connaissance des autres sciences, est le dernier degré de la sagesse.<sup>1</sup>

Cette comparaison est encore prolongée de la manière suivante:

Or, comme ce n'est pas des racines ni du tronc des arbres qu'on cueille les fruits, mais seulement des extrémités de leurs branches, ainsi la principale utilité de la philosophie dépend de ses parties qu'on ne peut apprendre que les dernières.<sup>2</sup>

La métaphore cartésienne met certainement en relief l'unité du savoir - des racines aux rameaux, en passant par le tronc - et son orientation

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<sup>1</sup> "Les principes de la philosophie", dans *Oeuvres de Descartes*, Paris, Lib. Joseph Gibert, s.d., Vol. I, p. 87.

Au sujet des métaphores utilisées par Descartes il y a quelques travaux de M.Th. Spoerri, "La puissance métaphorique de Descartes", dans *Cahiers de Royaumont, Philosophie II*, Paris, Ed. de Minuit, 1957, p. 273-301; P. Mesnard, "L'arbre de la sagesse", dans *Ibidem*, p. 336-349; A. Negri, *Descartes politico, O della ragionevole ideologia*, Milan, Feltrinelli, 1970, p. 9-17; ainsi que des références par M. Guéroult, *Descartes selon l'ordre des raisons*, Paris, Aubier-Montaigne, 1968, Vol. II, p. 226-227, n. 26; G. Canguilhem, *La connaissance de la vie*, Paris, Lib. J. Vrin, 1965, Chap. Machine et organisme; E. Gilson, *Discours de la méthode, Texte et commentaire*, Paris, Lib. J. Vrin, 1967.

Notons que le P. Clavius, l'Euclide moderne du XVII<sup>e</sup> siècle, dont Descartes aurait utilisé à La Flèche les *Oeuvres mathématiques* ou, en tout cas, les aurait lus plus tard, emploie la métaphore de l'arbre dans un autre contexte dans l'introduction de ses *Oeuvres*:

Laissant de côté d'autres philosophes, déjà la variété des sectes des péripatéticiens suffit pour le prouver (l'incertitude des sciences, exceptée la mathématique). Nées toutes elles d'Aristote, comme les divers rameaux d'un tronc commun, elles luttent entre elles et parfois avec Aristote même, leur source commune, de telle manière qu'il est complètement impossible de savoir ce qu'a été Aristote plus tard et si sa philosophie se rapportait premièrement aux mots ou aux choses. Apud E. Gilson, *La unidad de la experiencia filosofica*, Madrid, Ed. Rialp, 1973, p. 152-154.

<sup>2</sup> *Les principes de la philosophie*, Ed. cit., p. 87.

pratique: les fruits de la philosophie, on les cueille de la médecine, de la mécanique et de la morale (le dernier degré de la sagesse).

Nous trouvons chez Roger Bacon une comparaison assez proche de celle de Descartes:

J'ai examiné, donc, attentivement l'arbre de la sagesse philosophique, j'ai retourné ses racines principales, j'ai signalé l'élévation du tronc robuste et la production des rameaux les plus grands, j'ai flairé les fleurs de la plus douce intelligence, j'ai recherché diligemment les chaumes dorés de Cérès et les sarments murs pour les fruits de Bacchus; et pour qu'il ne manquât pas l'utile et l'agréable verdure des feuilles, j'ai rassemblé avec concision, suivant les voies des saints et des philosophes, les règles de l'éloquence, qui sont désignées par les feuilles, dans la dernière partie du volume, considérant que la sagesse sans l'éloquence est comme une épée aiguisée dans la main d'un paralytique, ainsi que l'éloquence, à part de la sagesse, est comme une épée aiguisée dans la main d'un fou.<sup>3</sup>

Nous pouvons observer que Bacon, différemment de Descartes, explicite seulement, dans ce passage, la place de l'éloquence. Pour les autres disciplines nous devons parcourir le texte de l'*Opus tertium*. Notons aussi que Bacon ajoute à la métaphore de l'arbre celle de l'épée aiguisée, dans la main d'un paralytique ou d'un fou. Confrontant encore Bacon et Descartes, nous vérifions que, si la métaphore de l'arbre est un *obter dictum* chez Descartes, elle est une constante dans les textes du franciscain anglais. De fait, si elle ne revêt pas toujours la forme développée présente dans le texte de l'*Opus tertium* que nous venons de citer, elle est, pourtant, présente de quelque façon dans de nombreux passages de ses oeuvres. Sans aucune prétention d'exhaustivité, rapportons quelques exemples. L'*Opus majus* prétend exposer "les renommées racines de la sagesse"<sup>4</sup> qui dépendent du pouvoir des langues, de la mathématique, de la perspective (optique), de la science expérimentale et de la philosophie morale. L'étude de la multiplication des espèces et des forces des agents est déclarée "la racine suprême et principale de la sagesse."<sup>5</sup>

<sup>3</sup> "Opus tertium", dans J.S. Brewer, Ed., *Fr. Rogeri Bacon opera quaedam hactenus inedita*, Vol. I, Londres, Her Majesty's Stationery Office, 1859, Wiesbaden, Kraus Reprint Ltd., 1965, p.4.

<sup>4</sup> *Opus majus*, Ed. J.H. Bridges, Oxford, Clarendon Press, 1897, Frankfurt/Main, Minerva G.m.b.H., Unveränderter Nachdruck, 1964, Vol. I, p. 97; cf. Vol. II, p. 1-2, 167 et 223.

<sup>5</sup> *Opus tertium*, Ed. cit., p. 38.

La perspective, c'est-à-dire l'optique est la fleur de la philosophie.<sup>6</sup> Encore au sujet de la multiplication des espèces, Bacon déclare dans le *Fragment Gasquet*:

Ainsi, j'établis toutes les racines qui concernent la multiplication et l'action conjointement avec les rameaux, les fleurs et les fruits nécessaires à cette persuasion.<sup>7</sup>

La métaphore de l'arbre met aussi en relief chez Bacon l'orientation pratique de la connaissance et l'unité de celle-ci. En effet, tout au début de la septième partie de l'*Opus majus* il dit au sujet de la morale:

Maintenant, toutefois, je désire remuer les racines d'une cinquième science qui est meilleure et plus noble que toutes celles déjà nommées (connaissance des langues, mathématique, optique, science expérimentale); cette science est parmi toutes pratique, c'est-à-dire, opérative, traitant de nos oeuvres dans cette vie et dans l'autre; toutes les autres sont spéculatives.<sup>8</sup>

A cette affirmation il faut joindre ce qui est dit au chapitre d'ouverture de l'*Opus majus*:

La considération parfaite de la sagesse consiste en deux choses, à savoir: qu'on voit ce qui est requis par elle de telle manière qu'elle soit connue de la meilleure manière; ensuite, comment elle se rapporte à toutes les autres choses de sorte que celles-ci soient dirigées par elle de façons convenables. En effet, l'Eglise de Dieu est ordonnée par la lumière de la sagesse, la République des fidèles est organisée, la conversion des infidèles est opérée et ceux qui sont obstinés dans la malice peuvent être réprimés par la force de la sagesse de sorte qu'ils soient mieux écartés à plus loin des limites de l'Eglise que par l'effusion du sang chrétien.

D'un autre côté, la métaphore de l'arbre exprime d'une manière plastique une idée chère à Bacon, celle de la connexion des sciences:

... et qu'on ne soulève pas une question du fait que j'affirme que chacune de ces sciences que j'énumère ici a du pouvoir sur les autres et qu'on ne peut pas connaître une d'entre elles sans toutes. Car toutes les sciences sont connexes comme les parties dans le tout et chacune est utile non seulement à soi mais à toutes les autres. En effet, aucune d'elle ne peut pas être connue sans l'aide de toutes, puisque Cicéron affirme dans le deuxième livre des *Questions Tusculanes*: quelqu'un ne peut pas connaître peu de choses si la

<sup>6</sup> "De multiplicatione specierum", dans D.C. Lindberg, Ed., *Roger Bacon's Philosophy of Nature*, Oxford, Clarendon Press, 1983, p. 198, lin. 56; comparer avec *Opus majus*, Ed. cit., Vol. II, p. 3.

<sup>7</sup> F.A. Gasquet, "An Unpublished Fragment of a Work by Roger Bacon", dans *English Historical Review*, 12 (1897), p. 512.

<sup>8</sup> *Rogeri Baconis Moralis Philosophia*, Ed. E. Massa, Turici, Thesauri Mundi, 1953, p. 3.

<sup>9</sup> *Opus majus*, Ed. cit., Vol. II, p. 1. Voir à ce sujet E. Gilson, *Les métamorphoses de la cité de Dieu*, Louvain, Paris, Publ. Univ. de Louvain, Lib. J. Vrin, 1952, Chap. 3, p. 75-109.

plupart ou toutes ne lui soient pas connues. Ainsi, n'importe quelle d'entre elles dépend des autres et elles se prêtent des aides mutuelles.<sup>10</sup>

Il serait même nécessaire d'aller plus loin et évoquer l'unité de la sagesse telle que Bacon la conçoit:

Il - y - a une sagesse parfaite qui est contenue dans les Saintes Écritures et des racines de laquelle est sortie toute la vérité. Je dis donc qu'il - y - a une science maîtresse des autres, soit, la théologie à laquelle toutes les autres sont totalement nécessaires et sans lesquelles elle ne réussit pas à arriver à la réalisation dont elle révendique la force dans son droit, et à l'ordre et au commandement de laquelle toutes les autres sont soumises; pour mieux dire, il - y - a une sagesse parfaite qui est totalement contenue dans l'Écriture Sainte, à être expliquée par le droit canonique et par la philosophie. En effet, on obtient l'exposition de la vérité divine par le moyen de ces sciences. Car, celle-là avec celles-ci s'ouvre comme dans la paume de la main et, cependant, par soi-même elle recueille toute la sagesse dans le poing; car toute la sagesse a été donnée par un seul Dieu à un seul monde et pour une seule fin. D'où l'unité appartenant à cette sagesse, en vue de cette triple relation.<sup>11</sup>

Ce passage contient une nouvelle métaphore - celle de la paume étendue et du poing renfermé - qui peut-être nous oriente vers une lointaine racine de la métaphore de l'arbre. En effet, la métaphore de la paume et du poing reprend une semblable utilisée par Zénon, le stoïcien:

Zénon montrait sa main ouverte, les doigts étendus: "Voici la représentation", disait-il; puis il contractait légèrement les doigts: "Voici l'assentiment". Puis il fermait la main et serrait le poing, en disant: "Voici la compréhension"; c'est d'ailleurs d'après cette image qu'il a donné à cet acte un nom qui n'existait pas auparavant, celui de *catalêpsis*; puis avec la main gauche, qu'il approchait, il serrait fortement le poing droit, en disant: "Voici la science, que personne ne possède sinon le sage."<sup>12</sup>

Or, les stoïciens ont utilisé, entre autres, une comparaison qui se rapproche assez de la métaphore de l'arbre. En effet, ils ont comparé la philosophie à un animal (la logique = les os et les muscles; la morale = les parties charnues; la physique = l'âme), à un oeuf ("la partie extérieure est la logique, puis vient la morale et tout à l'intérieur la physique") et à "une ville bien fortifiée et gouvernée selon la raison". Transcrivons

<sup>10</sup> *Fragment Gasquet*, Loc. cit., p. 512. Cf. *Opus tertium*, Ed. Brewer, p. 18 et 37. Il est intéressant de noter qu'à ce sujet Bacon défend une thèse diamétralement opposée à celle de Thomas d'Aquin. Voir *Somme de théologie*, I<sup>a</sup> II<sup>ae</sup> q. 65, a. 1, ad 3m.

<sup>11</sup> *Opus majus*, Ed. cit., Vol. III, p. 36.

<sup>12</sup> Cicéron, "Premiers académiques", II, 145, dans E. Bréhier, *Les stoïciens*, Paris, Gallimard, Bibliothèque de la Pléiade, 1964, p. 255.



littéralement l'avant-dernière comparaison qui se rapproche de la métaphore de l'arbre:

Ou encore à un champ en pleine production: la clôture qui l'entoure est la logique, les fruits la morale, la terre et les arbres la physique.<sup>13</sup>

Nous pouvons, peut-être, risquer une hypothèse. Les systèmes comme le stoïcisme, la sagesse baconienne et le cartésianisme insistent puissamment - quoique pour des raisons différentes - sur l'unité de la connaissance humaine et sur son orientation pratique. La métaphore de l'arbre se présente comme naturellement dans cette perspective. Une autre attitude se rencontrerait dans les systèmes plus sensibles à la spécificité d'objet et de méthode de chaque secteur du savoir. C'est ce qui arriverait, par exemple, avec Aristote et Thomas d'Aquin. Dans ces cas il n'y a pas de trait de la métaphore de l'arbre ni de métaphores équivalentes.

En plus de cette isomorphie structurelle entre le stoïcisme, la sagesse baconienne et le cartésianisme, il est, sans doute, possible d'indiquer une filiation historique générale: Bacon et Descartes ont été des grands lecteurs de Cicéron et de Sénèque et ils se sont inspirés de ces deux derniers quant au traitement de la morale. Voilà, une fois de plus, la question de la poule et de l'oeuf: l'isomorphie de la pensée aurait-elle conduit à l'usage des mêmes sources ou, à l'envers, l'usage des mêmes sources aurait-il conduit à l'isomorphie de la pensée?

Notons encore deux traits complémentaires. D'un côté, l'attitude antimétaphorique d'Aristote et de Thomas d'Aquin.<sup>14</sup> D'un autre, l'intérêt de Bacon pour l'alchimie. Or, "en alchimie, l'arbre de la science reçoit le nom d'*arbor philosophica* (symbole du processus évolutif, de toute croissance d'une idée, d'une vocation ou d'une force); 'planter l'arbre des philosophes' équivalait à mettre en marche l'imagination créatrice."<sup>15</sup>

Il reste, pourtant, une autre direction dans laquelle nous pourrions chercher les racines de l'arbre baconien: la tradition judéo-chrétienne. Il semble que l'allusion ne serait pas tant à "l'arbre de la vie" et à "l'arbre

<sup>13</sup> Diogène Laerce, "Vies et opinions des philosophes", Livre VII, 40, dans E. Bréhier, Op. cit., p. 50.

<sup>14</sup> Voir M.-D. Chenu, *Introduction à l'étude de saint Thomas d'Aquin*, Montréal, Inst. d'Ét. Méd., Paris, J. Vrin, 1950, p. 144-146.

<sup>15</sup> Cf. Juan-Eduardo Cirlot, *Dicionário de símbolos*, Lisboa, Ed. Moraes, 1984, Ad verbum "Arvore" (p. 102), qui renvoie à Jung, *Psychologie et alchimie*.

de la connaissance du bien et du mal" de la *Génèse* (2,9)<sup>16</sup>, mais à l'arbre de la sagesse: celle-ci "c'est un arbre de vie pour qui la saisit, celui qui la tient devient heureux" (Pr. 3,18). De son côté l'*Apocalypse* (22,1-2) dit:

Puis l'Anje me montra le fleuve de Vie, limpide comme du cristal, qui jaillissait du trône de Dieu et de l'Agneau. Au milieu de la place, de part et d'autre du fleuve, il y a des arbres de Vie qui fructifient douze fois, une fois chaque mois; et leurs feuilles peuvent guérir les païens.

Ce passage reprend des éléments d'Ézéchiel (47,1-12) et sera utilisé par Saint Bonaventure pour structurer son opuscule *L'arbre de la vie*. Voici quelques lignes du prologue de celui-ci:

Et dès que l'imagination favorise l'intelligence, j'ai ordonné et disposé le peu de choses en quoi va résumé le très copieux argument dans un arbre idéal de la manière suivante: dans la première ramification inférieure j'ai décrit l'origine et la vie du Sauveur; dans celle du milieu, la passion; et en haut la glorification. Dans la première série de rameaux vont placés d'un côté et de l'autre quatre versets en ordre alphabétique; et le même dans la seconde et dans la troisième ramification, de chacune desquelles pend, à la manière de fruit, un seul bourgeon; et ainsi les douze rameaux offrent les douze mystérieux fruits de l'Arbre de la Vie.<sup>17</sup>

Nous pourrions encore signaler plusieurs ramifications de la métaphore de l'arbre dans le contexte judéo-chrétien. L'image du juste qui "est comme un arbre planté près du cours des eaux, qui donne son fruit en la saison et jamais son feuillage ne sèche" (Ps. 1,3; cf. Jr. 17,8); le thème de la vigne d'Israël qui, partant du prophète Osée (10,1), se rencontre chez Isaïe (5, 1-7), Jérémie (2,21; 5,10; 6,9; 12,10) et Ézéchiel (15, 1-8; 17, 3-10; 19, 10-14) et est réinterprété dans le Nouveau Testament (Mt. 21, 23-44 et Jn. 15, 1-2). Il vaudrait la peine encore citer la parole de Jésus: "Ainsi donc, c'est à leurs fruits que vous les reconnaîtrez" (Mt. 7,20). Notons, cependant, que dans ces références nous sommes dans un contexte sotériologique ou moral et non pas dans un contexte de connaissance. C'est ce qui arrive aussi avec les fameux "fruits du Saint Esprit", à propos desquels Thomas d'Aquin explicite avec toute clarté les règles d'usage de la métaphore.<sup>18</sup> La descendance iconographique médiévale dans

<sup>16</sup> Pour les citations de la Bible nous avons utilisé le texte de *La Sainte Bible traduite en français sous la direction de l'École Biblique de Jérusalem*, Paris, Les Ed. du Cerf, 1956.

<sup>17</sup> "A árvore da vida", Prologue, n° 2, dans L.A. De Boni, São Boaventura, *Obras escolhidas*, Escola Sup. de Teologia S. Lourenço de Brindes, 1983, p. 375.

<sup>18</sup> *Somme de théologie*, I<sup>a</sup> II<sup>ae</sup> q. 70, a. 1.

ce contexte seraient les arbres des vertus et des vices dont J. Le Goff nous offre un exemple du XII<sup>e</sup> siècle.<sup>19</sup>

En fin de compte, quel fruit tirerons nous de ce parcours? Peut-être avons-nous divagué sans une direction précise et méritons la malédiction du figuier stérile qui exhibait seulement des feuilles et aucun fruit (Mt. 21, 18-19).

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<sup>19</sup> *La civilisation de l'occident médiéval*, Paris, Arthaud, 1972, p. 644. Voir aussi les hymnes de Vêpres et Laudes du Temps de la Passion: arbre de la croix.

OLGA WEIJERS

**L'appellation des disciplines dans les  
classifications des sciences aux XII<sup>e</sup> et XIII<sup>e</sup> siècles (résumé)<sup>1</sup>**

Le vocabulaire des textes qu'on appelle les classifications des sciences n'a pas reçu l'attention qu'il mérite. Il serait intéressant de l'étudier d'un point de vue stylistique et linguistique comme un genre littéraire distinct. Mon objectif relevant plutôt de l'histoire intellectuelle, je me bornerai aux termes par lesquels sont désignées, dans ce genre de textes, les diverses sciences ou disciplines.

Si mon choix de la période étudiée est assez large, comprenant les XII<sup>e</sup> et XIII<sup>e</sup> siècles, c'est pour englober la profonde modification de la science à la suite de la découverte du nouvel Aristote et des philosophes arabes.

Le choix des auteurs a été déterminé par le fait que leurs textes ont été édités et qu'ils représentent les différents courants et tendances qu'on a pu discerner dans cette matière. Il s'agit de Hugues de Saint-Victor, Guillaume de Conches, Gilbert de Poitiers, Dominique Gundisalvi, Raoul de Longchamps, Robert Kilwardby, Aubry de Reims, Jean de Dacie et Gilles de Rome.

Pour ce qui concerne les statistiques, d'un intérêt nécessairement limité car elles sont basées sur un choix de textes, on peut noter que sur la soixantaine de dénominations de disciplines ou de groupes de disciplines on compte 21 disciplines différentes, souvent désignées par deux, trois, voire quatre noms différents. Lorsqu'on dresse un tableau des occurrences en tenant compte de la banalité ou de la rareté des termes, on peut constater qu'Aubry de Reims gagne la palme de l'originalité et que Robert Kilwardby est le plus complet, tandis que Hugues de Saint-Victor mérite bien entendu l'admiration pour la richesse du vocabulaire compte tenu du fait qu'il est le plus ancien des auteurs étudiés.

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<sup>1</sup> On trouvera ici le résumé de la communication que j'ai présentée à Helsinki en août 1987. Comme il était difficile de développer ce sujet dans l'espace restreint autorisé pour les actes, j'ai préféré publier le texte dans sa totalité dans *Archivum Latinitatis Medii Aevi* (Bulletin Du Cange) 46 (1987) [1989].

Un certain nombre de termes appartient naturellement à la tradition qui remonte à Boèce, Cassiodore et Isidore. Cependant, plus de la moitié des appellations retenues ont été puisées dans d'autres sources ou ont été inventées par les auteurs en question. Je les appellerai dans la suite 'termes nouveaux'.

Etudiant d'une part les appellations employées pour définir les divisions comprenant chacune plusieurs sciences, d'autre part les noms des disciplines individuelles, je suis arrivée à quelques conclusions provisoires.

D'abord, on peut dire que, si un auteur utilise plusieurs termes pour la même discipline ou le même groupe de disciplines, ce n'est pas seulement dû au fait qu'il utilise des sources différentes. Il y a aussi clairement un intérêt, chez certains auteurs, pour le vocabulaire et pour les nuances des diverses appellations. Robert Kilwardby en est un bon exemple. Son traité contient une grande quantité de termes différents et il ne les utilise pas indifféremment. Au contraire, il tente de les cerner au plus près et d'en expliquer l'emploi, comme pour les trois appellations *practica*, *activa* et *operativa*, auxquelles il consacre un chapitre intitulé: "De appropriation istorum vocabulorum: 'practicum', 'activum' et 'operativum'; et proprietate ac differentia".

Au niveau des termes eux-mêmes, je n'ai plus besoin d'insister sur leur diversité et leur nombre. Ce sont parfois des mots classiques (comme *eloquentia*) ou appartenant au latin médiéval (comme *sermocinalis*) qui trouvent ici un nouvel emploi. Mais beaucoup de termes viennent, par l'intermédiaire des traducteurs, d'Aristote et des philosophes arabes. Dans certains cas, il s'agit d'un héritage ancien (par exemple la traduction *demonstratio* ou *demonstrativa* du terme grec ἀπόδειξις), dans d'autres c'est la nouvelle vague des traductions des oeuvres aristotéliciennes et arabes (comme pour les appellations *creditiva* et *imaginativa*) qui est à l'origine du vocabulaire.

L'innovation terminologique provient en partie de l'insertion de nouvelles disciplines dans le système du savoir (telle l'étude des météores) ou de l'application d'autres noms à des disciplines traditionnelles, par exemple pour donner des variantes latines aux termes d'origine grecque (*solitaria*, *privata* et *publica* au lieu de *ethica*, *oconomica*, *politica*). Mais une cause peut-être plus importante est située dans le renouvellement des schémas de classification. D'autres divisions doivent être pourvues d'autres noms. Ainsi, le mot *liberalis* traditionnellement lié aux arts libéraux, reçoit une nouvelle fonction dans



le schéma de Jean de Dacie, distinguant la philosophie pratique et spéculative des arts mécaniques, le terme classique *sapientia* est utilisé par Guillaume de Conches pour désigner une catégorie de sciences en opposition avec *eloquentia*. D'autre part, de vieilles divisions reçoivent parfois des noms nouveaux, puisés à de nouvelles sources, comme par exemple la philosophie pratique appelée par Robert Kilwardby et Aubry de Reims *operativa* et la philosophie théorique ou spéculative qui se nomme chez Aubry de Reims *considerativa*.

Dans le domaine des sciences du langage, l'innovation paraît particulièrement importante, ce qui s'explique d'une part par le fait que ces disciplines n'étaient pas toujours considérées comme une partie de la philosophie et qu'elles ont été insérées dans les schémas aristotéliens de différentes façons, d'autre part par l'ampleur de leur évolution, que reflète la complexité du vocabulaire. La tradition du latin médiéval a fourni plusieurs termes utilisés dans ce domaine (dont *litteralis*, *sermocinalis*, *dissertiva*), ce qui montre le caractère proprement latin du développement mentionné.

Finalement, il faut noter que la terminologie des divisions des sciences n'est pas fixe ni entièrement dépourvue de confusion. Outre le fait que la découverte de nouvelles sources apporte des termes nouveaux, comme c'est le cas par exemple de *factiva* comme synonyme de *mechanica*, on constate aussi que certains termes ont, à l'intérieur même des divisions des sciences, des emplois différents. Ainsi, les mots *naturalis* et *physica* désignent tantôt l'ensemble des sciences théoriques, tantôt la physique proprement dite; le terme *logica* définit au début, au sens général, les sciences du langage ou *scientiae rationales*, mais est appliqué ensuite à la seule dialectique.

En récapitulant, je voudrais souligner deux éléments essentiels, à savoir d'une part, l'extraordinaire richesse de ce vocabulaire due à l'utilisation de nouvelles sources, mais aussi au renouvellement constant des schémas; de l'autre, le souci de précision, de certains auteurs au moins, qui s'exprime non seulement par le remaniement des classifications elles-mêmes, mais aussi dans la terminologie utilisée consciencieusement pour arriver à un résultat précis et sans ambiguïté.



SECTION TWO

BASIC EPISTEMOLOGICAL ISSUES  
AS RELATED TO  
MEDIEVAL CONCEPTIONS OF SCIENCE



TOMASZ BARTEL

**Nouvelle interprétation de la définition *Veritas est adaequatio rei et intellectus* chez St. Thomas d'Aquin**

Dans la présente communication je tâche de rassembler les résultats d'un plus grand travail sacrifié au problème de la vérité chez St. Thomas d'Aquin, prenant surtout en considération *Quaestio disputata de Veritate*. La définition de la vérité - *Veritas est adaequatio rei et intellectus* c'est non seulement encore une détermination de la réalité de connaissance, mais elle détermine aussi un certain ordre (*ordo*) de considérer la vérité. Elle pénètre alors à la méthode d'exercer la science sur "les dévoilements de Dieu". "La nouveauté" de l'interprétation de ladite définition de St. Thomas consiste en premier lieu dans ce qu'il conçoit la vérité conséquemment au point de vue métaphysique, comme relation d'un objet à un certain intellect, substituant tour à tour différentes significations des termes *res* et *intellectus*. Il obtient de cette manière une gamme riche d'objets de la connaissance par rapport aux qualités individuelles de pouvoirs qui les reçoient, quoique ce soit l'intellect humain ou Divin. Il prend alors sa propre position dans une discussion visiblement animée sur la nature de la vérité, qui le place dans un même rang plutôt avec Aristote qu'avec Augustin, Avicenne ou bien avec Anselme.

1) Les sources traditionnelles d'interprétation de la définition *Veritas est adaequatio rei et intellectus* et leur influence sur des disputes sur la nature de la vérité.

St. Thomas lui-même a imputé cette définition à Isaac Israeli se référant plutôt à la source de puisement qu'à sa paternité. Saint Albert le Grand, de même que Vilhelm d'Auvergne, constatent clairement que c'est une définition d'Avicenne. L'étude de Muckle: *Isaac Israeli's Definition of Truth*<sup>1</sup> le confirme également. Lorsque c'est ainsi, ladite définition devait porter avec elle une compréhension de la chose et de l'intellect d'Avicenne. Le problème de la vérité a été placée dans la logique, où les essences des choses ont été conceptions d'êtres non nécessaires dans des notions de genre et d'espèce.

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<sup>1</sup> Muckle J.T.: Isaac Israeli's Definition of Truth, *AHDLM* 8 (1933), p. 5-8.



Des retentissements de la dispute sur la vérité comme essence de l'être peuvent être trouvés chez St. Thomas dans les commentaires sur les *Sentences* de Pierre Lombard dans l'article "La vérité est-ce l'essence de la chose?". Il constate qu'aucun être n'est connu séparément du principe de la vérité, en plus l'être est plus primordiale que la vérité, car il est impossible de connaître la vérité sans connaître l'être. L'être précède la vérité par notion et c'est lui qui est la première notion de l'intellect. Ce l'être se réfère aux deux actions de l'intellect: *imaginatio intellectus* - certaines images de l'intellect, qui sont déterminées par la connaissance de ce que consiste indivisiblement dans la perception des créatures simples et une seconde, qui se nomme *fides* - la foi qui consiste dans une composition et division de jugements. La première action se réfère à l'essence - *quidditas* - de la chose, la deuxième concerne l'existence elle-même (*esse ipsius*). Lorsque dans la chose l'essence et l'existence sont réellement différenciées, une base de la vérité forme plutôt l'existence de la chose que l'essence, constate Aquinat.<sup>2</sup> Le nom de l'existence provient d'exister - (*ens ab esse*), et dans l'action de l'intellect comprenant l'existence de la chose telle qu'elle est, grâce à une certaine assimilation à elle, une relation d'adaequation se réalise, dans ce que consiste la nature de la vérité. St. Thomas termine son argumentation par une constatation d'une importance extraordinaire: "Je prétend alors, que l'existence de la chose c'est la cause de la vérité, car la chose est connue par l'intellect".

2) La conception de la définition examinée dans *Quaestio disputata De Veritate*.

Le titre du premier article *Quaestio disputata De Veritate* de St. Thomas s'exprime: "La vérité est-ce la même chose que l'être?". Le problème entier est intitulé comme une question sur l'essence de la vérité - "Qu'est-ce que c'est la vérité?". La thèse du premier article dénote ce, qu'il s'agit ici d'une identification de la vérité à l'être qui est dans la tradition ou bien le problème de convertibilité de la vérité et de l'être, et ce qui le succède, des possibilités et des méthodes de décrire l'être. Toute cette discussion n'existerait s'il n'y avait une fort regnante à cet époque-là position de St. Augustin, identifiant la vérité à l'être, et cela à l'Être Suprême, qui peut être atteinte grâce à la participation dans les idées de Dieu. St. Thomas, qui est déjà sous l'influence de

<sup>2</sup> cf. St. Thomas, In I 1 *Sent.* d. 19, q. 5, a. 1.

l'antropologie d'Aristote, tâche de mettre d'accord les thèses des autorités présentant différents aspects de perception de la vérité.

Dans le premier article, de la première question *De Veritate* St. Thomas fait une repartition en trois qualités pour déterminer la vérité: la vérité de la chose, en définitions, dans lesquelles se réalise formellement la raison de la vérité, et en définitions qui concernent la vérité présentée dans l'intellect, dans sa conception.

Parmi les groupes de définitions formelles, St. Thomas nomme la définition *Veritas est adaequatio rei et intellectus*. Faisant cependant plus tôt l'analyse de l'existence prise du côté des qualités générales qui appartient à chaque être, il délibère sur ce que consiste l'essence de la relation entre l'objet et l'intellect et il détermine les conditions de cette relation. Voici un fragment caractéristique, qui illustre ce problème:

"Alio modo secundum convenientiam unius entis ad aliud, et hoc quidem non potest esse nisi accipiatur aliquid quod natum sit convenire cum omni ente; hoc autem est anima, quae "quodam modo est omnia", ut dicitur in III *De Anima*: in anima autem est vis cognitiva et appetitiva; convenientiam ergo entis ad appetitum exprimit hoc nomen bonum, unde in principio Ethicorum dicitur quod "bonum est quod omnia appetunt", convenientiam vero entis ad intellectum exprimit hoc nomen verum. Omnis autem cognitio perficitur per assimilationem cognoscentis ad rem cognitam, ita quod assimilatio dicta est causa cognitionis, sicut visus per hoc disponitur secundum speciem coloris cognoscit colorem: prima ergo comparatio entis ad intellectum est ut ens intellectui concordet, quae quidem concordia adaequatio intellectus et rei dicitur, et in hoc formaliter ratio veri perficitur. Hoc est ergo quod addit verum super ens, scilicet conformitatem sive adaequationem rei et intellectus, ad quam conformitatem, ut dictum est, sequitur cognitio rei: sic ergo entitas rei praecedat rationem veritatis sed cognitio est quidam veritatis effectus."<sup>3</sup>

Le fragment cité donne beaucoup de données essentielles pour lire l'interprétation de St. Thomas sur la définition examinée.

Primo, c'est un traitement d'une des thèses anthropologiques d'Aristote du III-ème livre sur L'âme, qui annonce que "L'âme dans un certain sens c'est tout, quoi existe"<sup>4</sup>, ou bien dans une autre place: "L'âme dans un certain sens devient la totalité de ses objets". Dans l'âme se produit donc l'assimilation du pouvoir, qui connaît avec un objet connu. Cette thèse présente la conscience de Thomas, que l'ordre de la vérité est bien plus riche que cela s'est présenté dans la culture philosophique jusqu'à présent. Jusqu'à présent le problème de la vérité et

<sup>3</sup> St. Thomas, *De Veritate*, q. 1, a. 1c.

<sup>4</sup> cf. Aristote, *De Anima*, III, 431 b.

de l'adéquation de la connaissance était clairement situé dans l'intellect composant et partageant, réalisant déjà, pour ainsi dire, sciemment, des réflexions sur le matériel cognitif. St. Thomas montre, qu'on peut parler sur la vérité et sur l'adéquation dans un sens de réception des teneurs qui coulent du côté de l'existence connue, d'une sorte de *manifestatio esse*. La relation de la vérité est réelle lorsque un mouvement se produit entre la réalité et l'intellect possible stimulé par l'être. Cette relation dans un certain sens est réversible, c.a.d. qu'aussi du côté de l'intellect, actif à son tour, existe une certaine activité, dans laquelle il met en ordre l'existence récipiée dans des opinions et il exprime la vérité de notre conception. On peut remarquer alors chez St. Thomas la différenciation de la vérité de l'être, ou bien de la chose vers la vérité sur la chose. Autrement dit on peut décider de la vérité comme d'une certaine propriété transcendente de l'être et de la vérité d'ordre des idées, certaine décision de la chose.

Secundo. Attire l'attention une claire différenciation de l'ordre de la connaissance de l'ordre du procédé. Chaque chose est la base de la relation de la vérité, dans cette relation se produit *intellectio* de l'être, son réception par le pouvoir intellectuelle, qu'il va nommer dans le troisième article comme intellect théorique, et aussi la fin de ce mouvement qui coule du côté des objets-mêmes, c'est la vérité présente dans l'intellect. On peut parler cependant d'une certaine vérité, sur laquelle on attirait l'attention dans l'interprétation de la définition *Veritas est adaequatio rei et intellectus*, que c'est une certaine conformité des données de l'intellect avec la chose. Chez St. Thomas l'étape de connaître la vérité est précédée par la perception de l'être, la connaissance elle-même c'est une certaine conséquence de la vérité, quelque chose plus retardée que la conformité. La conformité se présente alors déjà dans un seul contact de l'être avec l'intellect.

Étymologiquement le terme *adaequatio* signifie "la comparaison" (*ad - aequatio*). Quand à la comparaison c'est un procès, le contact de la chose et de l'intellect, du pouvoir qui reçoit et de l'objet, produit un acte. Dans la connaissance - écrit St. Thomas - l'assimilation d'un connaissant à la chose pour connaître se réalise, la réalité a alors aussi son aspect dynamique - c'est une tendance vers une fin quelconque, qui est une assimilation de pouvoir connaissant à son objet.

Une indication importante pour comprendre la conformité se trouve dans le troisième article de ladite question, où St. Thomas constate, que:

"Veri enim ratio consistit in adaequatione rei et intellectus", mais il ajoute en même temps, que: "idem autem non adaequatur sibi ipsi sed aequalitas diversorum est".<sup>5</sup> Il semble alors, que dans le problème d'adéquation joue un rôle le principe de différence entre les périodes de la relation. Le mouvement cognitif, dont le repos fait une certaine relative obtention de la vérité, est possible parce que l'adéquation se réalise entre différentes choses.

Les définitions formelles de la vérité dirigent la considération vers l'ordre de la relation. La vérité exige de celui, qui cherche la connaissance des deux termes rapport, la fin de la relation. Cela donne une possibilité d'identifier correctement la relation comme réelle ou bien seulement conceptuelle. En cas du problème de la vérité, la question est comme suit: La vérité ajoute-elle quelque chose à l'être seulement conceptionnellement ou bien réellement? Ici arrive le plus souvent une erreur d'un mélange de la propriété transcendente de la vérité qui est en droit de chaque être par raison de son intelligibilité et une notion transcendente de la vérité, qui a, comme chaque notion, son étendue formée et séparée dans la connaissance de l'existence sur mesure de l'habileté du pouvoir intellectuelle, qui réalise justement l'opération cognitive, dans ce cas l'opération de l'adéquation.

Examinons dans quel sens Thomas comprend les deux but de la relation, notamment *res* et *intellectus*. Dans différentes places des *Commentaires aux Sentences de Pierre Lombard* et dans la question *De Veritate* St. Thomas révèle différentes compréhensions du terme *res*: "Nomen rei ad utrumque se habet, et ad id quod est in anima, prout res dicitur a reor (reris), et ad id, quod est extra animam, prout res dicitur quasi aliquid ratum et firmum in natura"<sup>6</sup>; "Res non est completa in esse, nisi per hoc, quod est ab aliis distincta."<sup>7</sup>; "Hoc nomen ens et res differunt, secundum quod est duo considerare in re, scilicet quidditatem vel rationem eius et esse ipsius, et a quidditate sumitur quod nomen res"<sup>8</sup>; "Simpliciter enim dicitur res quod habet esse ratum et firmum in natura, et dicitur res hoc modo accepto nomine rei, secundum quod habet

<sup>5</sup> St. Thomas, *De Veritate*, q. 1, a. 3c.

<sup>6</sup> 1 *Sent.* 25, 14c; 2 *Sent.* 37, 1, 1c et ad 4.

<sup>7</sup> *Super De Trinitate*, 1, 2, 4.

<sup>8</sup> 1 *Sent.* 25, 1, 4c.

quidditatem vel essentiam quandam, ens vero, secundum quod habet esse"<sup>9</sup>;  
 "Quod ens sumitur ab actu essendi, sed nomen res exprimit quidditatem  
 sive essentiam entis."<sup>10</sup>

St. Thomas remarque, que la chose (*res*) est d'un côté une certaine conception de l'être, mais il comprend également "la chose" comme étant dehors de l'âme qui connaît.

Le problème de connaître l'intellect présente St. Thomas entre autres dans la *Somme Théologique* dans le problème sur la volonté, où il écrit, que l'intellect peut être compris de deux manières<sup>11</sup>: En une manière comme ce que l'être prend à la conscience et véritable, compris comme universel et de l'autre côté l'intellect est compris comme un certain pouvoir défini de l'âme, dans un acte défini. L'intellect est compris d'un côté comme un pouvoir, et de l'autre côté comme résultat d'une conception de la réalité. La différenciation des intellects, ainsi que différentes conceptions de *res*, présentent des niveaux possibles de l'adéquation lorsque on fait connaître la vérité, faisant claire le contenu de la définition *Veritas est adaequatio rei et intellectus*.

Dans la question *De Potentia* St. Thomas dit, que *adaequatio*, c.a.d. la relation de l'intellect peut être réalisé en quatre manières, et cela selon différents objets qui les touchent:

Primo, l'intellect peut se rapporter à l'objet, dans cette composition d'objets, auxquels l'intellect se réfère, ici il s'agit du *res* comme un certain type de réalité, des objets réels, extérieurs;

Secundo, l'intellect peut se rapporter aux *species*, c.a.d. aux formes mentales cognitives, qui ressemble aux objets;

Tertio, il peut se rapporter à sa connaissance, c.a.d. il peut, pour ainsi dire, renfermer dans son acte de réflexion le procès de sa connaissance;

Il peut enfin se rapporter et examiner l'idée elle-même de l'intellect, son produit.<sup>12</sup>

Les différents degrés et dimensions de l'adéquation dépendent des objets lesquels on substitut dans la définition.

<sup>9</sup> 2 *Sent.* 37, 1, 1c.

<sup>10</sup> *De Veritate*, q. 1, a. 1c.

<sup>11</sup> cf. St. Thomas, *Summa Theologica*, q. 82, a. 4c.

<sup>12</sup> cf. St. Thomas, *De Potentia*, q. 8, a. 1.



Lorsque la chose (*res*), comprise comme une existence réelle, se trouve en dehors de la structure cognitive, l'adéquation se produit entre la conception de l'intellect et un objet, qui existe réellement. Nous avons à faire avec un crytère d'une subsistance et d'une description quelle est la conception de l'être.

Dans le deuxième cas, la plus grande partie des définitions et du mode d'interpréter la définition de la vérité *Veritas est adaequatio rei et intellectus* concerne plutôt la conformité au niveau de *species*, et elle est comprise de deux manières: comme un certain type de mouvement qui n'a pas encore son repos; ou bien comme une fin, la réalisation du mouvement cognitif dans l'intellect. Intellect est adéquat par rapport aux objets y renfermés, dans un tel sens il trouve le repos dans celà, dont il a déjà fait connaissance. Cependant l'adéquation ne se réalise ainsi dans un sens propre, écrit Thomas que "La conformité c'est une comparaison de différents choses". *Species* par contre comme objet de l'esprit c'est quelque chose spécifique de l'intellect et à lui identique. L'identification est arrivée enfin dans l'acte de l'intellect et de son objet.

La situation se présente autrement s'il s'agit d'une propre connaissance, lorsque elle est comprise comme une certaine relation. Conformément à la méthode fixée par Aristote dans le III-ème livre du traité *De Anima* nous avons à faire avec un certain procès de l'analyse, dont le début fait l'objet, ensuite l'acte de la connaissance, enfin ensemble par l'objet et l'acte le pouvoir qui comprend cet objet dans l'acte, devient aperçue. Ensuite, si on commence par l'analyse de la prise intellectuelle de l'objet, alors le premier est l'acte. Par l'acte nous saisissons l'objet et la même chose se répète - par l'acte et l'objet ensemble nous saisissons le pouvoir, qui se fait connaître dans l'acte.<sup>13</sup>

Le plus de définitions et de déterminations concernent pourtant la conception de l'intellect, car l'intellect, armé en règles d'une réflexion logique et en crytères de vérités assumées, réalise plus facilement une déduction régulière se servant de conceptions bien construites.

Saint Thomas demande également qu'est-ce qui est le premier, utilisant différentes significations de ces termes *prius-posterius*, la vérité dans la chose ou bien la vérité dans l'intellect. Il résolve ce problème d'une telle manière, que la nature de la vérité se réalise dans l'intellect. La naissance de la vérité contenu, dans un sens d'une cause, nous

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<sup>13</sup> cf. Aristote, *De Anima* II, 415 a.

trouvons cependant dans la chose elle-même. En connexion avec celà, la vérité peut être examinée comme si c'était deux ordres - le premier ordre c'est l'ordre de l'essence, et alors nous examinons la vérité comme un certain résultat de la connaissance intellectuelle nous avons ici toute la tradition de la connaissance de la vérité comme essence de l'être, le second ordre - c'est la subsistance et d. constitution intérieure de l'être de l'essence et de l'existence.

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**Science, expérience et mémoire**

La mémoire occupe une place de privilège dans les épistémologies de Platon et d'Aristote: pour l'un c'est la faculté qui nous ramène, à travers le processus de reminiscence, vers la connaissance que nous possédions *déjà*; pour l'autre, la faculté qui, en sauvant l'impression sensible de la fugacité qui lui est propre, permet la constitution de l'*expérience*, point de départ de la connaissance que nous devons *acquérir*. Derrière la divergence épistémologique nous pouvons facilement déceler l'opposition de deux anthropologies, l'une dualiste, pour laquelle la mémoire est un mouvement de l'âme seule; l'autre ayant une conception unitaire de l'homme, pour laquelle la mémoire est une faculté sensible organique du composé. L'opposition entre ces deux épistémologies et entre ces deux visions de l'homme va présider l'histoire des conceptions sur la mémoire. Bien entendu, on ne les a pas toujours considérées comme étant exclusives, et au cours des siècles elles ont été rapprochées dans des synthèses plus ou moins heureuses. Comme résultat de cette combinaison d'éléments, et des enrichissements apportés par des médecins, philosophes et commentateurs, la notion de mémoire est devenue complexe, sa véritable nature et portée difficiles à déterminer<sup>1</sup>.

Vers le milieu du XIII<sup>e</sup> siècle, le problème prenait la forme d'une opposition entre les conceptions augustinienne et aristotélicienne de la mémoire: coïncide-t-elle avec l'essence de l'âme spirituelle, ou est-elle une simple faculté organique du composé? Cette opposition avait les mêmes implications anthropologiques et épistémologiques que nous avons signalées au sujet du conflit entre Platon et Aristote. Mais dans la tradition latine le type de pensée qui remonte à Platon était représenté - profondément modifié bien entendu - par le néoplatonisme de Saint Augustin. Dans la synthèse augustinienne, la mémoire est, avec

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<sup>1</sup> Nous allons négliger délibérément la tradition rhétorique romaine, en particulier Cicéron. Nous y sommes obligés par les dimensions de ce travail. Cf. F. Yates, *The art of memory*, Chicago, 1966, et P. Rossi, *Clavis universalis*, Milan-Naples, 1960.

l'intelligence et la volonté, un des éléments qui composent l'image de la Trinité dans l'homme<sup>2</sup>. Même plus, ces trois facultés, strictement spirituelles, sont une même vie, un même esprit, une même substance: "una vita ... una mens ... una substantia"<sup>3</sup>. Pour que la mémoire soit ainsi identifiée à l'esprit, il faut que sa nature soit bien plus haute que celle d'une simple faculté organique destinée à conserver des impressions sensibles.

L'âme est présente à elle-même, car sa nature est d'être connaissance et vie. Cela implique qu'elle ne peut pas s'ignorer *par nature*: "quid enim tam in mente quam mens est?"<sup>4</sup> Si parfois elle semble s'ignorer, et souvent se trompe sur sa véritable nature, cela doit être dû à une sorte d'aliénation qui l'a rendue absente à la présence qui la constitue. Ce n'est pas que l'âme ne se connaisse pas, c'est qu'elle ne se "pense" plus, car elle a oublié ce qu'elle est, "distracte" par d'autres soucis qui l'aliènent. Il faut donc qu'elle réoriente l'attention de sa volonté aliénée et pense à elle-même: "inveniet autem non quod nesciebat, sed unde non cogitabat"<sup>5</sup>. Si l'ignorance de soi est un oubli, le retour à soi est *mémoire*. Et si l'oubli est aliénation et chute, la mémoire est tâche morale. Dans ce processus de retour l'âme n'engendre pas un savoir nouveau; elle se reconnaît, elle réactualise la conscience de soi qui la constitue, elle récupère sa nature<sup>6</sup>. La mémoire augustiniennne comme processus a donc des traits en commun avec l'expérience de la conscience décrite par Hegel dans la *Phénoménologie de l'Esprit*. Mais la mémoire n'est pas seulement le processus de récupération de la conscience de soi, elle est aussi le moteur qui le déclenche et l'anime. Personne ne cherche ce qu'il ignore totalement. Si l'âme se cherche, c'est qu'elle s'aime; si elle s'aime, c'est qu'elle se connaît. L'oubli de soi-même ne peut jamais être

<sup>2</sup> Cf. S. Augustin, *De Trinitate*, IX, 2, 2-5 (mens-notitia-amor); *De Trinitate*, X, 11, 17-12, 19 (Memoria-intelligentia-voluntas); *De Trinitate*, XIV, 8, 11-12, 16 (memoria Dei-intelligentia-amor). Pierre Lombard avait surtout mis en relief la deuxième de ces structures (Cf. *Libri IV Sententiarum*, I, d. 3, c. 2, et 3; éd. Quaracchi, 1916, I, pp. 33-39).

<sup>3</sup> *De Trinitate*, X, 11, 18. Ce texte est l'autorité fondamentale qu'on avancera, au XIII<sup>e</sup> siècle et après, pour s'opposer à la doctrine de la distinction réelle entre l'âme et ses facultés.

<sup>4</sup> *De Trinitate*, X, 8, 11.

<sup>5</sup> *De Trinitate*, X, 5, 8.

<sup>6</sup> *De Trinitate*, XIV, 6, 8.

total<sup>7</sup>. Ce que l'oubli et l'aliénation morale ont aboli, la mémoire l'a conservé, et ce souvenir ne cessera pas d'être présent à l'âme et de l'inciter à retourner sur elle-même pour se retrouver<sup>8</sup>. Dans ce retour l'âme est gratifiée d'abord par le fait qu'elle trouve en elle des contenus intelligibles<sup>9</sup>, dont la présence est expliquée dans le *De magistro*: les vérités sont en nous, non pas parce que nous les avons acquises du dehors, ou dans une vie antérieure, mais parce qu'elles sont suscitées en nous par le maître intérieur. Seulement nous n'avions pas conscience d'elles. Dans ce sens la mémoire des intelligibles, comme la mémoire de soi, est un processus par lequel on élève la connaissance inconsciente au niveau de la conscience<sup>10</sup>. Mais l'âme n'accomplirait pas ce mouvement de retour vers elle-même et vers la vérité si au fond de sa mémoire ne se trouvait aussi cette certitude, qu'à moins de se connaître elle-même et la vérité elle ne trouvera jamais le bonheur<sup>11</sup>. Le désir du bonheur et de la vérité, que l'âme identifie<sup>12</sup>, est la manifestation claire de cette présence latente de la vérité béatifiante. Or une telle vérité ne saurait être autre chose que Dieu, maître intérieur et règle de toute vérité. L'homme possède donc *mémoire de Dieu*. Dans son degré le plus haut la mémoire est mémoire métaphysique du fondement et de la fin dernière<sup>13</sup>. C'est donc la mémoire en tant que connaissance latente de soi, de la vérité béatifiante et de Dieu, que Saint Augustin place parmi les éléments de

<sup>7</sup> *Conf.*, X, 18, 27 et 19, 28.

<sup>8</sup> *De Trinitate*, XIX, 11, 14. C'est le texte qui est à la base de la notion de mémoire du présent, élaborée par E. Gilson et acceptée par la grande majorité des historiens. Cette notion a été mise en question par R. Teske "Platonic Reminiscence and Memory of the Present in St. Augustine", *The New Scholasticism*, LVIII, n° 2, (1984), pp. 220-235. Ses conclusions, qui ne me semblent pas entièrement convaincantes, ne touchent cependant pas notre point, limité à la conscience que l'âme a d'elle-même.

<sup>9</sup> *Conf.*, X, 10, 17.

<sup>10</sup> Cf. Ph. Merlan, *Monopsychism, Mysticism, Metaconsciousness*, The Hague, 1969, p. 73-76, E. Gilson, *Introduction à l'étude de S. Augustin*, Paris, 1949, p. 135, J. Guittou, *Le temps et l'éternité chez Plotin et S. Augustin*, Paris, 4<sup>e</sup> éd., 1971, p. 244, n. 4.

<sup>11</sup> Le point a été admirablement exposé par E. Gilson, op. cit. p. 135. Cf. aussi *De Trinitate*, X, 3, 5.

<sup>12</sup> La béatitude n'étant que le *gaudium de veritate* (*Conf.*, X, 23, 33).

<sup>13</sup> *Conf.*, X, 25, 36. La mémoire de Dieu ne fait que traduire, dans le cas d'un être spirituel comme l'homme, l'omniprésence de Dieu aux choses; cf. *De Trinitate*, XIV, 15, 21.



l'image de Dieu, et il peut le faire car elle est l'esprit lui-même: "magna ista vis est memoriae...et hoc animus est, et hoc ego ipse sum"<sup>14</sup>.

La tradition augustinienne allait être mise en crise par l'entrée des écrits d'Aristote et de ses commentateurs. Au milieu du XIII<sup>e</sup> siècle les jeunes Thomas d'Aquin et Bonaventure se demandaient dans leurs commentaires des *Sentences* s'il était possible de conserver la mémoire parmi les termes composant l'image de la Trinité dans l'homme<sup>15</sup>. Leur principale difficulté provenait du fait que la mémoire, comme l'ont enseigné Aristote, Galien et les commentateurs, est une puissance organique, commune aux hommes et aux animaux. Cette nouvelle conception de la mémoire a son origine en quatre oeuvres d'Aristote.

Dans les *Seconds Analytiques* II, 19 et *Métaphysique* I, 1 Aristote, après avoir rejeté l'innéisme platonicien, postule que toute connaissance de l'universel, y compris celle des premiers principes, est une connaissance acquise à partir des données sensibles. Mais les sens externes n'en sont pas, bien entendu, la cause suffisante. En effet, il faut que l'animal, en plus de la puissance de recevoir des données sensibles, ait la capacité de dépasser le caractère ponctuel de la sensation en conservant l'impression sensible afin que celle-ci, ainsi préservée, et accumulée avec d'autres impressions semblables, puisse constituer la base de ce qu'Aristote appelle une *expérience*, d'où on pourra tirer l'universel. Cette capacité de conserver les sensations, ou mémoire, tout en étant de l'ordre des puissances sensibles, n'est cependant pas commune à tous les animaux; comme ne l'est pas non plus la capacité de former, à partir de l'expérience, une notion universelle. Un passage célèbre synthétise le premier exposé de cette théorie de la connaissance: "c'est ainsi que de la sensation vient ce que nous appelons le souvenir, et du souvenir plusieurs fois répété d'une même chose vient l'expérience... Et c'est de l'expérience à son tour...que vient le principe de l'art et de la science, de l'art en ce qui regarde le devenir, et de la science en ce qui regarde l'être"<sup>16</sup>.

<sup>14</sup> *Conf.*, X, 17, 26. Nous aimerions pouvoir signaler les sources plotiniennes de la doctrine que nous venons d'exposer, aussi bien que les points fondamentaux d'accord et de désaccord entre Plotin et Saint Augustin, mais les limites de cette communication nous empêchent de le faire.

<sup>15</sup> Cf. S. Thomas, *In I Sent.*, d. III, q. 4, a. 1; S. Bonaventura, *In I Sent.*, d. III, a. 1, q. 1.

<sup>16</sup> Aristote, *Anal. Post.*, II, 19, 100 a 5-9. Cf. *Métaph.*, I, 1, 980 b 22 sqq.

Dans le *De anima* on ne trouve aucun traitement spécial consacré à la mémoire, mais la théorie des puissances ou "parties" de l'âme, y développée, soulève le problème de savoir où devrait être située la mémoire dans ce cadre général des facultés opératives de l'animal. En outre, le *De anima* développe une distinction fondamentale entre l'état potentiel d'une faculté cognitive (sensible ou dianoétique) qui doit encore acquérir des connaissances, et l'état potentiel de cette même faculté lorsque, tout en ayant acquis la connaissance, elle ne l'exerce pas actuellement<sup>17</sup>. L'affirmation de l'existence d'une connaissance *habituelle* - dont l'actualisation sera de l'ordre de l'exercice - tant au niveau sensible qu'intellectuel sera la clé dont se servira S. Thomas pour surmonter l'opposition entre Aristote et S. Augustin. Une autre contribution significative du *De anima* est la distinction entre les sens externes et "internes" à partir de l'étude de leurs objets respectifs<sup>18</sup>. Aristote cependant ne s'attarde qu'à l'étude du sens commun et de l'imagination. Cette dernière, tout en étant difficile à classer<sup>19</sup>, est clairement une faculté sensible<sup>20</sup>, liée par conséquence au corps<sup>21</sup>, et son importance est extraordinaire, compte tenu du fait que "jamais l'intellect ne pense sans image"<sup>22</sup>. Pour que l'imagination remplisse bien son rôle d'intermédiaire entre la sensation et la pensée il faudrait assurer une "persistance des images", dont Aristote parle en 429 a 4-5 (voir aussi 433 a 10) et où l'on pourrait voir une allusion à la mémoire. Mais le fait est qu'Aristote n'utilise pas le mot et que la faculté qui nous occupe n'a pas retenu son attention dans le *De anima*.

Dans le *De memoria et reminiscentia* elle est, par contre, au centre de son intérêt. La mémoire est présentée comme un réservoir de connaissances déjà acquises<sup>23</sup>; plus exactement comme un état habituel (*hexis*) ou comme une affection (*pathos*) des facultés sensitive et

<sup>17</sup> *De anima*, II, 5, 417 b 19. Cf. aussi 429 b 5-6.

<sup>18</sup> On sait que l'expression "sens internes" n'a pas été utilisée par Aristote, mais qu'elle provient des commentateurs.

<sup>19</sup> Cf. III, 9, 432 b 1-5.

<sup>20</sup> *De anima*, III, 3, 428 b 11-14.

<sup>21</sup> Car "la faculté sensible n'existe pas indépendamment du corps, l'intellect en est séparé" (429 b 5).

<sup>22</sup> *De anima*, III, 7, 431 a 15; 431 b 1-5; III, 8, 432 a 5-10.

<sup>23</sup> *De mem. et rem.*, 1, 449 b 15-20.

dianoétique: habitus, du point de vue de la capacité d'actualisation qu'elle conserve comme en puissance; affection, du point de vue de l'impression qui a modifié ces facultés et qui a été conservée par la mémoire<sup>24</sup>. Mais il est essentiel à la mémoire qu'un certain temps se soit écoulé, et que ce temps ait été incorporé à son objet comme trait distinctif. Or le temps - mesure du mouvement - est saisi par les mêmes moyens que la quantité et le mouvement, c'est-à-dire par le sens commun et l'imagination. La mémoire par conséquent doit appartenir essentiellement à la même partie de l'âme à laquelle appartiennent ces deux sens internes, c'est-à-dire à la partie sensitive<sup>25</sup>; de façon incidentelle (*kata symbebekos*) on peut dire aussi qu'elle appartient à la partie dianoétique, dans la mesure où la pensée a besoin d'images mentales que la mémoire peut lui fournir<sup>26</sup>. La mémoire donc n'est pas une faculté exclusive de l'homme; elle se trouve aussi en plusieurs animaux supérieurs. Elle est comme un habitus intentionnel capable de mettre en rapport l'image présentement considérée avec l'objet qui l'a produite auparavant<sup>27</sup>, et travaille donc en étroite collaboration avec le sens commun et l'imagination en tant que facultés perceptrices du temps<sup>28</sup>.

Saint Augustin et Aristote ont dressé ainsi deux imposantes théories de la connaissance, où, en dépit des différences profondes qui les opposent, la mémoire joue un rôle central. Présence latente de l'âme à elle-même et moteur du processus de retour de l'esprit à son for intérieur où il pourra trouver la vérité, la mémoire est, dans l'illumination augustinien, la condition de possibilité de l'acquisition de la science et de la sagesse. Faculté organique et réservoir d'images liées à la notion de temps, la mémoire est, dans l'abstractionnisme aristotélicien, la condition de possibilité de la constitution de l'expérience à partir de laquelle sont constitués l'art et la science. Pour un penseur du XIII<sup>e</sup> siècle l'opposition entre S. Augustin et Aristote était déjà un formidable défi théorique. Le

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<sup>24</sup> Ibid., 449 b 25.

<sup>25</sup> Ibid., 450 a 23-25.

<sup>26</sup> Ibid., 450 a 10-15.

<sup>27</sup> Ibid., 450 b 20-27.

<sup>28</sup> Ibid., 451 a 2-17. Nous ne pouvons pas examiner ici le processus de réminiscence, auquel Aristote consacre le reste du traité.

dossier devenait cependant encore plus compliqué par l'apport des commentateurs, grecs et arabes, dont les interprétations, parfois inspirées du néoplatonisme, et appuyées par les idées de Galien, s'étaient superposées au cadre aristotélicien primitif. Il serait naïf de vouloir exposer ici l'énorme richesse de cette tradition, mais il est impossible de ne pas faire mention d'une doctrine qui a conditionné fortement le débat au XIII<sup>e</sup> siècle. Il s'agit de l'illumination extrinséciste avicennien, où la mémoire sensible, tout en continuant de rendre possible l'expérience, ne joue plus le même rôle, car l'expérience n'est plus la source des formes intelligibles: plutôt que de les abstraire, l'intellect humain doit se tourner vers la dixième Intelligence pour les recevoir<sup>29</sup>. Quant à la mémoire intellectuelle, elle est entièrement impossible, selon Avicenne, car une forme intelligible en acte ne saurait être gardée dans la puissance intellectuelle sans être actuellement pensée<sup>30</sup>. L'extrinsécisme est ainsi renforcé: si la mémoire intellectuelle n'existe pas, les intelligibles doivent être accordés à l'homme, chaque fois qu'il pense, par le *Dator formarum*<sup>31</sup>.

Nous avons dit plus haut que la question "utrum memoria pertineat ad imaginem", que Saint Thomas soulève dans le commentaire des *Sentences*, a été pour lui l'occasion de confronter toutes ces différentes traditions. La première réaction du jeune Thomas est conciliatrice, et elle se situe sur un plan linguistique: *nomen memoriae aequivocatur*. Il y a la mémoire sensible, celle qu'Avicenne, à la suite d'Aristote et de Galien, a situé dans la partie postérieure du cerveau et dont l'objet sont les "intentions" sensibles, et il y a en outre la mémoire intellectuelle, celle qui fait abstraction de toute différence temporelle et qui ne peut

<sup>29</sup> Avicenne, *Shifâ I*, 356, trad. A.M. Goichon, *Le récit de Hayy Ibn Yaqzan commenté par des textes d'Avicenne*, Paris, 1959, p. 170.

<sup>30</sup> Avicenne, *De anima*, (ed. Van Riet) V, 6, p. 147.

<sup>31</sup> On aurait voulu ajouter quelques lignes au sujet de la conception averroïste de la mémoire, mais la nature de cette communication ne le permet pas. Pour une présentation globale de la théorie des sens internes selon Averroès et les autres commentateurs on consultera l'article classique de H.A. Wolfson, "The internal senses in Latin, Arabic and Hebrew Philosophic Texts", *Harvard Theological Review*, XXVIII (1935), n° 2, pp. 69-133. Pour Averroès en particulier cf. aussi mes travaux "La noétique de Averroès", *Philosophia* 38 (1972) pp. 19-49 et "Intellectum Speculativum", *Journal of the History of Philosophy*, XIX, 4 (1981), pp. 425-446.

appartenir qu'à l'âme spirituelle<sup>32</sup>. Pas de conflit alors entre S. Augustin et Aristote, car ils parlent de réalités différentes. Mais dans un effort supplémentaire de synthèse, qui vise non pas à éviter le conflit entre les traditions mais à trouver les points en commun, Thomas essaie d'identifier la mémoire intellectuelle dont parle S. Augustin avec ce "lieu des formes intelligibles" (*locus specierum*) dont parle Aristote dans le *De anima*<sup>33</sup>. Et c'est cet effort de synthèse qu'il faut mettre en relief comme caractéristique de la méthode de Saint Thomas. Mais déjà dans les *Q. D. de veritate* il reconnaît que la notion de "locus specierum" de 429 a 27-28 ne peut être appliquée à la mémoire au sens propre du terme, car l'objet de celle-ci est situé temporellement, et elle est, par conséquent, une faculté sensible: "constat quod memoria, proprie loquendo, non est in parte intellectiva, sed sensitiva tantum"<sup>34</sup>. Est-ce le dernier mot, et la rupture avec la tradition augustiniennne? C'est plutôt l'occasion de dépasser un rapprochement superficiel par l'approfondissement de certaines doctrines aristotéliennes. En effet, l'intellect connaît non seulement son objet, mais aussi son acte d'intelliger. Et il sait qu'il possède certaines connaissances, même s'il ne les situe pas dans le passé. Cette saisie (*notitia*) de son acte et de son contenu comme étant une connaissance déjà acquise peut être appelée mémoire: "omnis notitia non de novo accepta potest dici memoria"<sup>35</sup>. Ce contenu a pu être objet d'une intellection continue ou discontinue. Dans cette dernière hypothèse nous avons une connaissance "habituelle", laquelle peut être appelée mémoire intellectuelle, car il s'agit d'une connaissance que nous possédions mais qui ne faisait pas objet de notre considération actuelle: "ut si dicamur illius rei habere memoriam quam prius habitualiter cognoscebamus, non autem in actu; et sic memoria est in parte intellectiva nostrae animae"<sup>36</sup>. La notion de connaissance habituelle vient d'Aristote<sup>37</sup>, et Alexandre d'Aphrodise, dont la pensée a été connue par Saint Thomas à travers

<sup>32</sup> S. Thomas, *I Sent*, d. 3, q. 4, a. 1.

<sup>33</sup> S. Thomas, *ibid.*; cf. Aristote, *De anima*, 429 a 27-28.

<sup>34</sup> S. Thomas, *De ver.*, q. 10, a. 2 c.

<sup>35</sup> *Ibid.*

<sup>36</sup> *Ibid.*

<sup>37</sup> Cf. plus haut, n. 17.



Averroès, avait fait d'elle une pièce importante de sa noétique<sup>38</sup>. Thomas ne fait donc qu'approfondir la tradition péripatéticienne pour bâtir un pont entre celle-ci et la tradition augustinienne.

Ainsi ébauchée, la notion de mémoire intellectuelle devait être défendue contre les objections d'Avicenne, et c'est précisément ce que fait Saint Thomas dans le *De veritate*, sans que pourtant aucun des trois arguments y développés ne touche au fond du problème<sup>39</sup>. Il faudra attendre jusqu'à la *Somme contre les Gentils* pour trouver une attaque efficace contre le fondement théorique de la thèse: Avicenne n'a pas distingué entre l'acte parfait (l'intellection en acte) et l'état intermédiaire (*l'habitus*). Il a oublié que vis-à-vis des formes intelligibles l'intellect - comme l'a enseigné Aristote - a comme une double puissance, l'une qui s'actualise par l'acquisition du savoir, l'autre par l'exercice. Cette dernière implique la présence, dans l'intellect, de formes intelligibles préalablement acquises, qui ne sont pas objet de considération actuelle, mais sur lesquelles l'intellect peut revenir quand il veut<sup>40</sup>. La réfutation de la thèse avicennienne sur la base d'une théorie abstractionniste de la connaissance et d'une conception de l'*habitus* comme intermédiaire entre l'acte d'intellection et la science simplement en puissance, est reprise dans la *Somme de Théologie*<sup>41</sup>, mais S. Thomas y ajoute un argument de type anthropologique auquel il tiendra dorénavant: dans l'extrinsécisme avicennien l'union de l'âme et du corps devient superflue<sup>42</sup>. La maîtrise des textes aristotéliens que Thomas met en relief dans la *Somme* est fruit du contact assidu et approfondi qu'il a eu

<sup>38</sup> Cf. R.A. Gauthier, *S. Thomas Aq. Sententia libri De Sensu*, éd. Léonine t. XLV, 2, 1985, p. 100 et les textes d'Averroès y cités, et mon travail "L'authenticité du De intellectus", *Revue Phil. de Louvain*, 71 (1973) pp. 468-487.

<sup>39</sup> *De veritate*, q. 10, d. 2: a) "cum intellectus possibilis sit stabilioris naturae quam sensus, oportet quod species in eo recepta stabilius recipiatur"... b) "si in intellectu possibili non conservarentur aliquae species, sed solaabilitas convertendi se ad intellectum agentem, aequaliter remaneret homo habilis ad quodcumque intelligibile"... c) "hoc videtur expresse contrarium sententiae Philosophi in III De anima qui commendat antiquos de hoc quod posuerunt animam esse locum specierum quantum ad intellectivam partem".

<sup>40</sup> *Summa contra Gentiles*, II, 74.

<sup>41</sup> *S. Theol.* I, 79, 6. Déjà dans *ScG* II, 74 Saint Thomas utilisait comme argument le texte *De anima* 429 b 5 pour expliquer que l'actualisation de l'*habitus* est de l'ordre de l'exercice. Il reprend toutes ces références dans la *Somme de Théologie*.

<sup>42</sup> *S. Theol.*, I, 84, 4.

avec le *De anima* lors de la rédaction de sa *Sententia*. Et dans ce commentaire, en effet, nous trouvons, autour de 429 b 5, une version rigoureuse de la réfutation d'Avicenne fondée sur la présence habituelle des espèces intelligibles dans l'esprit<sup>43</sup>. La permanence des formes intelligibles - la mémoire intellectuelle - est encore réaffirmée, avec les mêmes arguments et le même appui textuel, dans la *Sententia De memoria*<sup>44</sup>.

Ce qui a commencé comme une préoccupation théologique (à savoir, si la mémoire peut faire partie de l'image de la Trinité) est devenu un problème philosophique fondamental, touchant la nature des espèces intelligibles, leur origine et leur permanence dans l'intellect. En approfondissant l'exégèse de certains textes du *De anima*, Saint Thomas est parvenu à dépasser l'opposition entre Aristote et Saint Augustin *sur la base d'un principe aristotélicien*. Mais le fait que Thomas affirme l'existence d'une mémoire intellectuelle ne doit pas nous tromper sur la véritable portée du rapprochement qu'il essaie d'établir entre Augustin et Aristote. La mémoire augustiniennne est le retour de l'âme sur la présence qui la constitue, afin que dans son for intérieur elle puisse recevoir l'illumination. La mémoire intellectuelle de Saint Thomas est l'intellect réceptif lui-même<sup>45</sup>, qui acquiert les espèces intelligibles à partir de l'expérience rendue possible par la mémoire sensitive, et qui ne peut pas passer à l'acte de les contempler, même s'il les conserve à l'état habituel, sans se convertir aux images sensibles dont la permanence a été assurée, elle aussi, par la mémoire sensitive<sup>46</sup>. Quant à la connaissance que l'âme peut avoir d'elle-même, il est clair qu'elle n'est pas une conscience immédiate - comme la *memoria sui* de Saint Augustin l'exige - mais le

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<sup>43</sup> *Sententia libri De anima*, III, 2, 32-50 (éd. Léonine).

<sup>44</sup> *Sententia De memoria*, tr. II, 70-85.

<sup>45</sup> Cf. *De veritate*, q. 10 a. 3, où Thomas montre que la mémoire intellectuelle et l'intellect possible ne sont pas deux puissances différentes.

<sup>46</sup> La thèse est claire depuis le début jusqu'à la fin de la carrière de Saint Thomas. Cf. *Q. de veritate*, q. 10, a. 2, ad 7m: "quantumcumque aliquam speciem intelligibilem apud se habeat, numquam tamem actu aliquid considerat secundum illam speciem, nisi convertendo sed ad phantasmata"; *Sent. De memoria*: "memoria ...etiam intelligibilium...non est sine fantasmate" (tr. II, 147-150).

résultat d'une réflexion de l'âme sur la connaissance qu'elle a acquise au sujet du monde: *anima intelligendo alia intelligit se*<sup>47</sup>.

Bref, dans son effort d'assumer des traditions hétérogènes dans une synthèse personnelle, Saint Thomas a été cohérent depuis le début de sa carrière. Cette cohérence se manifeste en trois affirmations: 1) la mémoire *sensu stricto*, est une faculté sensitive organique qui rend possible la conservation des images sensibles en tant que passées; 2) au sens large du mot on peut aussi appeler mémoire l'intellect habituel, lequel cependant n'encadre pas les formes intelligibles qu'il conserve dans la catégorie du temps passé; 3) l'existence d'une mémoire intellectuelle ne signifie aucunement qu'on puisse se passer de la mémoire sensible car jamais l'intellect ne pense sans image. La mémoire sensitive, en tant que condition de possibilité de l'expérience est la clef de voûte tant dans l'acquisition de la science que dans l'exercice de la science déjà acquise. En dépit de tout ce que l'on dit de l'influence du néoplatonisme sur Saint Thomas, il y a un point où il l'a rejeté entièrement, et c'est en théorie de la connaissance. Le rapport entre science, expérience et mémoire le met bien en évidence.

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<sup>47</sup> Cf. mon travail "La ciencia del anima y el conocimiento de si mismo", *Philosophia* (Mendoza), n° 35 (1969), pp. 111-153.

LUCA BIANCHI

***Potentia Dei absoluta: logique de la découverte  
ou rhétorique de l'argumentation scientifique?***

Au début de notre siècle, poussé par des exigences théoriques et religieuses précises - une épistémologie conventionnaliste, une forte polémique antipositiviste, le désir de défendre l'église catholique des accusations d'obscurantisme - Pierre Duhem avança une thèse historiographique destinée à devenir célèbre: à savoir que, ce qui entraîna une attitude critique et déclencha le processus de dissolution du 'paradigme aristotélicien' fut la condamnation 'antiaverroïste' de 1277 et la 'conséquente' affirmation du principe de la puissance absolue de Dieu.<sup>1</sup> Privée de ses présuppositions 'idéologiques' et modérée dans le ton - nous savons que Duhem était allé jusqu'à parler de 1277 comme de "l'année de la naissance de la science moderne" - cette thèse se retrouve en substance dans presque toute la littérature successive sur l'histoire de la science médiévale: même récemment, elle est encore présentée schématiquement dans le chapitre "The Effect of the Condemnation of 1277" de la *Cambridge History of Later Medieval Philosophy*.<sup>2</sup>

Je voudrais, ici, attirer l'attention sur la nécessité de réexaminer toute la question, en évitant des simplifications caricaturales de la dynamique de l'histoire et en tenant compte - ce qui a été bien rarement fait - des acquisitions importantes de ces dernières dix années fertiles pour la recherche. Il est en particulier indispensable de prendre conscience que l'histoire de l'influence réelle du *Syllabus* de Tempier sur la pensée médiévale, scientifique ou autre, doit encore être écrite. Et pour le faire, il ne suffit pas de reparcourir l'analyse de Duhem, fondée sur deux articles seulement (les 27 et 66 dans la numération de Mandonnet-Hissette) et limitée au concept de l'espace. Il faudrait prendre en considération aussi les articles ayant trait aux concepts de temps et d'infini, à l'astrologie et à la magie, à l'animation et à l'influence des

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<sup>1</sup> Cf. P. Duhem, *Le système du monde. Histoire des doctrines cosmologiques de Platon à Copernic*, Hermann, Paris 1913-1959, VI, 66; VII, 206; IX, 373-374.

<sup>2</sup> Cf. E. Grant, The Effect of the Condemnation of 1277, dans *The Cambridge History of Later Medieval Philosophy*, Cambridge Univ. Press, Cambridge 1982, pp. 537-539.

corps célestes, à la localisation des anges, à l'éternité du monde: les résultats - si on peut risquer de faire des prévisions - seraient vraisemblablement bien peu enthousiasmants.<sup>3</sup> Il faudrait aussi considérer avec attention quelles sont les réactions provoquées par les accusations de l'évêque de Paris à l'encontre de l'épistémologie 'naturelle' des 'averroïstes' et quelles sont les conséquences effectives de son insistance sur l'omnipotence divine. On devrait déjà retenir - après les études fondamentales de Courtenay et après certains travaux récents italiens - que la distinction entre la puissance absolue et la puissance ordonnée de Dieu ne s'est pas diffusée *à la suite et à cause* de la condamnation de 1277, et qu'elle ne fut pas un instrument conceptuel typiquement 'nominaliste'; elle fut au contraire tracée dès le début du XIII<sup>e</sup> siècle et elle connut des interprétations et des utilisations assez diverses.<sup>4</sup> On ne peut plus débiter des équations commodes mais restrictives du genre 'condamnation de 1277 = *potentia Dei absoluta* = nominalisme = critique de l'aristotélisme'.

Il est dans une certaine mesure incontestable que la *potentia Dei absoluta* ait joué un rôle dans la 'nouvelle physique' du XIV<sup>e</sup> siècle, en assumant une fonction heuristique et analytique importante. Mais il arrive de lire qu'elle représenta l'antidote décisif au 'dogmatisme aristotélien' des 'averroïstes', qu'elle 'libéra' l'imagination scientifique et qu'elle permit de poser des 'nouvelles questions', de prendre en considération des situations 'contre-factuelles', d'élaborer des 'expériences de pensée' suggestives, d'introduire des hypothèses et des théories 'audacieuses', de construire des modèles de la réalité subtiles et originaux.<sup>5</sup>

Tout ceci peut sembler réconfortant à la lumière de certaines épistémologies à la mode, mais a le défaut d'être dépourvu de perspective

<sup>3</sup> Pour un premier bilan sur l'influence de la condamnation de 1277, voir ma thèse de doctorat *La condanna del 1277 e la crisi dell'aristotelismo scolastico*.

<sup>4</sup> Cf. W.J. Courtenay, *The Dialectic of Omnipotence in the High and Late Middle Ages*, dans *Divine Omniscience and Omnipotence in Medieval Philosophy*, Reidel, Dordrecht 1985, pp. 243-269; L. Bianchi, *Onnipotenza divina e ordine del mondo fra XIII e XIV secolo*, *Medioevo*, 10 (1984), pp. 105-153; E. Randi, *Il sovrano e l'orologio. Due immagini di Dio nel dibattito sulla 'potentia absoluta' fra XIII e XIV secolo*, La Nuova Italia, Firenze 1987.

<sup>5</sup> Voir pour exemple les travaux de E. Grant, *Medieval and Seventeenth Century Conceptions of an Infinite Void Space beyond the Cosmos*, *ISIS*, 60 (1969), pp. 50-51; *Place and Space in Medieval Physical Thought*, dans *Motion and Time, Space and Matter: Interrelations in the History of Philosophy and Science*, Ohio State Univ. Press, Columbus 1976, pp. 141-142; *The Condemnation of 1277, God's Absolute Power and Physical Thought in the Late Middle Ages*, *Viator*, 10 (1979), pp. 214-217, 239-241.



historique. D'abord il est temps de se convaincre que le 'dogmatisme averroïste' est un mythe qui provient d'une projection anachronique sur le XIIIe et le XIVE siècle d'une situation propre au XVIIe siècle. Siger de Brabant, Boèce de Dacie et leurs collègues de la faculté des arts de Paris ne furent pas du tout, comme on s'obstine à le croire, les devanciers du *Simplicius* de Galilée. Au contraire ils furent les premiers, dans le monde chrétien, à établir un programme de recherche autonome sur la réalité naturelle; un programme de recherche qui s'en appelait à la physique et à la cosmologie d'Aristote non pas par adhésion préconçue ou par incapacité critique, mais par la constatation sincère et parfois douloureuse du manque d'alternatives valables.<sup>6</sup> Donc on ne doit pas identifier dans l'aristotélisme, déjà au XIIIe et XIVE siècle, l'obstacle à surmonter, pour exulter devant toute sortie anti-aristotélicienne. Le faire serait d'ailleurs partir de l'hypothèse que la destruction de l'image aristotélicienne du monde aurait été favorisée plus par les attaques *incidentes et extérieures* de quelque théologien - une petite page de Scot sur le mouvement des anges, deux lignes de Holkot sur l'existence du vide - que par la constatation de ses difficultés et contradictions *intérieures*, fruit du travail moins spectaculaire mais pas pour autant stérile des commentateurs: une prise de conscience, en réalité, extrêmement importante pour les pères de la science moderne.<sup>7</sup>

Il est aussi indispensable de donner quelques précisions sur la prétendue 'nouveauté' des problèmes qui ont été affrontés au XIVE siècle grâce à la *potentia Dei absoluta*: dans bien de cas, elle permit tout ou plus de considérer à nouveau des hypothèses qui avaient déjà été amplement discutées, et ensuite refusées, dans la tradition aristotélicienne. Mais prendre 1277 comme *terminus a quo* de thématiques comme celles de la pluralité des mondes, du mouvement de la terre ou du

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<sup>6</sup> Cf. L. Bianchi, 'Velare philosophiam non est bonum'. A proposito della nuova edizione della 'Quaestiones in Metaphysicam' de Sigeri di Brabante, *Rivista di storia della filosofia*, 40 (1985), pp. 260-263.

<sup>7</sup> "Habes huc usque quasi indicem illarum contradictionum, quas legendo, et conferendo Scholasticos hosce libros inter se, observare mihi licuit...Dixi porro, conferendo libros Scholasticos inter se, nam si eosdam cum caeteris operibus conferamus: Deum immortalem! quot apparebunt!". P. Gassendi, *Exercitationes paradoxicae adversus Aristoteles*, I, 8, dans *Opera Omnia*, Lugduni 1658 (Frommann, Stuttgart - Bad Cannstatt 1964), III, pp. 147-148.

vide intra ou extra cosmique<sup>8</sup> est inexact et déviant: cela ne peut être fait qu'à la condition d'oublier ou de minimiser les apports de la tradition précédente. "Utrum in vacuo possit fieri motus violentus", "utrum in vacuo possit esse quies alicuius mobili", "utrum, posito vacuo in concavitate caeli, posset caelum moveri", "utrum, posito vacuo in concavitate caeli, latera caeli concurrerent", "utrum, si esset vacuum inter nos et caelum, videremus aliquid parvum in caelo": d'après une certaine historiographie, de telles questions, traitant des situations 'impossibles' dans la physique du Stagirite, auraient été soulevées *de potentia Dei absoluta* par des auteurs influencés par Tempier comme Richard de Mediavilla, Ockham, Buridan et Oresme<sup>9</sup>; à vrai dire, je les ai trouvées à la lettre dans les commentaires aristotéliens de Roger Bacon et des certains maîtres 'averroïstes' contemporains de Siger.<sup>10</sup>

Par ailleurs, si la *potentia Dei absoluta* apparaît souvent dans la formulation de ces 'expériences de pensée' typiques de la science du XIV<sup>e</sup> siècle, dans quelle mesure en dépendent-elles, logiquement et historiquement? Il est sans doute significatif que chez Buridan - et encore chez Locke - ce soit Dieu qui mène aux confins hypothétiques du cosmos l'homme qui a la mission d'accomplir 'l'expérience du bras'; il est tout aussi significatif que chez Richard de Mediavilla ou chez Nicole Oresme - et même chez Samuel Clarke - la translation de l'univers a été pensée comme effet d'une intervention divine - parfois en se référant à l'article 66 de Tempier.<sup>11</sup> Mais les noms d'Archyte, de Cléomédes et de Lucrèce devraient suffire pour nous rappeler que ces thèmes pouvaient être, et en fait ont été formulés à l'origine sans la moindre stimulation théologique;

<sup>8</sup> Cf. E. Grant, *Much Ado about Nothing. Theories of Space and Vacuum from the Middle Ages to the Scientific Revolution*, Cambridge Univ. Press, London, p. 116; *La scienza nel medioevo*, Il Mulino, Bologna 1983, p. 96.

<sup>9</sup> Cf. E. Grant, *The condemnation of 1277*, pp. 240-241.

<sup>10</sup> Cf. Roger Bacon, *Q. supra libros quatuor Physicorum*, IV, dans *Opera hactenus inedita Rogeri Baconi*, Clarendon, Oxford 1905-1940, VIII, pp. 210-214; *Siger de Brabant. Questions sur la Physique d'Aristote*, IV, 26, 27, éd. Ph. Delhaye, Inst. de Philosophie, Louvain 1941, pp. 183-185; *In libros Aristotelis de Anima*, II, 31, éd. F. Van Steenberghen dans *Trois commentaires anonymes sur le Traité de l'Âme d'Aristote*, Publ. Universitaires, Louvain 1971, p. 259-261.

<sup>11</sup> Cf. Johannes Buridanus, *Q. in octo libros Physicorum*, IV, 10, f. 77v; J. Locke, *An Essay concerning Human Understanding*, II, 13, 21, Clarendon Press, Oxford 1975, pp. 175-176; Richardus de Media Villa, *Clarissimi...Richardi de Media Villa...super quatuor libros Sententiarum*, II, 14, 3, 3, Apud V. Sabbium, Brixiae 1591, p. 168; Nicole Oresme, *Le livre du ciel et monde*, II, 8, Univ. of Wisconsin Press, Madison 1968, p. 368; S. Clarke, dans *Correspondance Leibniz-Clarke*, 3, PUF, Paris 1957, p. 69.

et il devrait suffire de citer le commentaire sur le *De Caelo* de Simplicius pour nous assurer qu'ils furent réintroduits en occident latin avant 1277, et sans se soucier des droits du Tout-Puissant.<sup>12</sup>

On se demande alors inévitablement dans quelle mesure le langage de la *potentia Dei absoluta* concerne la *logique de la découverte et de la justification* et dans quelle mesure il concerne, par contre, la *rhétorique de l'argumentation scientifique*. Il est difficile de se soustraire à l'impression que là où l'on a vu une fonction heuristique et analytique indispensable, souvent il n'y ait qu'une technique persuasive, un effort de donner une forme dramatique, d'offrir une traduction intuitive et 'réaliste' à une hypothèse d'étude. On pense à des formules comme les suivantes: "sit autem libra imaginaria, vel vera per omnipotentiam Dei facta..."; "si per ymaginationem vel divinam potentiam aliqua pars celi poneretur in sphaera ignis..."; "posé par ymaginacion et si comme il est possible que Dieu par sa puissance creart ii corps séparés un de l'autre..."<sup>13</sup>

On objectera que le principe de la *potentia Dei absoluta* permet au moins de conceptualiser des situations retenues auparavant absurdes et impensables, en dissipant l'équivoque entre les impossibilités physiques et les impossibilités logiques. Il s'agit toutefois d'un équivoque qui était *peut être* présent dans l'aristotélisme classique, mais non pas dans l'aristotélisme chrétien médiéval: même pas chez les 'averroïstes'. Lorsqu'ils affirmaient qu'un certain état de fait - par exemple l'existence du vide - est impossible, explicitement ils entendaient dire 'impossible *naturaliter*, mais possible pour une cause surnaturelle'.<sup>14</sup> Affirmer que cet état de fait est possible *de potentia Dei absoluta*, ou 'théoriquement possible pour Dieu, mais impossible *naturaliter*' n'est qu'une question de terminologie. Dans les deux cas c'est bien le principe logique de non-contradiction qui détermine ce qui est possible en sens absolu (*simpliciter*). S'il est vrai que du XIII<sup>e</sup> au XIV<sup>e</sup> siècle le domaine des

12 Grant rappelle la traduction de Simplicius et son utilisation par Thomas d'Aquin, et il reconnaît que "John Buridan's discussion...was probably occasioned by knowledge of Simplicius account" (*Medieval and Seventeenth Century*, pp. 40-42). Cependant il persiste à mettre l'accent sur la condamnation du 1277 et sur la puissance absolue de Dieu: cf. pour exemple *Place and Space*, pp. 143-144.

13 Cf. Thomas Bradwardine, *De Causa Dei contra Pelagium*, I, 1, 40, London 1618 (Minerva, Frankfurt a.M. 1964), p. 129 D; Nicole Oresme, *The Questiones super de Celo of Nicole Oresme*, I, 9, Univ. of Wisconsin, Madison 1965, p. 129; Nicole Oresme, *Le livre du ciel*, II, 8, p. 370.

14 Cf. L. Bianchi, *Omnipotentia divina e ordine del mondo*, pp. 121-129.

choses retenues possibles s'étendit considérablement<sup>15</sup>, cela ne dépendit pas de l'appel à la puissance absolue de Dieu, mais d'une extension du critère qui établit ce qui est contradictoire. Un exemple me semble emblématique, celui de l'infini. Malgré l'utilisation massive d'argumentations *de potentia Dei absoluta*, les discussions engagées à ce propos ne dépassèrent pas ce que Anneliese Maier appelait le 'finitisme' d'Aristote jusqu'à la chute du préjugé contre l'infini en acte, par la mise en discussion de l'évidence intuitive de l'axiome que le tout est plus grand de la partie.<sup>16</sup>

Les perplexités soulevées jusqu'ici visent seulement à provoquer la discussion et à approfondir le sujet. Il est bon de souligner qu'elles ne veulent pas émettre une sentence définitive contre la 'dialectique des pouvoirs divins': son effective contribution au progrès scientifique ne pourra être comprise que par une étude systématique de sa fréquence, qui permette d'évaluer où et comment elle agit concrètement.

Une recommandation est toutefois indispensable: il faudra toujours, dans ce genre d'enquête, se souvenir que la *potentia Dei absoluta* fut en soi un instrument neutre, potentiellement éversif et potentiellement compatible avec n'importe quel système théorique. Ainsi, si du XIIIe au XIVe siècle elle put en quelque manière agir *contre* la philosophie naturelle d'Aristote, si - comme l'ont suggéré Margaret Osler et Francis Oakley - au XVIIe siècle elle put favoriser sa substitution par le mécanisme et l'atomisme<sup>17</sup>, celle-ci plus d'une fois poussa ou même opéra *en faveur* de cette philosophie. En d'autres termes, la *potentia Dei absoluta* trouva à la fois des fonctions critiques et 'révolutionnaires' et des fonctions conservatrices et de prudence. D'ailleurs dès le XIVe siècle, pour des exigences théologiques, le savoir adopta de façon toujours plus marquée ce ton 'conventionnaliste' que l'on exalte pour son 'modernisme', et qui cependant permit de préserver aisément le 'paradigme' traditionnel du défi de toute autre alternative: en réduisant la construction de nouvelles explications de la réalité ainsi que la falsification des explications passées à un pur exercice *secundum imaginationem*. Garantir

<sup>15</sup> Cf. W.J. Courtenay, Nominalism and Late Medieval Religion, dans *The Pursuit of Holiness in Late Medieval and Renaissance Religion*, Brill, Leiden 1974, pp. 39-40.

<sup>16</sup> Cf. J.E. Murdoch, Infinity and Continuity, dans *The Cambridge History*, pp. 568-573.

<sup>17</sup> Cf. M.J. Osler, Providence and Divine Will in Gassendi's Views on Scientific Knowledge, *Journal of the History of Ideas*, 44 (1983), pp. 549-560; F. Oakley, *Omnipotence, Covenant, and Order. An Excursion in the History of Ideas from Abelard to Leibniz*, Cornell Univ. Press, Ithaca 1984, pp. 67-92.



à Dieu la pleine liberté de choisir pour le monde l'ordre qu'il voulait, devint simplement la prémise pour réaffirmer, sans courir de risque, qu'il lui avait donné *de facto* - ou qu'il aurait pu au moins lui donner - justement l'ordre décrit par le Stagirite.

Pensons, par exemple, aux premiers thomistes pour lesquels la possibilité *de potentia Dei absoluta* de la pluralité des mondes servait seulement à confirmer la validité physique des raisons pour l'unicité du monde<sup>18</sup>; pensons à la tradition 'averroïste', de Jean de Jandun à Paul de Venise, où les thèses caractéristiques de la *Physique* et du *De Caelo* étaient systématiquement accompagnées par un hommage formel aux dessins incompréhensibles du Tout-Puissant<sup>19</sup>; ou pensons à Buridan, qui en avançant la doctrine de *l'impetus* invoquait la *potentia divina* non pas pour critiquer, mais pour poser les conditions de possibilité des lois aristotéliennes du mouvement, qu'il venait de falsifier sur le plan empirique.<sup>20</sup> Et il ne s'agit pas de cas isolés, mais des sources d'une longue tradition qui remonterait jusqu'au XVIe et XVIIe siècle, comme le témoignent entre autres Alessandro Piccolomini, Pietro Pomponazzi<sup>21</sup> ou Bartolomeo Amici.<sup>22</sup>

Comme j'ai souligné ailleurs, justement contre cette convergence singulière, contre cette 'sainte alliance' entre le contingentisme théologique et l'aristotélisme philosophique - que déjà dans les *Juvenilia* il avait prouvé de connaître et que soit le pape Urbain VIII soit le jésuite Jean-Baptiste Morin cherchèrent à opposer au coperniciennisme - Galilée

<sup>18</sup> Cf. *Le Correctorium Corruptorii 'Quare'*, 9, Kain, Le Saulchoir 1927, p. 49; *Le Correctorium Corruptorii 'Circa'*, 8, Herder, Romae, p. 51; *Le Correctorium Corruptorii 'Quaestione'*, 9, Herder, Romae 1954, p. 55.

<sup>19</sup> Sur Jean de Jandun voir S. MacClintock, *Perversity and Error. Studies on the 'Averroist' John of Jandun*, Indiana Univ. Press, Bloomington 1956, pp. 88-95.

<sup>20</sup> Cf. Johannes Buridanus, *Q. in octo libros Physicorum*, VII, 7, f. 108v. Sur ce texte voir F. Bottin, *La scienza degli occamisti. La scienza tardo-medievale dalle origini del paradigma nominalista alla rivoluzione scientifica*, Maggioli, Rimini 1982, pp. 212-213.

<sup>21</sup> Cf. Alessandro Piccolomini, *Della filosofia naturale di M. Alessandro Piccolomini*, II, 24, G. de' Cavalli, Venezia 1565, pp. 238-241; Pietro Pomponazzi, *Petri Pomponatii Mantuani libri quinque de fato, del libero arbitrio et de praedestinatione*, V, 4, 32, In Aed. Thesaurus Mundi, Lucani 1957, p. 411.

<sup>22</sup> Bartolomeo a une connaissance excellente du débat scholastique sur la distinction entre puissance absolue et puissance ordonnée de Dieu: cf. *In Aristotelis libros de Physico Auditu...*, III, 18, 6, Apud S. Roncaliolum, Neapoli 1626-1629, II, pp. 459-460. Il utilise souvent cette distinction dans l'effort de rendre théologiquement acceptable son adhésion aux thèses de la philosophie aristotélienne: pour exemple l'impossibilité naturelle du vide (voir à ce sujet E. Grant, *The Condemnation of 1277*, n. 16, p. 216), l'incorrupibilité du ciel, l'impossibilité de l'infini en acte.



éleva des protestations énergiques; et il indiqua à la science le devoir de rechercher "non...quello che Iddio poteva fare, ma quello che Egli ha fatto". Un tel réalisme pourra sembler un peu ingénu et fidéiste par rapport au 'conventionnalisme' désabusé de certains penseurs du XIVE siècle. Et dans une certaine mesure il l'est, en s'inspirant lui aussi à une hypothèse théologique indémontrable: à savoir que le Créateur a préféré un idéal de 'simplicité' à l'exhibition exubérante de sa puissance par la réalisation de merveilles de toute sorte.<sup>23</sup> Il s'agit toutefois d'une réaction énergétique, et nécessaire, contre le vice originaire de toutes les méthodologies conditionnelles basées sur la *potentia Dei absoluta*, l'introduction d'une fracture irrémédiable, d'un divorce définitif entre la réalité et tout schème conceptuel destiné à la comprendre; dans la conviction qu'aucune ne puisse être démontrée comme vraie, que toutes sont également insuffisantes en relation à ce que Dieu, dans l'impénétrabilité de son dessin, pouvait avoir décrété. Pour Galilée, par contre, les théories n'étaient pas des simples modèles, incommensurables et donc compatibles, des mondes infinis que Dieu aurait pu créer, mais des descriptions incompatibles de ce monde unique qui en fait existe. Les hypothèses, permettant le choix entre les théories, cessent ainsi d'être de simples exercices dialectiques, pour devenir le cas limite de ce que la nature nous montre concrètement, les conditions idéales des phénomènes, expérimentables par qui "difalchi gli impedimenti della materia".<sup>24</sup>

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<sup>23</sup> Cf. L. Bianchi, Uccelli d'oro e pesci di piombo: Galileo Galilei e la 'potentia Dei absoluta', dans *Sopra la volta del mondo. Onnipotenza e potenza assoluta di Dio tra medioevo e età moderna*, Lubrina, Bergamo 1986, pp. 139-146. Aux textes utilisés dans cet article (en particulier le *Dialogo sopra i due massimi sistemi...*, 4, et la réponse à J.B. Morin dans *Le Opere di Galileo Galilei*, VII, pp. 488-489 et 565-566) on peut ajouter le suivant: "Io non ho detto, né arderei di dire, che alla natura e a Dio fusse impossibile il conferir quella velocità, che voi dite, immediatamente; ma dirò bene che *de facto* la natura non lo fa; talché il farlo verrebbe ad esser operazione fuori del corso naturale, e però miracolosa." *Dialogo sopra i due massimi sistemi...*, 1, p. 45.

<sup>24</sup> Ibidem, 2, p. 234. La différente fonction de l'hypothèse dans la philosophie naturelle du XIVE siècle et dans la science moderne est bien reconnue par A. Funkenstein, *The Dialectical Preparation for Scientific Revolutions. On the Role of Hypothetical Reasoning in the Emergence of Copernican Astronomy and Galilean Mechanics*, dans *The Copernican Achievement*, Univ. of California Press, Berkeley-Los Angeles-London 1975, pp. 186 et 190-191.

## JERZY BURCHARDT

### Les sources et les genres de la connaissance humaine d'après Witelo

Witelo, "fils des Thuringiens et des Polonais"<sup>1</sup>, alors qu'il résidait à Viterbe et qu'il était parvenu au sommet de sa carrière du savant, continuait de considérer la Pologne comme son pays domiciliaire (*terra habitabilis*).<sup>2</sup> Fils d'un administrateur ducal (*procurator ducis*) de Wrocław, Henricus de Ciz (en polonais: Henryk z Żytyc; en allemand: Heinrich von Zeitz<sup>3</sup>) et d'une Polonaise de la famille des chevaliers de Borów<sup>4</sup>, il avait étudié, vers les années 1253 à 1258, à Paris, les arts libéraux, puis s'était rendu, vers 1262, à Padoue, où il demeura jusqu'en 1268, y faisant des études de droit canon<sup>5</sup> et y enseignant à la faculté des arts.<sup>6</sup>

Quand il résolvait les problèmes philosophiques, Witelo entendait ne pas s'opposer à la théologie, qu'il définissait comme la science de la vérité<sup>7</sup>, mais préférait suivre une autre voie, qu'il appelait la voie de la raison (*via rationis*<sup>8</sup>) ou, en plus de mots, la voie naturelle et possible par la nature (*via naturalis et possibilis natura*<sup>9</sup>). D'ailleurs il ajoutait

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<sup>1</sup> Witelo, *Perspectiva*, prologus (Clemens Baumker, *Witelo, ein Philosoph und Naturforscher des XIII. Jahrhunderts, Beiträge zur Geschichte der Philosophie des Mittelalters*, Bd. III, H. 2, Münster in Westfalen 1908, p. 127, 1-3:) "Veritatis amatori fratri Wilhelmo de Morbeka Witelo, filius Thuringorum et Polonorum, aeternae lucis irrefracto mentis radio felicem intuitum et intellectum perspicuum subscriptorum".

<sup>2</sup> Witelo, *Perspectiva*, lib. X, prop. 74 (*Opticae Thesaurus*, edidit Federicus Risner, Basileae 1572, p. 467:) "in terra nostra, scilicet P o l o n i a e, habitabili, quae est circa latitudinem quinquaginta graduum..."

<sup>3</sup> Jerzy Burchardt, *Witelo, filosofo della natura del XIII sec., Una biografia*, Accademia Polacca delle Scienze, Biblioteca e Centro di Studi a Roma, Conferenze 87, Wrocław Ossolineum, 1984, p. 23-25.

<sup>4</sup> Ibidem, p. 25 - 26.

<sup>5</sup> Ibidem, p. 38 - 39, p. 42.

<sup>6</sup> Witelonis *De causa primaria paenitentiae in hominibus et de natura daemonum*, edidit Georgius Burchardt, *Studia Copernicana*, vol. XIX, p. 161, 11 - 13.

<sup>7</sup> Witelonis *De causa primaria...*, p. 161, 5 - 6.

<sup>8</sup> Witelonis *De causa primaria...*, p. 165, 184 - 186.

<sup>9</sup> Witelonis *De causa primaria...*, p. 167, 278 - 279.

qu'il n'avait même pas étudié la théologie<sup>10</sup>, encore qu'il eût le désir de le faire<sup>11</sup>, et que sa compétence se limitait à suivre les principes de la philosophie, qu'il avait compris.<sup>12</sup> Cependant, tout en cheminant le long de la nouvelle voie, il se rendit compte que, sur le plan supérieur, la raison devait se soumettre à la foi chrétienne.<sup>13</sup>

La lettre padouane de Witelo, qui porte le titre *De causa primaria paenitentiae in hominibus et de natura daemonum*<sup>14</sup>, constitue un exemple d'application pratique de cette voie nouvelle. En corrigeant les opinions de Calcidius<sup>15</sup>, Witelo y démontre, à l'aide de l'argument platonicien de la double proportion continue, que, dans l'ordre de l'univers (*ordo universi*), les démons se trouvent entre les moteurs des sphères célestes et les êtres humains.<sup>16</sup> Par conséquent, les démons sont plus parfaits que les hommes. Ils n'apparaissent donc que très rarement à ceux-ci. Pour cela, il faut que, devenus pécheurs, le péché les ait fait tomber de la place élevée qu'ils occupent normalement dans l'ordre de l'univers à un niveau inférieur, à savoir celui des hommes.<sup>17</sup> En suivant la voie de la raison, Witelo rejette aussi le dogme de la chute des anges.<sup>18</sup> Dans sa lettre padouane, il formule aussi une théorie psychopathologique nouvelle portant sur les illusions de démons, principalement en vue de combattre la peur sociale de son époque.<sup>19</sup>

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10 Witelonis *De causa primaria...*, p. 161, 6 - 7.

11 Witelonis *De causa primaria...*, p. 180, 858 - 863.

12 Witelonis *De causa primaria...*, p. 161, 1 - 5.

13 Witelonis *De causa primaria...* p. 168, 312 - 314; *ibidem*, p. 323 - 327.

14 *Studia Copernicana*, vol. XIX, Wrocław, Ossolineum 1979, p. 161 - 180 (avec une préface latine, p. 155 - 158 et un commentaire latin, p. 200 - 208). Voir aussi l'édition non commentée: Witelo, *Epistula de primaria causa poenitentiae in hominibus et de substantia et natura daemonum*, dans le livre: *Eugenia Paschetto, Demoni e prodigi, Note su alcuni scritti di Witelo e di Oresme*, G. Giappichelli, Torino 1978, p. 89 - 132.

15 Jerzy Burchardt, *List Witelona do Ludwika we Lwówku Śląskim* Problematyka teoriopoznawcza, kosmologiczna i medyczna, Wrocław 1979, *Studia Copernicana*, vol. XIX, p. 120 - 123.

16 Witelonis *De causa primaria...*, p. 175, 605 - p. 16, 650. J. Burchardt, *op. cit.*, p. 124 - 125.

17 Witelonis *De causa primaria...*, p. 178, 778 - p. 179, 793. *Ibidem*, p. 168, 333 - 334; *ibidem*, p. 173, 542 - 543, p. 176, 681 - 688; *conf. ibidem*, p. 178, 777 - p. 179, 793.

18 Witelo *De causa primaria...*, p. 167, 268 - p. 168, 328. Voir surtout *ibidem*, p. 167, 278 - 284. *Ibidem*, p. 168, 326 - 327.

19 J. Burchardt, *op. cit.*, p. 119 - 123. *Idem*, *La psicopatologia nei concetti di Witelo, filosofo della natura del XIII secolo*, Accademia Polacca delle Scienze, Biblioteca e Centro di Studi a Roma, Conferenze 94, Ossolineum, Wrocław 1986, p. 3 - 20; *idem*, *Les*

Une fois ses études achevées, Witelo se rendit à la curie pontificale de Viterbe, en tant qu'envoyé de Włodzisław, duc de Silésie, chancelier du royaume de Bohême et archevêque de Salzbourg.<sup>20</sup> Son ami, Guillaume de Moerbeke, chapelain et pénitencier du pape, lui conseilla d'utiliser le temps libre de l'attente prolongée de l'élection du pape par les querelles des cardinaux infinies, en écrivant les *Perspectiva*.<sup>21</sup> Ce vaste traité d'optique fut composé à Viterbe au cours des années 1270-1271, durant la vacance du Saint-Siège, mais le prologue de l'oeuvre, dédié à Guillaume de Moerbeke en tant que pénitencier de l'église romaine, dut être écrit en 1272, les nominations des employés conférées dans la curie pontificale par le pape nouveau, Grégoire X.<sup>22</sup> Witelo y recueille, en le repensant, le savoir des opticiens grecs, arabes et latins, en suivant un ordre géométrique et en prenant pour modèle les *Eléments* d'Euclide.<sup>23</sup>

Au cours de l'été 1274, Witelo, qui était devenu chapelain et diplomate de Přemysl Otakar II, roi de Bohême, partit de Prague pour Lyon afin de gagner le coeur de Grégoire X pour la politique de son

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*éléments nouveaux de psychopathologie dans la lettre de Witelo*, Bulletin de philosophie médiévale, Louvain-La-Neuve 1983, p. 138 - 142; idem, Nowe elementy Witelońskiego ujęcia psychopatologii, dans le *Wkład starożytności, średniowiecza i renesansu w rozwój nauk medycznych*, Uniwersytet im. Mikołaja Kopernika, Rozprawy, Toruń 1983, p. 45 - 51.

<sup>20</sup> Jerzy Burchardt, *Witelo, filosofo della natura del XIII secolo, Una biografia*, Accademia Polacca delle Scienze, Biblioteca e Centro di Studi a Roma, Conferenze 87, Wrocław, Ossolineum 1984, p. 48 - 49. Alors qu'il se trouvait déjà à Padoue, Witelo eut un entretien avec un homme venu de Salzbourg, vraisemblablement un messager de l'archevêque Włodzisław; voir à ce propos Witelo, *De causa primaria...*, p. 174, 559-560: "...ut dictum fuit mihi per bonum testimonium de quodam castro dicto Salezpurghum..."

<sup>21</sup> Witelo, *Perspectiva*, prologus (C. Bacumker, *Witelo*, op. cit., p. 127, 1 - 3, p. 128, 34 - 36).

<sup>22</sup> J. Burchardt, *Witelo, filosofo della natura del XIII secolo, Una biografia*, p. 51. Grégoire X vint à Viterbe le 10 janvier 1272 (August Potthast, *Regesta pontificum Romanorum*, vol. 2, Berolini 1875, p. 1652). Il donna, sans doute, sous peu les nominations aux employés de la curie pontificale. Nous savons que Guillaume de Moerbeke avec un nom altéré de frater Guilelmus de Moibecta, en tant que pénitencier du pape jugeait en 1272, à Orvieto, un prieur des augustiniens de Paverano, qui avait maltraité un autre prieur, d'Allaro, du même ordre monastique. T. Hirschfeld, *Genuesische Dokumente zur Geschichte Roms und des Papstums im 13. Jahrhundert, Quellen und Forschungen aus italienischen Archiven und Bibliotheken*, 17 (1914 - 1924), p. 108, 140, numéro 6. Martin Grabmann, *Miscellanea Historiae Pontificiae*, vol. XI, Roma 1946, p. 49-50. D'autre part, Grégoire avec sa curie pontificale se trouvait à Orvieto depuis le 5 juillet 1272 jusqu'au 2 juin 1273 (A. Potthast, op. cit., p. 1656 - 1670).

<sup>23</sup> Aleksander Birkenmajer, *Witelo, le plus ancien savant silésien, Studia Copernicana*, vol. IV, Wrocław 1972, p. 420 - 426. Witelo, *Perspectiva*, prologus, ..., p. 129, 26 - 32.



souverain<sup>24</sup>, mais sa mission échoua. Le 10 juillet 1275, le fils des Thuringiens et des Polonais, élevé un peu auparavant à la dignité de chanoine de Wrocław, reçut des mains d'Henri IV, duc de Silésie et seigneur de Wrocław, la prébende de Żórawina.<sup>25</sup> Revenu en Italie, il assista, le 7 février 1277, à Viterbe, à la rédaction du testament de son ami, le cardinal Simone Paltanieri.<sup>26</sup> Depuis 1272, toujours pris dans un tourbillon d'affaires politiques, Witelo n'avait pas réussi à reprendre ses activités savantes.<sup>27</sup>

En 1280, maître Witelo passa, non pas sans accord de son souverain de Wrocław, au service du roi des Romains, Rodolphe I. On le retrouve à Vienne, le 12 décembre 1280 et, avec le roi, à Nurenberg, le 20 août 1281.<sup>28</sup> Il mourut, fort probablement dans le Hainaut, au couvent des prémontrés de Vicogne<sup>29</sup>, mais la date exacte de sa mort reste toujours inconnue.

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<sup>24</sup> J. Burchardt, *Witelo, filosofo della natura del XIII sec., Una biografia*,..., p. 58-59. Codex diplomaticus et epistolaris regni Bohemiae, t. V, fasc. 2, ediderunt Jindřich Šebanek et Sása Duškova, Prague 1981, nr 769, p. 439.

<sup>25</sup> J. Burchardt, *Witelo, filosofo della natura del XIII sec., Una biografia*,..., p. 60-62, p. 77 - 79 et, particulièrement, p. 77 et 78.

<sup>26</sup> Agostino Paravicini-Bagliani, Witelo et la science optique à la cour pontificale de Viterbe (1277), dans: *Mélanges de l'Ecole Française de Rome, Moyen Age, Temps Modernes*, vol. 87, 1975, 2, p. 427 - 437.

<sup>27</sup> Le 10 janvier 1272, le nouveau pape, Grégoire X, était arrivé à Viterbe (A. Potthast, op. cit., p. 1652). Il conféra à Guillaume de Moerbeke les fonctions de chapelain et de pénitencier, sans doute, dans les premiers mois de son pontificat, en 1272. Alors Witelo, qui avait déjà rédigé ses *Perspectiva*, y ajouta le prologue, dédié à Guillaume. Voir Witelo, *Perspectiva*, prologus (C. Baeumker, *Witelo*,..., p. 128, 30 - 32). Il semble qu'après que toutes les affaires silésiennes eurent été réglées par le pape conformément aux vœux du duc Włodzisław, décédé ensuite le 27 avril 1270, Witelo ait suivi, jusqu'aux premiers jours de juin 1273, la curie pontificale à Viterbe, Rome et Orvieto, tout en s'occupant de plus en plus des intérêts tchèques. Puis, lorsque le pape quitta Orvieto pour aller à Lyon, Witelo se rendit à Prague. Il y devint chapelain du roi de Bohême, Premysl Otakar II. En août 1274, celui-ci l'envoya en mission diplomatique au concile de Lyon, auprès de Grégoire X, aux fins de le gagner à ses nouvelles propositions. Mais le pape, cédant à Rodolphe I, élu roi des Romains, s'y opposa. J. Burchardt, *Witelo, filosofo della natura del XIII sec., Una biografia*,..., p. 58 - 59. En 1275, Witelo se trouvait en Pologne et devint chanoine de Wrocław. Ce n'est que le 7 février 1277 que nous retrouvons sa trace à Viterbe (grâce au travail d'Agostino Paravicini-Bagliani), où il accomplit, sans doute, une mission diplomatique pour le duc de Silésie et seigneur de Wrocław, Henri IV, dit en latin Probus. Depuis 1273 jusqu'au 1277 Witelo était en tout cas loin d'avoir le loisir nécessaire au savant.

<sup>28</sup> J. Burchardt, *Witelo, filosofo della natura del XIII sec., Una biografia*,..., p. 70, ainsi que les documents qui s'y trouvent publiés p. 79 - 86.

<sup>29</sup> Bern, Burgerbibliothek, codex 61, f. 318<sup>v</sup>: Explicit perspectiva Magistri Witelonis de Viconia continet autem propositiones 807. J.R. Sinner, *Catalogus codicum manuscriptorum Bibliothecae Bernensis*, Bernae 1772, p. 14. C. Baeumker, *Witelo*,..., p. 222.



Witelo s'est intéressé à tous les domaines de la philosophie naturelle<sup>30</sup>, à l'astronomie<sup>31</sup>, à l'optique et à la psychologie.<sup>32</sup> C'est pourquoi il se disait lui-même naturaliste<sup>33</sup> et mathématicien.<sup>34</sup>

Witelo distingue deux sortes de lumière: la lumière divine et la lumière sensible. La lumière divine (*divinum lumen*) est la source principale de l'entité, de l'intelligibilité et de la vitalité dans le monde entier.<sup>35</sup> La lumière sensible (*lumen sensibile*), diffusée par les corps supérieurs, les astres, forme les substances corporelles, les corps du monde inférieur, en ajoutant aux matières déjà étendues, les formes spécifiques et individuelles.<sup>36</sup> Ainsi, elle complète les objets naturels.<sup>37</sup>

Les lumières et, par conséquent, toutes les formes, se diffusent en ligne droite.<sup>38</sup> Elles agissent sur tout point du monde inférieur, même sur celui qui est indivisible.<sup>39</sup> Cette action naturelle est tout objective, indépendante de la perception des sens.<sup>40</sup> Ceux-ci servent à signaler, mais non pas à causer les actions de la nature.<sup>41</sup> L'homme connaît, par les actions des intelligences et par les actions naturelles, les formes intelligibles et les formes sensibles.<sup>42</sup> Grâce à la puissance de sa raison, il peut nettement faire la distinction entre les objets naturels (*res*), leurs représentations conservées dans l'imagination, les combinaisons syncrétiques et erronées de celles-ci, qui sont créées par la *phantasia*, sans le contrôle de la raison, et les fictions de l'imagination

<sup>30</sup> Witelonis Persp. liber quintus edidit A. Mark Smith, *Studia Copernicana*, vol. XXIII, Wrocław 1983, prop. 18, p. 207, 10 - 12.

<sup>31</sup> Witelo, *Perspectiva*, lib. X prop. 53 (*Opticae Thesaurus*, edidit Federicus Risner, Basiliae 1572, p. 447, 52 - 53).

<sup>32</sup> Witelo, *Perspectiva*, lib. III, prop. 58 (*Opticae Thesaurus...*, p. 111, 14 - 16).

<sup>33</sup> Witelonis *De causa primaria...*, p. 173, 537: *naturalis...*

<sup>34</sup> *Ibidem*, *mathematicus*.

<sup>35</sup> Witelo, *Perspectiva*, prologus (C. Baeumker, *Witelo...*, p. 127, 17 - p. 128, 3).

<sup>36</sup> Witelo, *op. cit.*, prologus (editio cit., p. 128, 4 - 10).

<sup>37</sup> Witelo, *op. cit.*, prologus (editio cit., p. 127, 11, p. 129, 13, p. 129, 21).

<sup>38</sup> Witelo, *Perspectiva*, lib. II, prop. 1 (*Opticae Thesaurus...*, p. 63, 35 - 36).

<sup>39</sup> Witelo, *Perspectiva*, lib. III, prop. 6 (editio cit., p. 88, 15 - 18).

<sup>40</sup> Witelo, *Perspectiva*, prologus (C. Baeumker, *Witelo...*, p. 129, 12 - 15).

<sup>41</sup> Witelo, *Perspectiva*, prologus (C. Baeumker, *Witelo...*, p. 131, 29 - 30).

<sup>42</sup> Witelo, *De causa primaria...*, p. 163, 95 - 99.

mathématique, utilisées avec succès en optique, mais qui n'existent pas dans la nature.<sup>43</sup>

Witelo souligne que les connaissances humaines (*scientiae*) et les biens (*bonitates*) parviennent aux âmes humaines, qui sont plongées dans les corps, par l'intermédiaire des moteurs des sphères célestes, appelés aussi intelligences<sup>44</sup>, et qui se trouvent identifiés avec les anges.<sup>45</sup> Les hommes savent dans la mesure où ils tissent et édifient<sup>46</sup>, alors par leurs connaissances pratiques acquises grâce à la lumière de l'intellect possible. Ainsi apprennent-ils, par l'étude, à connaître toute la philosophie de la nature et toute la mathématique, et particulièrement les parties de celle-ci que sont l'astronomie et l'optique (*perspectiva*). Cette dernière fournit à l'homme un enseignement sur la lumière corporelle, sur la construction de l'oeil, sur le processus de la vision. On y fait l'analyse des formes visibles par les puissances coopérantes de l'âme humaine. On y explique le contenu et les conditions nécessaires de la forme visible. On y examine les illusions d'optique. Une partie importante de l'optique est la catoptrique. A l'aide de termes, de figures et de raisonnements géométriques, celle-ci étudie les différents types de miroirs et s'attache surtout à ceux qui peuvent aider l'homme à allumer du feu, une tâche encore bien difficile au XIII<sup>e</sup> siècle.

Dans ses *Perspectiva*, Witelo décrit cinq miroirs ardents. Tout d'abord, il discute la combinaison des miroirs plans qui avait été inventée par Anthémius.<sup>47</sup> Puis, il démontre qu'il est possible d'allumer du

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<sup>43</sup> Witelo, De causa primaria..., p. 169, 349 - 351. J. Burchardt, *La psicopatologia nei concetti di Witelo, filosofo della natura del XIII secolo*, Accademia Polacca delle Scienze, Biblioteca e Centro di Studi a Roma, Conferenze, vol. 94, Wrocław 1986, p. 7-10. Witelo, De causa primaria..., p. 168, 335 - p. 170, 386. Witelo, *Perspectiva*, lib. II, prop. 3 (*Opticae...*, p. 63, 59 - 61).

<sup>44</sup> Witelo, De causa primaria..., p. 164, 122 - 124.

<sup>45</sup> Witelo, De causa primaria..., p. 168, 302 - 304, ibidem, p. 163, 116 - p. 164, 121.

<sup>46</sup> Witelo, De causa primaria..., p. 165, 194 - 195. Conf. Aristoteles *De anima* 408 b 12 - 13.

<sup>47</sup> Witelo, *Perspectiva*, lib. V, prop. 65 (Witelonis *Perspectivae liber quintus*, edidit A. Mark Smith, *Studia Copernicana*, vol. XXIII, Wrocław 1983, p. 252, 1 - 28). Plutôt que de donner ce titre à l'oeuvre principale de Witelo, ainsi que le font les savants américains, en employant un singulier féminin, nous soutenons que, d'après Witelo, *Perspectiva* est au neutre pluriel, voir Witelo, *Perspectiva*, prologus (C. Baeumker, *Witelo...*, p. 129, 7 - 10:) "...praemissorum per modum entium visibilium perscrutatio placuit, sicut et eadem viris qui ante nos plurimi tractaverunt huius scientiae negotium, *perspectivorum* nomine nuncupantes. Quorum et ego nominationem ut placitam approbo..."

feu à l'aide de miroirs sphériques concaves opposés au soleil.<sup>48</sup> Ensuite, il entend prouver qu'une certaine combinaison de ces miroirs peut constituer un miroir ardent.<sup>49</sup> Plus loin, il décrit une nouvelle combinaison des miroirs coniques qui pourrait allumer du feu.<sup>50</sup> Enfin, il discute le miroir parabolique ardent d'Ibn al-Haytham.<sup>51</sup> De la sorte, il donne des indications pratiques aux artisans ingénieurs.<sup>52</sup>

Witelo connaissait non seulement la mathématique médiévale *sensu largo*, mais aussi la psychologie physiologique; et c'est ainsi qu'il est parvenu à dominer toute la philosophie de la nature.<sup>53</sup> Il déclarait que l'intellect possible de l'homme rentrait en lui-même, s'appliquait aux objets sensibles et acquérait la science sur un mode possible. Chaque homme devient alors en tant que tel, celui qui sait et qui comprend.<sup>54</sup> De cette manière, en effet, l'âme humaine, bien qu'encore éloignée de la science actuelle, devient savante, ainsi qu'il en va de la matière humaine qui tend à s'unir à la forme. Cette tendance accompagne et embrasse toute la philosophie de la nature et telle est la fin que vise toute connaissance humaine.<sup>55</sup> Witelo appelle cette activité, qui est propre à tous les êtres humains, la science de l'homme, en tant que science d'un être composé (*scientia humana ut coniuncti*).<sup>56</sup>

48 Witelo, *Perspectiva*, lib. VIII, prop. 68 (*Opticae Thesaurus...*, p. 365, 51 - p.366, 53).

49 Witelo, *Perspectiva*, lib. IX, prop. 37 (*Opticae Thesaurus...*, p. 392, 62 - p. 394, 41).

50 Witelo, *Perspectiva*, lib. IX, prop. 38 (*Opticae Thesaurus...*, p. 394, 42 - p.398, 22).

51 Witelo, *Perspectiva*, lib. IX, prop.43 (*Opticae Thesaurus...*, p. 401, 19 - p. 402, 14). J.L. Heiberg und Eilhard Wiedemann, *Ibn al-Haithams Schrift über parabolische Hohlspiegel*, *Bibliotheca mathematica*, 3. Folge, 10 (1909 - 1910), p. 293 - 307. Abdalhamid Ibrahim Sabra, *Ibn al-Haytham, Dictionary of Scientific Biography*, vol. VI, New York 1972, p. 195, p. 206.

52 Par exemple, quand il traite du miroir parabolique, Witelo parle d'un artisan ingénieux (*ingeniosus artifex*), Witelo, *Perspectiva*, lib. IX, prop. 44 (*Opticae Thesaurus...*, p. 402, 2). Il devait s'agir, au futur, de Jean Fusoris, un grand et célèbre constructeur parisien d'instruments astronomiques, qui, dans un *Commentaire sur les Perspectiva de Witelo*, qu'il écrivit vers 1410, essaya de compléter les indications techniques nécessaires pour la fabrication du miroir parabolique. Dijon, Bibliothèque publique (Bibliotheca publica Collegii Divio-Godranii), le manuscrit numéro 441, f. 191<sup>r</sup> - 197<sup>v</sup>.

53 Voir les notes 30 et 32. Conf. Witelo, *De causa primaria...*, p. 178, 765 - 768. Aristoteles, *Physica*, lib. I, 184 a 21 - 25, editio Venetiana 1483, tc. 3 - 4, f. AA 2 verso col. 1.

54 Witelo, *De causa primaria...*, p. 165, 190 - 193.

55 Witelo, *De causa primaria...*, p. 165, 199 - 203.

56 Witelo, *De causa primaria...*, p. 165, 194 - 197. Conf. Aristoteles, *De anima*, lib. I, 408 b 13.

Witelo ne surestimait pourtant pas cette science temporelle, parce qu'il croyait qu'il y avait un autre genre de la science, bien plus éminente, qui n'est pas propre à tout l'homme, mais seulement à son essence, à l'âme intellectuelle, laquelle, chez certaines personnes, grâce à leurs efforts, se trouve exposée aux influences des moteurs célestes.<sup>57</sup> Selon Witelo, celles-ci pouvaient agir sur l'homme, dont l'âme est plongée dans le corps, à certaines conditions: l'homme devait libérer son âme des plaisirs corporels et terrestres, faire rester ses puissances sensibles et naturelles en repos et se concentrer sur les objets éternels.<sup>58</sup> Les influences des intelligences supérieures s'offraient ainsi aux épileptiques et parfois aux hommes occupés à rêver, et parvenaient aussi aux savants mélancoliques assidûment appliqués à l'étude, aux grands contemplatifs<sup>59</sup> et à ceux qui s'élevaient des souillures du péché.<sup>60</sup> A un degré encore plus élevé, ces influences assuraient aux hommes saints et aux prophètes, pendant leurs états de contemplation, le retour de l'âme à soi-même, le contact immédiat avec l'éternité et, par conséquent, la connaissance de l'avenir.<sup>61</sup> Cette science, toujours actuelle, impérissable, que Witelo appelait la science de l'âme dans son essence (*scientia animae in essentia sua*)<sup>62</sup>, fournissait aux âmes intellectives des hommes la connaissance des principes des objets naturels<sup>63</sup> et le savoir du futur.<sup>64</sup>

Witelo pensait qu'une fois séparée du corps, l'âme humaine, en tant que substance céleste et pure<sup>65</sup>, obtiendrait ses connaissances et ses biens immédiatement de Dieu même.<sup>66</sup> Il estimait cependant que les ignorants, qui n'ont que mépris pour les sciences et pour les biens éternels, et qui, de plus, durant leur vie temporelle, se conduisent comme des bêtes, commettant des méfaits ou se contentant de manger et de boire, seraient

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57 Witelo, *De causa primaria...*, p. 164, 122 - 124.

58 Witelo, *De causa primaria...*, p. 164, 146 - 149.

59 Witelo, *De causa primaria...*, p. 164, 149 - 154. Conf. Pseudo-Aristoteles, *Problemata vulgata XXX*, cap. 1, editio I. Bekkeri, Berolini 1831, 954 a 10 - 12.

60 Witelo, *De causa primaria...*, p. 165, 169 - 172.

61 Witelo, *De causa primaria...*, p. 165, 171 - 178.

62 Witelo, *De causa primaria...*, p. 165, 197 - 198. Conf. *Liber de causis XIV 125*.

63 Witelo, *De causa primaria...*, p. 165, 198 - 199.

64 Vide notam 61.

65 Witelo, *De causa primaria...*, p. 163, 109 - 112.

66 Witelo, *De causa primaria...*, p. 163, 112 - 116.

châtiés en étant écartés de la présence de Dieu.<sup>67</sup> En effet, selon le philosophe polonais, l'homme doit parvenir au Bien Eternel en se consacrant aux oeuvres de l'intelligence et en prenant part à la vie sociale (*vita civilis*).<sup>68</sup> Et, sans doute, les religieux<sup>69</sup>, les savants<sup>70</sup> et les artisans<sup>71</sup>, dans la société de XIII<sup>e</sup> siècle, s'adonnaient-ils aux travaux intellectuels (*operationes intellectus*). Certes, ils n'étaient pas les seuls à être sur le bon chemin, mais ils jouissaient de l'estime de Witelo parce qu'ils faisaient usage, pour le bien du prochain et de la société (*civitas*), de la puissance intellectuelle et suprême de leur âme.

Wrocław

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<sup>67</sup> Witelo, *De causa primaria...*, p. 166, 222 - 226, *ibidem*, 229 - 232, *ibidem*, p. 164, 137 - 141, *ibidem*, p. 165, 178 - 182.

<sup>68</sup> Witelo, *De causa primaria...*, p. 166, 226 - 229.

<sup>69</sup> Witelo, *De causa primaria...*, p. 172, 493 - 495.

<sup>70</sup> Witelo, *De causa primaria...*, p. 173, 525 - 527, *ibidem*, p. 535 - 538.

<sup>71</sup> Witelo, *Perspectiva*, lib. VIII, prop. 68 (*Opticae Thesaurus...*, p. 366, 49 - 53).



YASUO CHISAKA

## Über die Bedeutung der Erfahrung bei Franz von Assisi

Bonaventura schreibt, "Unter den übernatürlichen Gaben, welche Franziskus von Gott, dem generösen Schenker, erhalten hatte, war seine Liebe zur absoluten Armut, welche ein besonderes Privileg war, das ihm ermöglichte, reich im spirituellen Sinne zu werden",<sup>1</sup> und er führt weiter aus, daß Franziskus selbst die Zweite Ordensregel für die Minderen Brüder so festlegte: "Mögen wir immer gemäß unserer Armut leben und unsere Demut und das Evangelium unseres Herrn Jesus Christ bewahren".<sup>2</sup>

Indessen schreibt Sabatier, daß die Zweite Ordensregel von 1223 von Franziskus für seinen Orden keineswegs gewollt war, sondern mit Gewalt von außen eingeführt wurde und 1209 bzw. 1210 die Erste Ordensregel war und daß beide Regeln nur die Bezeichnung gemeinsam hatten.<sup>3</sup> Tatsächlich wurde die Zweite Regel gemäß der Ersten entsprechend gemildert, die Erste jedoch war aber eine Regel, welche frei und angenehm befolgt wurde, die andere jedoch, so nimmt man an, erstarrte in allgemeiner Form. Es sind aber nur wenige Schriften des Franziskus überliefert und ihre Grundlagen sind die Armut, der Gehorsam und die Keuschheit. Bei diesen Begriffen handelt es sich nicht um Ausdrücke abstrakter Ideen. Für Franz von Assisi waren es Worte, die er streng in die Praxis umsetzte und keine bloße Theorie.

Für ihn war Jesus Christus das Beispiel, seine Sendung war, dieses Beispiel zu leben und den Menschen nahe zu bringen, diesen Weg nicht außerhalb sondern innerhalb der Menschen zu gehen. Dafür entledigte er sich seines ganzen Besitzes. Für ihn war die Besitzlosigkeit unabdingbare Voraussetzung der Reinheit und Schlichtheit. Für ihn bedeutete die Armut selbstverständlich eine materielle Armut, besonders die "Armut im Herzen"

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<sup>1</sup> Bonaventura, *Vita seu Legenda maior S. Francisci*, VII, De amore pauperitatis et mira suppletionem defectuum. (Analecta Franciscana sive Chronica aliaque varia documenta ad Historiam Fratrum Minorum spectantia edita a Patribus Collegii S. Bonaventurae, Tomus X, 1926-41, Quaracchi-Firenze).

<sup>2</sup> *Opuscula sancti Patris Francisci Assisiensis*, ed. Caietanus Esser, p. 237, 1978, Roma.

<sup>3</sup> Cf. P. Sabatier, *Vie de S. François d'Assise*, p. 289, 1894, Paris.

als ein aus dem Herzen kommender Wille zur Entsagung aller weltlicher Güter.

So war die Armut ohne persönliche Bedeutung, sie war das Leben eines Beispiels, mehr nicht.

Er setzte ein Leben lang die Besitzlosigkeit in die Praxis um, und auf diesem Wege gab es für ihn weder eine abstrakte Ideen-Welt, noch eine religiöse Glaubenslehre oder Philosophie, er hatte an ihnen als wissenschaftliche Kategorien keinerlei Interesse, sondern nahm in allem einen freien Standpunkt ein und bewahrte nichts als einen freien Willen zur Ablehnung aller abstrakten Ideen. Er wollte nur ein Leben in Schlichtheit und Armut leben, für das Christus ein konkretes Beispiel gegeben hatte.

Im Werk Nietzsches erscheint ein Mensch, der an Franziskus erinnert. Dieser Heilige sagt: "Ich mache Lieder und singe sie, und wenn ich Lieder mache, lache, weine und brumme ich: Also lobe ich Gott".<sup>4</sup>

Der Heilige hat sich der Welt entzogen und meditiert in der Zurückgezogenheit der Waldeinsamkeit über Gott. Für Franziskus dagegen als einem gewöhnlichen Menschen gibt es keinen Unterschied zwischen der Weltabgelegenheit eines Klosters oder dem lauten Leben in der Stadt, er lebt als ein gewöhnlicher Mensch lieber unter gewöhnlichen Menschen und führt ein Leben im täglichen Umgange mit ihnen in ihrer weltlichen Sphäre. Sein Leben war für ihn auch nicht einen Augenblick eine Methode der Verwirklichung abstrakter Ideenvorstellungen, sondern eine Frage des konkreten Lebens, fernab aller Kontemplationen.

Für Franziskus lag die Freiheit des Menschen in dem Privileg der Aufgabe des Besitzes, der Loslösung von Wissenschaft und Tradition, ungeachtet des Ortes. Er sah in der Armut eine Möglichkeit des absoluten Gehorsames Gott gegenüber. Hatte denn Christus nicht auch so gelebt?

Wissenschaften, Ideen, Besitz, der Wunsch, sich diesen Dingen hinzugeben, Glaube an Autoritäten und Formen, werden denn die Menschen nicht gerade von all diesen beherrscht in ihrer Existenz, und eingeschränkt?

In dem Maße, wie die Abhängigkeit zunimmt, bringt sie Unreinheit, Untreue und Unkeuschheit hervor und wird zur Ursache der zunehmenden Untreue zu Gott. Der Mensch, der den Weg der Armut beschreitet, befreit sich von der Autorität, welcher Art sie auch sein mag, und auch vom

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<sup>4</sup> Nietzsche, *Also sprach Zarathustra*, Vorrede 2, (Sämtliche Werke, Bd. VI, Kröner, S. 7).

Lärm der Welt und nimmt den uns alles verhüllenden Schleier weg und gewährt den Blick auf die Wahrheit. Außerhalb der Armut und ihrer Demut und grenzenlosen Liebe zu Gott gibt es keinen anderen, wie auch immer gestalteten Weg der wesentlichen Praxis. Auf der einen Seite gibt es die Möglichkeit der inbrünstigen Nichtung des eigenen Ichs, auf der anderen Seite, so Franziskus, gibt uns die Besitzlosigkeit ein Geschenk voll leuchtender Herrlichkeit und wunderbarer Bedeutung. Die Armut ist ohne jede Schmerzlichkeit, sie gewährt uns die höchste Freude. Durch die Armut und Besitzlosigkeit wird uns die Existenz aller Menschen und der gesamten Natur, schließlich der ganzen Welt und in ihr der eigenen Existenz als das Geschenk der grenzenlosen Liebe Gottes zuteil. Nicht etwa nur besonderen Menschen, sondern allen Menschen, welche ein Leben in Armut führen, werden alle Dinge zuteil.

Die folgenden Worte von Franziskus lehren uns verschiedene Einsichten und geben gleichzeitig etwas von seinem Gefühl zu erkennen:

Et postquam Dominus dedit mihi de fratribus, nemo ostendebat mihi, quid deberem facere, sed ipse Altissimus revelavit mihi, quod deberem vivere secundum formam sancti Evangelii. Et ego paucis verbis et simpliciter feci scribi et dominus papa confirmavit mihi. Et illi qui veniebant ad recipiendam vitam, omnia quae habere poterant, dabant pauperibus: et erant contenti tunica una, intus et foris repeciata, cum cingulo et braccis. Et nolebamus plus habere. Officium dicebamus clerici secundum alios clericos, laici dicebant: Pater noster; et satis libenter manebamus in ecclesiis. Et eramus idiotae et subditi omnibus. Et ego manibus meis laborabam, et volo laborare; et omnis alii fratres firmiter volo, quod laborent de laboritio, quod pertinent ad honestem. Qui nesciunt, discant, non propter cupiditatem recipiendi pretium laboris, sed propter exemplum et ad repellendam otiositatem. Et quando non daretur nobis pretium laboris, recurramus ad mensam Domini, petendo eleemosynam ostiatim. Salutationem mihi Dominus revelavit, ut diceremus: Dominus det tibi pacem.<sup>5</sup>

Dieses Wort fährt fort, "denn wir sollen darin stets nur Herberge wie Fremdlinge und Pilger haben" (*sicut advenae et peregrini*).

Das bedeutet nichts anderes, als daß wir im täglichen Leben des Beispiels die tägliche und endlose Erfahrung immer wieder von neuem erleben und uns als Reisende auf einer endlosen Reise befinden. Es ist dies das Folgen des Experimentes und das Stehen im täglichen Prozeß des Experimentes.

Es kann nur die Erfahrung oder den reinigenden Prozeß der Praxis geben. Die Reinigung durch die Armut ist die Selbst-Verneinung und

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<sup>5</sup> Testamentum (*Opuscula*, pp. 310-11).

bedeutet die Befreiung von weltlichen Dingen und damit unsere Selbstwerdung. Wenn hierin die Selbst-Verneinung den höchsten Grad erreicht, das Selbst sich tief in sich selbst versenkt und alles Gott überläßt und sich auf Gott konzentriert, verdichtet sich alles in einem selbst und gelangt zur Verinnerlichung.

Die Selbstverleugnung ist ein Weg, die Liebe Gottes wahrzunehmen, die Verleugnung ist in anderen Worten der Beweis der eigenen Existenz, alles wegzuwerfen bedeutet schließlich, allen Reichtum zu erlangen, die Verneinung ist gleichzeitig die Bejahung. Die Armut ist ein Gefäß, in welches wir alle Dinge hineingießen, und die Reinigung der Erfahrung ist der Versuch, dieses Gefäß zur vergrößern. Ohne zu schreiben und ohne zu sprechen inbrünstig das Beispiel Christi nachzuahmen.

In der Erfahrung und, daraus folgend, gerade auch im Experiment, das ist der Weg, den uns Franziskus konkret und direkt gezeigt hat.

Die Minoritenbrüder, welche sich unter Franziskus zusammen gefunden hatten, gleichen Gemütes mit ihm waren und sein Herz verstanden, lehnten alle Macht, welche aus weltlichem Besitz hervorging ab, und weil sie eine Gemeinschaft wurden, die sich von allen weltlichen Dingen befreit hatte, läßt sich sagen, daß die Franziskaner den Charakter einer natürlich gewachsenen und verbreiteten Kongregation aufwiesen. Ein weiterer Grund für ihre Verbreitung über alle Städte und Dörfer hinweg als Kongregation von Menschen ungeachtet aller gesellschaftlichen Unterschiede wie Beruf, sozialer Rang und Stellung ist hierin zu sehen.

Sowohl in den Städten als auch in den Dörfern, ohne Ansehen gesellschaftlicher Unterschiede des Berufes, des Standes und des Ranges waren sie überall verbreitet, und deshalb ist es nur natürlich, daß sich die Lehre des Franziskus der ganzen Welt mitteilte, die Menschen fühlten mit ihr, stimmten ihr einhellig bei, drückten ihre Zustimmung aus und fühlten tiefe Verehrung in ihren Herzen.

Jedoch wendeten sich die Franziskaner nach dem Tode des Franziskus von dem, was er ursprünglich gewollt hatte, ab und änderten ihren Charakter, indem sie sich, wie auch die Dominikaner, dem Studium der Wissenschaften zuwandten. So ergab es sich zwangsläufig, daß sie die Wissenschaften und die Prinzipien der Vernunft erforschten und dafür Abstraktion und festgelegte Begriffe forderten und sich eine allgemeine und objektive Theorie erwarben. Diese griechische Tradition, welche ungemein zur Entwicklung der Wissenschaften beigetragen hatte, hatte Franziskus gänzlich ausgeschlossen. Was für ihn bedeutend war, war allein



die unmittelbare, einfache und aufrichtige Erfahrung fern aller wissenschaftlicher Tradition, im Gegenteil, er wollte sich von der Entwicklung der Wissenschaften fern halten. In dem Maße, in dem die Erfahrung gereinigt und vereinfacht wird, entdeckt man in ihr die Wahrheit des göttlichen Mysteriums, und hierin läßt sich die eigentliche mystische Tendenz im Denken der Franziskaner finden.

Folgen wir z.B. Bonaventura, so lassen sich die einzelnen Stufen der Reise der Seele zu Gott bei sorgfältiger Forschung genau und logisch erforschen. Die Frage nun, ob, wie etwa bei Bonaventura, sich die einzelnen Stufen der Reise der Seele zu Gott sorgfältig und genau und logisch erforschen lassen, oder ob man die Erkenntnis, welche man nicht in der Theorie erlangt, der mystischen Intuition überlassen sollte, diese Frage erhob sich gleichzeitig mit der Tradition der Wissenschaft und war möglicherweise zum erstenmal Gegenstand dieser Diskussion.

Für Franziskus selbst war eine solche Diskussion völlig unnötig, mehr noch, es gab gar keinen Raum für sie. Gerade im Leben des Beispiels Christi war der eigene Körper, das Selbst die Absicht gewesen, und weil die Erfahrung dafür völlig ausreichte, gab es darüber hinaus nichts, was noch nötig gewesen wäre.

Bei Franziskus z.B. war die Erfahrung ein vertieftes, verinnerlichtes Erleben und jeder konnte in Armut und Bescheidenheit und Keuschheit diese Intuition begreifen, für die weder eine entwickelte Wissenschaft, noch Gelehrsamkeit nötig war. Natürlich war das Begehen dieses Weges eine ureigene Gnade, und von Gott gesegnet, er sollte das Mysterium sein. Da aber die Erfahrung von einfacher, klarer Natur sein sollte, war das Mysterium des Franziskus gänzlich ohne jede hergebrachte Tradition, es war neu und frisch, mehr noch, es war klarer Mystizismus.

Die Versenkung in ein Leben der Armut, gerade die Abwendung von den irdischen Dingen war das Mysterium, es war eine Mystik, die jeder durch seine eigene Erfahrung verwirklichen konnte. In der Armut Christi nachfolgen, in der Erfahrung das Beispiel Christi leben, dergestalt durch diese Erfahrung das Mensch-Sein im menschengewordenen Christus erblickend, mußte man in das Reich der strahlenden Gnade gelangen. Nicht durch die zu Worten greifende Predigt, nicht durch die durch Gelehrsamkeit überzeugen wollende Theorie, sondern durch die direkte, konkrete Erfahrung empfängt man die klare und deutliche Liebe Gottes. Die Absicht des Franziskus jedoch wurde durch die damaligen gesellschaftlichen Verhältnisse, durch die Tradition der Wissenschaften und



durch Probleme innerhalb der Kongregation und vieles andere mehr verändert. Natürlich war diese Veränderung ein unausweichliches Ergebnis. Die Tradition des Franziskus jedoch ist nichts anderes als die Erfahrung. Sie ist die Grundlage seiner Lehre.

Wie allgemein bekannt, war im 13. Jahrhundert der Einfluß von Aristoteles bestimmend, vor allem war es seine Metaphysik, welche die Gedankenwelt des Mittelalters nachhaltig beeinflusste. An den verschiedenen Universitäten des Kontinents, besonders aber an der Universität in Paris hielt man ihn für einen wichtigen Metaphysiker und Logiker und man nahm seine Methode der Begriffsanwendung positiv auf.

Schon damals löste man sich an der Universität Oxford von den hergebrachten Autoritäten und der Geist der positiven Feststellung der Begriffe und der auf eigener Interpretation beruhender Urteile und Meinungen stand in Blüte, ebenso der Geist der Kritik, der auch in das Studium der Heiligen Schrift hinein wirkte und als Bibelkritik bedeutsam wurde.

Beim Studium der wahrnehmbaren Welt bediente man sich der Naturwissenschaft und der Theologie und der Philosophisch-Naturwissenschaftlichen Fakultät und verglichen mit der Universität Paris hatte in Oxford das Studium der Natur große Fortschritte gemacht. Auf der anderen Seite jedoch hatte sich die Lehre des Franziskus in England, verglichen mit dem Kontinent, besonders schnell verbreitet. Die ersten in England gelandeten Minoriten-Brüder hatten in Armut und Genügsamkeit und in reiner Naivität die Lehre des Franziskus verwirklicht und ich nehme an, daß wahrscheinlich der Kontakt von Robert Grosseteste mit den Minderen Brüdern und der Eintritt Alexander von Hales' in die Bruderschaft eine entscheidende Veränderung bewirkt haben.

Hätte die einsetzende Ämterverteilung im Dienste der Lehre Gottes gestanden, hätte man die Gelehrsamkeit nicht negieren können, würde aber dem Geist der Armut die Gelehrsamkeit hinzugefügt, würde die Wirkung eine ungeheure sein, und auf jeden Fall war das Studium der Wissenschaften ein Grund für die Veränderung des Charakters der Bruderschaft.

Diese Art zu denken entstand auch bei den Minderen Brüdern auf dem Kontinent. Aber es gab auch Punkte, in denen sich das Denken von dem der Brüder in England unterschied, z.B. den, daß auf dem Kontinent unverändert die Betrachtungen und Kommentare der Aristotelischen Naturwissenschaftler den wichtigsten Hauptstrom darstellten, wohingegen

in England die Beobachtung und das wissenschaftliche Experiment das positive Studium bestimmten.

Besonders Robert Grosseteste, älter als Franziskus und an einem von ihm weit entfernten Orte lebend, dazu von starrsinnigem Naturell, dürfte Franziskus persönlich nicht gekannt haben. Und doch lernte er die Gesinnung des Franziskus verehren und ihr in einem besonderen Gefühl zugetan sein, nachdem er mit dem nach England gelangten Franziskanern in Berührung gekommen war. Grosseteste hatte die Lehren des Aristoteles gut gekannt und von ihnen guten Gebrauch gemacht, nicht ohne jedesmal alles von ihnen zu fordern, und er hatte so auf der Grundlage eigener Erfahrungen zu den Studien der Natur beigetragen.

Roger Bacon war geistiger Nachfolger dieses Grosseteste und Adam von Marsh. Zur Zeit Bacons nahm die Abhängigkeit von den althergebrachten Autoritäten ab und wurde schwächer und man befragte jetzt direkt die Heilige Schrift und studierte das Griechentum. Zitieren wir z.B. den Empirismus des Claude Bernard zum Punkte der Begriffsbestimmung wie folgt:

L'Empirisme n'est rien autre chose qu'une sort d'expérience inconsciente et comme instinctive acquise par l'habitude et la pratique même des choses.<sup>6</sup>

Wie verwandt ist diese Definition der von Bacon, auf der Grundlage der Mathematik die unbekannte Tatsache durch das Experiment zu beweisen. Die Tatsache, daß er nämlich ohne vorgegebene Beweise und Kommentare verfuhr, zeigt seine Originalität, und wenn Grosseteste der Ursprung der *Scientia Experimentalis* ist, dann muß Bacon als ihr Vollender gelten. Diese Dinge verdanken ihren Ursprung keineswegs nur einem Zufall, sondern hier wirkte erfolgreich die Weiterentwicklung traditioneller charakteristischer Merkmale der Oxforder Franziskaner nach. Sie beruhen nämlich nicht auf spekulativen Anmerkungen und Kommentaren, sondern sind ein Weg der Erkenntnis, die sich auf experimentelle Weise und in selbstbewußter Untersuchung herausbildete.

Die Originalität der Denker, welche von den Franziskanischen Brüdern herkamen, unter ihnen auch Duns Scotus und Wilhelm von Ockham und andere, und ihre auf einem freien Geist und geistiger Erleuchtung beruhenden Erfolge können nicht geleugnet werden. Diese, Männer eines reichen und kritischen Geistes, gaben dem Denken eine neue Richtung, indem sie die Erfahrung zum Kernpunkt ihres Forschens

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<sup>6</sup> Cl. Bernard, *Principe de Médecine expérimentale*, 44.

machten. Hier entstand im Abwerfen der abstrakten und spekulativen Erkenntnis und der philosophischen Beweisführung durch die Annahme einer direkten und eindeutigen Methode der Erkenntnis, welche auf der Erfahrung beruhte, als dem einzig richtigen Verfahren ein neues Denken.

Dies wurde zum Ursprung eines Empirismus, welcher als Morgenröte eines neuzeitlichen Geistes als sein Ursprung auf die Entstehung einer neuzeitlichen Wissenschaft drängte und die Morgendämmerung einer großen Geistesströmung des 20. Jahrhunderts verkündete. Natürlich bedarf es eingehender Diskussionen, ob es zwischen dem Leben des Beispiels Christi bei Franziskus und seinem Leben in Armut und dem Empirismus, welcher ja in Wirklichkeit in England entstand, eine direkte Beziehung gibt oder nicht. Auch wir können darüber kein endgültiges Urteil fällen. Dennoch, die Menschen innerhalb der englischen Bruderschaft des Franziskus trugen in ihren Herzen eine tiefe Verehrung für Franziskus, und im einführendem Verständnis seines Gemütes setzten sie sein Leben in Armut in eine positive Praxis um, und daß sie von da aus ihr eigenes neues Selbstbewußtsein und ihre eigene Originalität entdeckten, daran kann es keinen Zweifel geben. Natürlich kann man nicht sagen, daß der Ursprung des Empirismus allein auf der Person des Franziskus beruht.

Aber es ist leicht vorstellbar, daß hier in hohem Maße wesentliche Elemente des Franziskus wirkten und sein Wesen die Erfahrung zum Empirismus gestaltete und es läßt sich durchaus folgern, daß die Erfahrung, zum Gemüt geworden, von neuem, gleich einer Revolution, den Rahmen der Scholastik sprengte und so zur Antriebskraft einer neuen Entwicklung des Denkens wurde.

## LAMBROS COULOUBARITSIS

### **Théorie de la connaissance et scientificité de la physique dans la *Somme Théologique*, la Pars, Q. 84 de S. Thomas d'Aquin**

Au cours de la mise en question qu'il entreprend de toutes les formes d'idéalisme de son époque, dans la Q. 84 de la *Pars* de la *Somme Théologique*, S. Thomas soulève le problème de la possibilité pour l'âme de connaître les corps d'une façon intellectuelle. Or, d'entrée de jeu, il considère que la science se trouve dans l'intelligence et que celle-ci doit connaître les corps, sans quoi c'est la science physique qui deviendrait impossible. Cela montre l'importance qu'il accorde au rapport entre scientificité de la physique et théorie de la connaissance.

Je souhaite, ici, relever ce lien entre théorie de la connaissance et scientificité de la physique dans le texte en question, en tenant compte de son *Commentaire* de la *Physique* d'Aristote, où cependant S. Thomas occulte le sens réel de la démarche d'Aristote qui accentue le caractère instaurateur de sa physique au détriment d'un lien immédiat et exclusif entre scientificité et théorie de la connaissance<sup>1</sup>. Par là je mettrai en évidence l'originalité de l'analyse de S. Thomas dans la *Somme Théologique*. Il apparaîtra ainsi que ce texte constitue un des témoins d'un déplacement de centre de gravité de la métaphysique traditionnelle, qui prépare le critique moderne de la connaissance.

Dès les premières lignes de son *Commentaire* du *Traité de Physique* d'Aristote, S. Thomas affirme que dans la mesure où toute science est dans l'intellect, il faut comprendre quelque chose comme étant rendu intelligible en acte en tant qu'il est, en un certain sens, abstrait de la matière. De sorte que s'il existe différentes sciences, c'est parce que les choses se rapportent différemment à la matière. A cette première prémisse fondamentale de sa pensée, il en ajoute une autre, tout aussi importante:

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<sup>1</sup> S. Thomas d'Aquin, *Opera Omnia*, éd. Leonine, II, Rome, 1884, I, lectio 1. Sur le statut de ce texte, voir A. Mansion, "Sur le texte de la version latine de la *Métaphysique* et de la *Physique* d'Aristote dans les éditions des Commentaires de S. Thomas d'Aquin", *Revue Néoscholastique de Philosophie*, 34, 1934, pp. 65-69, ainsi que l'Introduction de V.J. Bourke à la traduction anglaise du *Commentaire à la Physique d'Aristote*, par R.J. Blackwell, R.J. Spath et W. Edmund Thirlkel, Routledge-Kegan Paul, Londres, 1963, pp. XV-XXXII.

dans la mesure où, dit-il, chaque science est établie par démonstration, et dans la mesure aussi où la définition est le moyen terme dans une démonstration, il est nécessaire que les sciences soient distinguées selon divers modes de définition<sup>2</sup>. De ces deux prémisses, seule la première intéresse le présent travail. Comme telle cependant, elle ne semble pas, du moins à première vue, de grande utilité pour son *Commentaire de la Physique*, qu'elle soit ou non sous-jacente à tout ce que S. Thomas dit de l'abstraction et du statut de l'objet de la physique. Son importance apparaît surtout dans la Q. 84 en question. Quoique cette prémisse puisse trouver un appui dans le *Traité de l'Âme* d'Aristote, celui-ci ne la porte jamais sur le plan d'une systématisation, sa thématisation se limitant surtout dans l'ordre de la connaissance des intelligibles. Seules, d'une part, l'illustration qu'il donne du statut de l'âme selon l'entéléchie première et l'entéléchie seconde à partir d'une science comme possédée et d'une science en acte et, d'autre part, la clarification qu'il ajoute de cette possession et de son actualisation, c'est-à-dire le *théôrein* qu'elle rend possible, permettent d'entamer cette thématisation vers le domaine d'une possible intégration de la science dans l'intellect. Cela suppose que cette science en acte soit également identique à la chose dont elle est science (III, 7, 431a1-2). Mais alors qu'Aristote admet que l'intellect est un *eidos eidôn*, et même que le sens est un *eidos aisthêtôn* (III, 9, 432a1-3), jamais il ne dit que l'intellect est une *épistèmè épistêtôn*. Pourtant une telle assertion ne serait pas incompatible à l'idée qu'il se fait des rapports entre intellect et science, notamment quand il les identifie. Mais une étude plus approfondie de son oeuvre devrait montrer, me semble-t-il, que s'il évite pareille assertion, c'est que la science suppose, dans son instauration, les sens, la mémoire et l'imagination, tandis que l'intellect constitue, dès le départ, une faculté de l'homme, qui se manifeste au fil de l'évolution de l'embryon et s'actualise par l'action des intelligibles<sup>3</sup>. C'est pour dire que la thèse d'une identification entre intellect et science est plus complexe qu'elle n'apparaît à première vue. L'absence au demeurant d'une thématisation plus décisive de cette perspective chez Aristote nous oblige d'être prudent. Chez S. Thomas, les choses ne sont pas beaucoup plus simples, dans la mesure où celui-ci n'affirme jamais la co-extensivité de l'intellect et de la science, mais soutient seulement

<sup>2</sup> Id. *ibid.*, I, 1.

<sup>3</sup> Sur cette question, je me permets de renvoyer le lecteur à mon étude "Le problème du *Noûs thurathen*", dans *Mélanges E.P. Papanoutsos*, Athènes, 1980, 159-197.



l'appartenance de la science à l'intellect. Toutefois, comme il prolonge sensiblement Aristote sur ce point et envisage cette identification comme une prémisse de son étude de la science, cette proposition prend une autre dimension et devient centrale dans sa pensée. En d'autres termes, tandis que chez Aristote cette question est présente dans ces textes mais en restant toujours en retrait, chez S. Thomas, en revanche, elle acquiert une nouvelle consistance. C'est ce glissement décisif, qui atteste, nous le verrons, l'originalité de celui-ci et une ouverture vers la pensée moderne.

Quant à la seconde prémisse, celle qui affirme que chaque science est établie par démonstration et qui situe la définition sur le plan du moyen terme d'une démonstration, elle me paraît beaucoup plus problématique, car elle se réfère, comme d'ailleurs la suite de l'exposé de S. Thomas en témoigne, à la théorie de la science des *Seconds Analytiques* d'Aristote, qui n'est pourtant jamais prise en considération par celui-ci dans ses oeuvres scientifiques. A l'instar de la plupart des commentateurs anciens, S. Thomas s'efforce de comprendre le lien entre ce type de science et l'exposé scientifique du Stagirite, sans jamais se poser la question de savoir s'il n'y a pas entre ces deux démarches une incompatibilité de fait ou même de droit. Depuis longtemps déjà, les interprètes modernes d'Aristote ont montré la difficulté de concilier la théorie de la science selon Aristote et sa pratique des textes, et n'ont cessé d'insister sur cette incompatibilité de fait; mais, à leur tour, ils s'interrogent peu sur son statut réel, qui est, comme je crois l'avoir montré dans quelques-unes de mes études, une incompatibilité non seulement de fait mais de droit<sup>4</sup>. J'ai montré que cette pratique d'Aristote est plus originaire encore que l'application d'une démonstration - celle-ci constituant seulement une reconstitution rétrospective d'un savoir déjà acquis - dans la mesure où elle concerne l'instauration même des principes. Plus concrètement, cette instauration des principes n'est pas de l'ordre de la démonstration mais de l'argumentation; elle se déploie principalement selon un mode aporétique, où Aristote associe une dialectique réfutative et des méthodes plus productives, parmi lesquelles

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<sup>4</sup> Voir, en plus de mon livre, *L'avènement de la science physique. Essai sur la Physique d'Aristote*, Ousia, Bruxelles, 1980, mes articles "Dialectique et Philosophie chez Aristote", *Philosophia* (Annales du Centre de Recherches sur la Philosophie grecque de l'Académie d'Athènes), 8-9, 1978-79, 229-256; "*Sophia* et *Philosophia* chez Aristote", *Annales de l'Institut de Philosophie de l'Université Libre de Bruxelles*, 1979, 7-38; "Y-a-t-il une intuition des principes chez Aristote?", *Revue internationale de Philosophie*, 133-134, 1980, 440-471; "Rhétorique, dialectique et critique chez Aristote", *De la métaphysique à la rhétorique*, éd. M. Meyer, Bruxelles, 1986, 103-118.

figurent l'induction, la division et l'argumentation philosophique<sup>5</sup>. Ce point étant systématiquement éludé par l'interprétation traditionnelle bien avant notre époque, on comprend que la démarche de S. Thomas perde de vue quelque chose d'essentiel de la *Physique* d'Aristote et de la conception de la science de celui-ci. Dans le cas particulier qui nous préoccupe ici, il ne discerne pas suffisamment que le livre I de la *Physique* ne se contente pas seulement de mettre en relief des principes, mais les institue comme condition de la *scientificité* d'une étude du devenir, à partir d'une analyse logico-ontologique et d'une démarche philosophique (c'est-à-dire d'une méthode des principes). Mais paradoxalement, en se permettant cette occultation, S. Thomas met en place, à partir de ses propres prémisses, une démarche qui comprend autrement la scientificité de la physique, c'est-à-dire une démarche axée, d'une part, sur la question de la définition et de la démonstration et, d'autre part, sur la question de l'intellection. Autrement dit, l'occultation du texte d'Aristote lui sert à inscrire, dans l'histoire de la pensée scientifique, sa propre originalité. C'est bien cette seconde justification relative à l'intellection qu'éclaire le texte de la *Somme théologique* auquel je me réfère<sup>6</sup>.

Comme on le sait, les Q. 84 à 86 de ce texte s'interrogent au sujet de la connaissance par l'âme des réalités corporelles lorsqu'elle est unie au corps. Cette étude se déploie selon trois étapes: la première traite du moyen par lequel se réalise cette connaissance (Q. 84), la seconde se demande comment et selon quel ordre elle s'accomplit (Q. 85) et la troisième étudie ce que l'âme connaît de ces réalités (Q. 86). Dans ce contexte donc, la Q. 84 introduit l'analyse en question en cernant le

<sup>5</sup> Voir la note précédente. Je dois cependant préciser un point qui n'est pas toujours suffisamment mis en évidence dans mes études précédentes: l'importance de la méthode de "division" chez Aristote. Le rôle de cette méthode a été systématiquement négligé par ses interprètes. Pourtant, tout porte à croire qu'elle est centrale, en particulier pour l'instauration des principes, et ceci selon divers procédés, dont le plus originaire est la recherche des différents sens d'un terme (second instrument de la dialectique), et le mieux articulé se trouve expressément établi au début de la *Physique* (I, 1, 184a16-26) (cf. mon livre cité à la note précédente, 76 ss.). J'ai insisté sur l'importance de cette méthode dans plusieurs études récentes, comme par exemple, "L'Être et l'Un chez Aristote", *Revue de Philosophie ancienne*, 1, 1983, 49-98 et 143-195; "La philosophie grecque", dans *Doctrines et Concepts. Cinquante ans de Philosophie de langue française, 1937-1987*, éd. A. Robinet, Vrin, Paris, 1988, 89-108, 103 et 108.

<sup>6</sup> C'est là un point sur lequel j'ai insisté dans le livre que j'ai consacré à la *Physique*, pour ne pas devoir y revenir plus longuement ici (voir note 3 ci-dessus). Je rappelle seulement que la scientificité de la physique est établie par Aristote dès le premier livre de sa *Physique*, à partir de deux thèses préliminaires, la plurivocité de l'être et le fait que l'*ousia* est sujet ultime de toute prédication, et se trouve définitivement fondée au deuxième livre, par sa théorie des quatre causes.

moyen de cette connaissance. Or, la première question qui est posée est précisément celle qui concerne l'intellection, c'est-à-dire, dès l'article 1, S. Thomas se demande si l'âme a une connaissance intellectuelle du corps, et il souligne que si l'intelligence ne connaît pas les corps, il ne saurait exister une science des corps, puisque la science se trouve dans l'intellect. Dans ce cas, dit S. Thomas, c'est la science de la nature (*scientia naturalis*) ayant pour objet le corps mobile qui disparaît. En d'autres termes, l'enjeu est d'une importance considérable, puisque, en admettant la prémisse selon laquelle la science est dans l'intellect ou, si l'on préfère, dans l'intelligence, il ne peut exister de science de la nature que si l'âme peut avoir une connaissance intellectuelle des corps.

Avant de venir aux arguments qui étayaient cette affirmation, il me semble utile de remarquer que S. Thomas agit comme s'il considérait que la science physique était un fait qu'on ne peut pas mettre en question. C'est bien là la conséquence, d'une part, d'une réhabilitation de la notion de nature au 12<sup>e</sup> siècle et, d'autre part, de la découverte parallèle des textes scientifiques d'Aristote. Cependant, si l'on revient au texte même d'Aristote, on constate que celui-ci ne considère pas la science physique comme un fait mais s'applique à l'instaurer<sup>7</sup>. Cette différence n'est pas une différence d'accent mais de fond, et elle explique en partie le glissement de l'analyse de S. Thomas. Seulement, et cela me conduit à une seconde remarque, pour S. Thomas, l'existence d'une telle science est en partie incompatible avec l'idéalisme, du moins avec l'idéalisme radical qui domine à son époque. Car, bien entendu, il ne pouvait soupçonner, qu'un autre type d'idéalisme, comme celui que proposera plus tard Kant, cachait d'autres armes en faveur de la scientificité de la physique, que Kant considère aussi, à l'instar de S. Thomas, comme un fait, mais cette fois-ci selon les données d'une nouvelle physique, celle de Newton. Cela suffit à faire voir que l'analyse de S. Thomas se limite aux données d'une physique ancienne, préoccupée surtout à établir des conditions immuables de ce qui est mobile, sans lesquelles une science poserait des difficultés. Ces éclaircissements me permettent maintenant d'aborder plus directement son analyse.

En fait, deux analyses différentes mais complémentaires s'enchevêtrent dans son exposé: l'une concerne l'intelligibilité même des choses corporelles, tandis que l'autre se rapporte surtout à leur

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<sup>7</sup> Je me réfère ici à la traduction de J. Wébert, parue aux éditions du Cerf, Paris, 1963 (1930), que je me permets parfois de corriger.

scientificité. La première analyse est illustrée par les deux premières objections retenues contre la thèse d'une connaissance intellectuelle du corps, et la seconde par la troisième objection. Ce qui rend possible un lien entre ces deux analyses, c'est précisément la prémisse selon laquelle la science est dans l'intellect.

La première objection se réfère à S. Augustin (*Soliloq.* 2.4) et insiste sur l'impossibilité d'une connaissance des corps au moyen de l'intellect, parce qu'ils sont l'objet des sens. Cependant S. Thomas justifie S. Augustin en expliquant qu'il rejette une saisie matérielle des corps mais nullement une connaissance par des "espèces" (*species*) immatérielles et intelligibles qui par nature peuvent appartenir à l'âme. La seconde objection concerne le rapport, d'une part, entre sens et sensible et, d'autre part, entre intellect et intelligible, pour indiquer qu'aucune connaissance des réalités spirituelles n'est possible par les sens. La solution proposée par S. Thomas est d'origine néoplatonicienne, puisqu'elle suppose qu'une puissance supérieure peut exercer l'acte d'une puissance inférieure sous un mode plus élevé, sans quoi on admettrait que Dieu et les anges ne connaissent pas les êtres corporels. Ces deux premières objections et les réponses que S. Thomas donne insistent bien sur la capacité de la connaissance intellectuelle, qui n'atteint du corps que l'*espèce* immatérielle et intelligible. De sorte qu'on pourrait dire que cette première analyse constitue une sorte de préambule à sa problématique de la connaissance intentionnelle qui suit.

Quant à la seconde analyse, elle franchit un pas supplémentaire, dans la mesure où elle pénètre au domaine particulier de la scientificité, à savoir le nécessaire. L'objection qui surgit en l'occurrence contre une connaissance intellectuelle des corps se fonde sur le fait que l'intellect concerne des choses qui sont nécessaires et qui sont toujours de la même manière, tandis que les corps sont, au contraire, mobiles et existent sous des modes différents. On comprend que si cette objection peut concerner la scientificité de la science des corps en devenir, c'est bien parce qu'elle suppose comme prémisse que la science est dans l'intellect, ce qui entraîne en même temps la nécessité commune de leurs objets. C'est pourquoi la réponse que S. Thomas donne à cette objection est capitale pour comprendre le statut qu'il accorde à la scientificité de la physique:

"Tout mouvement, dit-il, suppose quelque chose d'immobile: lorsqu'il y a changement qualitatif, la substance demeure immobile, et lorsqu'il y a changement de la forme substantielle, la matière demeure immobile. Même les choses qui se meuvent ont des dispositions immobiles: par exemple, bien que Socrate ne soit pas



toujours assis, il est cependant immuablement vrai que lorsqu'il est assis, il demeure en un lieu. Par suite, rien n'empêche d'avoir une science immuable des choses en mouvement".

En d'autres termes, en supposant à la fois le problème de l'intellection et celui de la nécessité, S. Thomas oriente sa réponse vers la condition, à ses yeux, *sine qua non* d'une science qui, depuis Platon, se comprend principalement par son immuabilité, du fait de l'immobilité de son objet. Bien plus, il relève cette immobilité selon trois perspectives: s'il y a un changement au niveau des accidents, c'est la substance qui demeure immobile; si le changement concerne la substance même, c'est le substrat qui demeure immobile; et si le changement concerne la chose individuelle dans un contexte, la disposition suppose l'immobilité du lieu. Si S. Thomas se permet cette analyse, qui renvoie à un arrière-fond métaphysique, de la métaphysique ancienne, c'est parce que l'argumentation qui précède ses différentes réponses ou solutions aux objections s'appuie sur une conception de la philosophie préaristotélicienne qui était préoccupée du devenir et des moyens de le connaître. Son interprétation de la position de Platon révèle qu'il considère l'apport de celui-ci par la recherche d'une sauvegarde de la certitude de la connaissance intellectuelle en établissant les idées immuables, mais cela au détriment d'une connaissance possible du mouvement et de la matière, où prennent également part les démonstrations au moyen des causes efficientes et matérielles. Dès lors, établir que l'intellect reçoit les "espèces" des corps matériels et mobiles, sous un mode immatériel et immobile, c'est-à-dire sous le mode de cela même qui reçoit (*in recipiente per modum recipientis*), constitue, pour S. Thomas, la condition nécessaire et préalable pour circonscrire la scientificité de la science de la nature. Sans doute cette condition n'est pas suffisante, puisqu'il s'autorise à ajouter, sans en montrer ici exactement le statut, deux modes supplémentaires: l'universalité et la nécessité. "Disons, conclut-il, que l'âme connaît les corps au moyen de l'intelligence, d'une connaissance immatérielle, universelle et nécessaire". Cette absence de preuve n'amointrit en rien la portée de son analyse qui atteste non seulement une recherche qui vise à la saisie de l'intelligibilité des corps sensibles, mais aussi au lien incontournable de cette recherche avec le fait qu'il existe une science des corps. C'est même, pourrait-on dire, parce qu'il y a possibilité d'une connaissance intellectuelle de l'intelligibilité propre aux corps sensibles et matériels qu'il y a également possibilité d'une connaissance scientifique de la nature; et, à l'inverse,



c'est là une médiation que la pensée d'Aristote suppose certes, mais sans jamais l'établir de cette façon.

En guise de conclusion, je peux dire que l'originalité de S. Thomas concernant la scientificité de la physique ne fait aucun doute. Bien plus, cette originalité qui se réalise grâce à une prolongation de la problématique aristotélicienne de la science, constitue un tournant décisif dans l'histoire de la pensée occidentale: d'abord, parce qu'elle s'écarte d'une approche symbolique des choses de la nature, issue de la tradition dionysienne<sup>8</sup>, et ensuite, parce qu'elle inaugure une démarche épistémologique qui atteindra son sommet chez Kant, dont la *Critique de la raison pure* lie expressément une théorie de la connaissance, où cependant l'intellection est écartée, à la question de la scientificité d'une science physique qui est considérée comme un fait. Dans cette histoire, la position de S. Thomas me semble constituer une position charnière, qui ouvre aux conceptions de la physique de la fin des 13<sup>e</sup> et 14<sup>e</sup> siècles, mais dont un des défauts tient dans sa référence à une physique qui s'avérera, quelques siècles plus tard, comme insuffisante.

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<sup>8</sup> Qu'on pourrait qualifier de "mentalité symbolique", pour reprendre ici une expression de M.-D. Chenu, *La théologie au douzième siècle*, Vrin, 1976, 159-209, 159.

ANDRÉ GODDU

**The Dialectic of Certitude and Demonstrability  
among Fourteenth-Century Ockhamists**

The paper begins with a few general remarks about probability, which are followed by a brief discussion of the difference between the late medieval and modern understanding of the word "evidence". Then, I turn to the subject proper; finally, I consider very briefly important, relevant developments after Ockham. The term "ockhamist" as used in the title of this paper has more the character of a family-resemblance term than a description of an attribute common to a number of individual instances.

The modern notion of probability, namely of quantification of inductive inference and expression in mathematical terms, may be construed in a general way as a discovery or invention of the 17th century [Sheynin, 137; Hacking, 1]. In spite of general agreement on that point, no definitive history of the emergence of probability has yet been written, but the evidence gathered so far suggests the following emphasis: The development that distinguishes later from earlier conceptions of probability is the emergence of an empirically or inductively grounded notion of empirical ratios, that is, statistically stable ratios. There was a *qualitative* idea of statistical probabilities, but not yet an *empirical* recognition of the stability of statistical ratios. In other words, a *notion* of frequency is not the same as a *calculation* of frequencies [Van Brakel, 122-27]. The transition to empirical study did not require the sort of conceptual revolution alleged by Ian Hacking [Garber and Zabell, 33]. On the other hand, the transition does seem to be part of a major conceptual development that involves the transition from deductivism to inductivism and to a conception of science that accommodates the accidental, so that what occurs by chance or randomly can be studied and known [Van Brakel, 134]. The modern sense of probability, then, should be distinguished from a more qualitative and intuitive sense of probability, which is associated historically with verisimilitude, with what is likely, and with what is approvable in the sense of being likely to work in a given case [Hacking, 18-30; Sheynin, 117-21, 139-41].

We may additionally infer that the modern notion of probability depends on a conception of evidence that was available prior to the 17th century, but certainly "evidence" was used differently in the 14th century. In order to make this point as clear as possible, I would suggest that Ockham's understanding of "evidence" corresponds more to the modern notion of intuition. In Ockham's terms, intuition is restricted to immediate apprehension, and in addition to such cognition Ockham included self-evident propositions as well as conclusions demonstrated from evidently known necessary propositions. Evidence in the *modern* sense, however, is understood to be in the service of *indirect* knowledge and usually *inductive* knowledge at that [Achinstein, 1-9; Hanson, 53-62]. The failure to be explicit about this difference has been the source of a great deal of confusion. The notion of evidence as evidence of something else suggests inductive support for a hypothesis. To attribute that notion without qualification to any philosopher of the 14th century constitutes an anachronistic fallacy. For Ockham, intuitive cognition does not "provide evidence," rather does it *cause* evident assent [Ord., Prol., q. 1; Adams, 390-92].

As is well known, Ockham required the object as partial cause of a natural intuitive cognition. In addition, an evident cognition requires the correspondence between an objective content and the act of judgment. "Evidence," then, means the correspondence or agreement between an objective content and an act of judgment [Quodl., V, 4]. While knowledge requires such correspondence, not all certain truths, for example theological truths, possess the warrant of evidence or direct apprehension. Such truths are believed because there is strictly speaking no *apprehended* correspondence, even though such correspondence is *believed* to be certainly true [Ord., Prol., q. 7].

Hence, according to Ockham's account, there are three kinds of evident knowledge and three sources of evident truth: self-evidence, conclusions demonstrated strictly from evidently known necessary propositions, and direct and immediate experience. As Ockham's views on the certainty of faith and Scripture reveal, however, there are truths that are certain but nonevident. Such truths possess the certainty of adherence. Accordingly, Ockham distinguished three sources of certitude: Scripture, rational discourse, and immediate experience. Ockham inadvertently introduced a confusion when he suggested that rational discourse is a source only of evident certainty. In fact, Ockham

maintained as well that some discursive arguments yield certain but nonevidently known conclusions. The source of this ambiguity is Ockham's initial identification of non-evident certainty with the certainty of adherence. In fact, the details of his own account suggest a third category in addition to evident certainty and the certainty of adherence. This result emerges from a brief consideration of Ockham's views on the characteristics of demonstrable propositions [*Ord.*, d. 30, qq. 1 and 3; *Sent.*, II, qq. 12-13; *Sent.*, III, q. 8; *Quodl.* IV, 6; *S L.*, 3, 1,1].

Although rational discourse is a source of evident certainty, Ockham maintained that propositions which must be demonstrated are initially dubitable. Ockham's restrictions on demonstration are well known, namely the obstacles with respect to the demonstrability of existence, essence, attributes, and cause. The end effect is that there are few cases to which strict demonstration applies [*Webering*, 85-172].

In addition, there are conclusions arrived at discursively by means of induction. Although inductive inferences follow from experience, the conclusions are not known evidently, because our knowledge of them depends on the consistency of the laws of nature, which are not first principles, self-evident, demonstrable, nor intuitively knowable. Nevertheless, Ockham held that inductively inferred propositions are true, necessary, and certain [*Ord.*, d. 2, q. 10; *Sent.* III, q. 1; *Exp. Elench.*, 18,6]. In Ockham's terms, then, such propositions are both certain and probable. They are true, although the certainty of their truth is not evident. Their probability refers to the fact that their necessity is neither logical nor metaphysical but only hypothetical. Evident experience serves as a foundation for demonstration from effect to cause. The generalization of such inferences inductively does not yield evidently true, necessary, and certain propositions, but probably true, necessary, and certain conclusions. It follows that our knowledge of nature falls broadly under the category of probable knowledge.

Ockham's views on demonstrability can be summarized briefly. The class of probable propositions is not coextensive with the class of dubitable propositions, for some dubitable propositions are demonstrable and some are false. The class of certain propositions is not coextensive with the class of self-evident, demonstrable, or intuitively known propositions, for some nonevident propositions are true, necessary, and certain. Probable propositions, then, are coextensive with the class of nonevidently true, hypothetically necessary, and certain propositions.

Because the expression "probable certainty" seems confused to us, it is perhaps better to render such certainty as "relative" or "nonevident" certainty, which in turn must be distinguished from yet a third class of probable but uncertain (or neutrally probable) propositions. Probably certain propositions are nonevidently certain because they are not reducible to clearly evident sources. Hence, they do not remove all doubt, nor do they end the process of questioning. Probable propositions, which seem to constitute a large part of natural philosophy, invite further and deeper inquiry.

Much has quite rightly been made of imaginative possibilities in 14th-century theology and natural philosophy, but just as important is the constructive skepticism which the ambiguity so well captured by "probable certitude" suggests [Miethke, 193]. By "constructive skepticism" is meant the following: 1) questions about the reliability of inferences from effect to cause, 2) doubts as to whether or not the genuine cause of an event had been correctly isolated and identified, 3) the shadow this doubt casts on the generalization of such causes by means of inductive inference, and 4) the insecurity at the center of this shadow about the formulation of natural laws from which the observed phenomena could be deduced. Such skepticism is constructive because the questions and doubts are challenges to provide support. In as few words as possible, a feeling of general certainty about natural knowledge was accompanied by ever greater critical distance about inferences from sense experience and the reliability of generalization. Imagination, critical distance, and constructive skepticism are presuppositions of an experimental philosophy which has not abandoned completely the ideal of demonstrative rigor. Ockham certainly did not abandon the Aristotelian ideal of demonstration, nor did he offer some clear substitute for it. Ockham's use of modal strategies and hypothetical arguments was in the end a merely formal concession to an implausibly rigid conception of science.

The dialectical context of 14th-century discussions makes the story somewhat more complicated than general summaries suggest, but the extremes of the dialectic have not been altered so much by subsequent research as to falsify the general pattern, namely that an explicitly skeptical position was countered by a positivistically reductive account which, in turn, provoked a more moderate position. The positivist or logical account belongs, of course, to Nicholas of Autrecourt whose response to explicitly held skepticism was to reduce certitude to evident



certitude. Nicholas eliminated nonevident certitude and with it any significance which might be attached to different degrees of probability. That is to say, a probable proposition may itself be only more probable than its opposite, not necessarily closer to the truth and in that sense more true [*Universal Treatise*, 106].

The standard response, such as Buridan's, was to fall back on the validity of experience and the method of incomplete induction [*Physics* I, q. 15]. Although not capable of generating absolutely evident conclusions, induction does possess evidence in a hypothetical sense and to that extent the certainty of inductive inference is not merely subjective. In Buridan's account, "evidence" is used to refer to both direct and indirect knowledge. Buridan included the conclusions of inductive arguments under evidently known propositions without ascribing to them the same degree of certainty that first principles have. Buridan avoided characterizing the conclusions of inductive inferences as probable, yet inductively known propositions always retain a hypothetical character. It follows that such propositions are at best highly probable. Oresme will not hesitate to call such propositions probable [*Maier*, 393-403]. Because of the probable character of inductive inference and because an explanatory function is attributed to inductive generalizations, Buridan's account of evidence can be considered as the first clear *approximation* to the notion of evidence in the modern sense.

At this point, however, we arrive at an impasse and sticking-point in 14th-century analyses. As we all know, hypothetical reasoning stimulated criticism of Aristotelian natural philosophy. In order to save the contingency of the laws of nature, it was generally sufficient to show either that the known phenomena could have been otherwise or that the observed phenomena can be shown to follow from alternative theories. The contexts of Buridan's discussions of evidence and certitude show that he was concerned to preserve the possibility of our knowledge of nature. Unlike many inconclusive accounts, Buridan's general acceptance of Aristotelian explanations is based firmly on what he took to be a conclusive argument. Indeed, Buridan usually left little doubt that he considered the relevant Aristotelian or his own alternative account to be certainly correct. This sort of conservatism is encountered repeatedly in the second half of the 14th century, not least of all in Pierre d'Ailly [*Funkenstein*, III; *Grant*, 105-24; *Maier*, 406-413].

The more astonishing views of Nicole Oresme seem exceptional. Although there is disagreement about whether he was skeptical of attaining scientific knowledge altogether or of attaining *empirical* scientific knowledge [Grant, 111-22; Molland, 206-20], Oresme's resolution of the problem of the diurnal rotation of the earth is entirely consistent with the concept of probability which I have sketched above. In that well-known text, Oresme says that the heavens move and not the earth, "the arguments to the contrary notwithstanding, because they are persuasions which do not conclude evidently" [Oresme, 536]. That is to say, the conclusion in behalf of diurnal rotation is probable, but inasmuch as the belief in the motion of the heavens is also not evident, it seems that Oresme regarded both as more or less equally probable. Neither possessed nonevident or probable certainty. Oresme's reinterpretation of Scripture should be taken as hypothetical, that is, as a possible way of understanding Scripture should the hypothesis of diurnal rotation turn out to be correct. No sooner does Oresme seem to concede greater probability to the hypothesis of diurnal rotation than he questions the reasonableness of such a hypothesis. Seen from the perspective of the standard accounts of certitude, 14th-century natural philosophers including Oresme fell back on the only remaining source of certitude they possessed, the authority of Scripture. This view can be termed "oekhamist" as a convenient expression, nothing more, in the family-resemblance sense I indicated earlier.

These remarks provide a significant context for Copernicus's arguments in Book I of *De Revolutionibus*. Copernicus structured his arguments very carefully, and while he did so in part for rhetorical reasons, Copernicus was aware that he was introducing a new kind of reasoning to support his controversial conclusions. Just before he introduced all of his hypotheses about the motions of the earth in I.9, Copernicus countered arguments on behalf of geocentricity and geostability in chapter 8 with arguments that are persuasive rather than demonstrative in character. The concluding sentence of I.8 reads:

You see, therefore, that from all of these arguments it is more probable that the earth moves than that it is at rest - especially in the case of daily rotations as belonging properly to the earth.

The beginning of I.9 indicates how we are to understand that conclusion:

Therefore, since nothing hinders the mobility of the earth, I think we should now see whether several motions belong to it, so that it can be regarded as one of the wandering stars.

By my emphasis on structure I meant the following: The argument begins with the diurnal rotation of the earth (hardly a new idea), which is advanced as being *more* probable (a new emphasis), followed by the first genuinely innovative move. The greater probability of diurnal rotation is used to justify consideration of additional motions, which in turn require the sun to be placed at rest at or near the center of the world. Only then comes the principal argument in I.10: *if* the hypotheses are true, then the observations of the bounded elongations of Mercury and Venus and the observations of the retrograde motions of all the planets follow *necessarily*. Copernicus summarized the argument in one sentence: "All of these phenomena proceed from the same cause, the motion of the earth."

What Copernicus gave us is the first case known to me where clearly retroductive reasoning was introduced into astronomy. Phenomena are observed which would be explicable as a matter of course if a probable hypothesis were true; hence, there is a reason to think that the hypothesis is true. Copernicus went even further: that the observations follow necessarily from the hypothesis is taken as a warrant for declaring the truth of the hypothesis. There is, however, one crucially important fact that I have ignored purposely. Although the motion of the earth is characterized as a cause of our observations, all of the demonstrations provided by Copernicus are mathematical, not physical. Precisely because of the necessity with which the conclusions follow from the assumptions, the mathematical demonstrations carried conviction and seemed to provide a causal explanation of the phenomena. Copernicus himself asserted that only mathematicians would be persuaded presumably because only they would be sufficiently impressed by the demonstrations and the harmony of the system to accept probable assumptions as evidently true.

The use of mathematical demonstrations as if they were physically causal demonstrations is repeated certainly by Galileo and, somewhat more surprising, does not disappear entirely from Newton's *Principia* [Galileo, 245-46; Newton, III, Prop. XIII, Th. XIII]. Newton's failure to discover the cause of gravitation meant that the demonstration was incomplete; nevertheless, the mathematical demonstrations of mechanics seemed to be demonstratively explanatory.

In retrospect we can see that Newton's disavowal of hypotheses is unpersuasive [*General Scholium*]. Hypotheses arrived at retroductively are probable if they are directly unknowable and yet causally explanatory in character. The directly unobservable entities postulated as causes are

theoretical precisely because they provide causal explanation by way of theory and because they remain to some degree unknowable, fallible, revisable, and continuously in need of experimental support [McMullin]. It was this sense of probability that the 14th-century discussions went some distance in developing philosophically, but which fell short of their goal to supplement Aristotelian demonstration, in part by their lack of experimental technique and adequate mathematical syntax and structure, but moreso by the genuine dilemmas posed by the Aristotelian ideal of scientific truth, as that ideal was so rigidly understood in the 14th century.

To sum up, the 14th-century problem of certitude provoked numerous strategies for approximating the Aristotelian ideal of demonstrative science. None of them was successful, yet out of these efforts emerged an increased respect for probable knowledge. Nevertheless, the notion of science that presupposes the probable character of hypotheses and the underdetermination of theory by evidence continued to be resisted and disguised well into the 19th century.

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- William of Ockham: *Exp. Elench.* = *Exposition super libros Elenchorum*; *Ord.* = *Ordinatio*; *Quodl.* = *Quodlibeta septem*; *Sent.* = *Commentary on the Sentences*; *S L.* = *Summa Logicae*.



ONORATO GRASSI

The Object of Scientific Knowledge in Some Authors of the  
Fourteenth Century

William of Ockham describes the *actus iudicativus* (i.e. the intellectual act peculiar to complex knowledge) as *tantum respectu complexi*, because both assent and dissent are inherent in propositions through which we recognize truth and falsehood.<sup>1</sup> In the writings of the *Venerabilis Inceptor* we find more than one similar statement: for instance when he distinguishes the subject of science from the object - the latter being the *conclusio demonstrationis* or the *tota propositio nota*; or when dealing with natural science he maintains *omnis scientia est respectu complexi vel complexorum*; or, again, when he asserts - referring to the truth of scientific knowledge - that *sola propositio scitur*.<sup>2</sup> It is therefore hardly surprising that most of his contemporaries, as well as some later authors, consider him one of the foremost supporters of the *complexum*-theory.<sup>3</sup> We will not deny that many of his statements might lead to such an interpretation, yet upon a more thorough examination of context, Ockham's statements could be considered as relative rather than as absolute, and as demonstrating the vast range of different levels his position embraced. Adam Wodcham had already realized the necessity of a deeper consideration of Ockham's thought. In the Prologue to *Lectura Secunda*, q. 6, he noted that "frater Vilelmus ... semper ponit extra propositiones ipsa intellecta, sive sint ficta sive res ipsae extra, et non

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<sup>1</sup> G.de Ockham, *Scriptum in Librum primum Sententiarum*, Prolog. q.1, a.1 (ed. G.Gál, St.Bonaventure N.Y., 1967, O.T. I, p.16,12-16).

<sup>2</sup> *Ibid.*, q.9 (O.T. I, p.266,17-22); *Id.*, *In Exp. super VII libros Physic.* Prolog. (ed. V.Richter-G.Leibold, St.Bonaventure N.Y., 1985, O.P. IV, p.9,88-91; p.11,15-22; p.12,41-45); *Id.*, *Scriptum I*, dist. 2, q. 4 (ed. S.Brown, St.Bonaventure, N.Y. 1970, O.T. II, p.135,18-140,13).

<sup>3</sup> See e.g. G.Chatton, *Sent. Prolog.*, q.1, a.1 (ed. M.E.Reina, *Rivista critica di Storia della Filosofia*, 25 (1970), pp.48-74 and 290-314; pp.52-53) and *Reportatio*, I, dist. 22, a.1 (ed. C.Knudsen, *Cahiers de l'Institut du Moyen-Age Grec et Latin*, 14 (1975), pp.1-26; p.15, no.4); Gregorii Ariminensis, *Lectura super Primum et Secundum Sententiarum*, Prolog. q.1, a.1 (ed. D.Trapp-V.Marcolino, Berlin-New York 1981, t.1, pp.2-3).

ipsae intentiones".<sup>4</sup> In the first book, d. 1, q. 1, he explained there are two different ways of interpreting the thesis according to which "*complexum* is the object of assent". According to the first we reach reality through the proposition because its terms stand for what is being known. Here the *res* is the immediate object of assent, even if only partial. According to the second interpretation, the terms of the proposition act as *intentiones* and the assent is bestowed solely on the *complexum*.<sup>5</sup> Now, says Wodeham, if we come to consider the direct formulation of Ockham's theory of assent - or, generally speaking, of complex knowledge - a proper interpretation would be the former one.<sup>6</sup> Wodeham reminds us that, according to Ockham, knowledge starts with a *simplex apprehensio* of *res*, an intuition leading to an evident judgment (*compositio evidens*); through it the intellect assents necessarily to that proposition whose meaning corresponds to the aforesaid judgment; only then, the *complexum* can be learnt and become, in its turn, an object of assent.<sup>7</sup> Such a "non-terministic" position, far from being alien to Ockham's philosophy, can easily be traced in those *Quodlibeta*, which were probably discussed between 1322 and 1324 and written up fully during the following years in Avignon.<sup>8</sup> In *Quodlibet* III, q. 8 and *Quodlibet* IV, q. 16 the *Venerabilis Inceptor* distinguishes two different kinds of assent and of *actus sciendi*, each kind corresponding to a different form of knowledge: through the first, intellect knows that something is - or is not - in a specific way; through the second, intellect knows that what is known is true.<sup>9</sup> Following this reasoning Ockham proceeds to say that an assent of the first kind requires only the *formatio complexi*, not its apprehension. In fact, the *res extra* are the proper object of this kind of assent, even if we never know things, but instead only what the proposition says. It is only through the formation

<sup>4</sup> Adam Wodeham, *Lectura Secunda, Prolog.*, q. 6 (Caius & Gondville College 281/674, f.124rb). See Ockham, *Summa Logicae*, Pars I, c.12 (ed. Ph.Boehner, G.Gál, S. Brown, St.Bonaventure, N.Y., 1974, O.P. I, p.42,19-22).

<sup>5</sup> Wodeham, *Lectura*, d.1, q.1, a.1 (ed. G.Gál, *Franc. Studies* 37 (1977), p.79,29).

<sup>6</sup> *Ibid.* (p.79,30).

<sup>7</sup> *Ibid.* (pp.81-82,34). See Ockham, *Scriptum I Prolog.* q.1, a.1 (O.T. I, p.16,6ff., and p.31,17ff.).

<sup>8</sup> See the Introduction to G.de Ockham, *Quodlibeta Septem* (ed. J.C.Wey, St.Bonaventure, N.Y., 1980, O.T. IX, pp.37\*-38\*).

<sup>9</sup> Ockham, *Quodl.* III, q. 8 (O.T. IX, 233,12-18). Cf. *Quodl.* IV, q. 16 (O.T. IX, 376,15-377,26) and *Quodl.* V, q. 6 (O.T. IX, 500,16-18).

of a proposition in our mind that we manage to know "sic esse in re", for instance, that "a stone is no donkey".<sup>10</sup>

On the contrary, the second kind of assent, having truth as its object, refers to the *complexum*, for truth is always inherent in propositions rather than in things.<sup>11</sup> What follows is that intellect assents to the *complexum* even *in se et absolute* and not only when this is the *subiectum* of a complex proposition, for it knows "sic importatur per istam propositionem sicut est in re".<sup>12</sup> At any rate, science and assent never concern things nor - ultimately - propositions; they refer to what is said through the proposition itself, i.e. to what is to be known. It is this *something* that may render a proposition sometimes true, sometimes false; a *something* defined in *Summa Logicae* as *ita esse a parte rei* denoted by the proposition.<sup>13</sup> Truth and falsehood are not *res distinctae realiter* from the proposition; quite the reverse, they coincide with, respectively, a true proposition and a false one (*veritas est propositio vera et falsitas est propositio falsa*).<sup>14</sup> Still, when a true proposition becomes a false one, this would not mean that it has changed, nor that it has acquired some new element in itself; it would simply mean that that proposition has ceased to denote things as they really are.<sup>15</sup> Of the three different kinds of propositions considered by Boethius,<sup>16</sup> Ockham maintains that the latter two (*in voce* and *in scripto*) always refer to the former (*in mente*). According to him, the truth of spoken and written sentences always depends on the corresponding mental one - that is to say, it depends on its meaning: "propositio est oratio verum vel falsum significans, ideo tunc propositio est vera quando ex eius prolatione natus est auditor concipere et formare propositionem mentalem veram".<sup>17</sup> Now, mental propositions are not made of things, but of concepts;<sup>18</sup> so the perfect identity between predicate and subject required by true

<sup>10</sup> Ockham, *Quodl.* III, q. 8 (O.T. IX, 233,20-234,25) and *Quodl.* IV, q. 16 (O.T. IX, 377,32-34).

<sup>11</sup> Id., *Quodl.* III, q. 8 (O.T. IX, 234,40-42) and *Quodl.* IV, q. 16 (O.T. IX, 377,37-43).

<sup>12</sup> Id., *Quodl.* IV, q. 16 (O.T. IX, 377,26-30).

<sup>13</sup> Id., *Quodl.* V, q. 6 (O.T. IX, 501,27-502,47).

<sup>14</sup> Id., *Summa Logicae*, pars I, cap. 43 (O.P. I, 129,202-130,210).

<sup>15</sup> Ibid. (O.P. I, 130,214-131,254). See *Quodl.* V, q. 24 (O.T. IX, 580,136-140).

<sup>16</sup> Boethius, *In lib. De Interpret.*, ed.2a, I, c. *De signis* (PL 64, 414D).

<sup>17</sup> Ockham, *Quodl.* III, q. 13 (O.T. IX, 251,10-13) and q. 12 (O.T. IX, 247,13-17).

<sup>18</sup> Ibid. (O.T. IX, 247,19-248,27); Id., *Scriptum I* Prol. q. 2 (O.T. I, 109,12-111,4).

propositions must be an identity between what each term presumes. The "supponere pro eodem" is a sufficient reason in itself to establish the truth of any assertive sentence, be it singular, particular, indefinite or universal.<sup>19</sup> We do not mean to discuss here the value of *suppositio* in Ockham's philosophy; we will confine ourselves to this observation: Ockham's consideration of terms in a proposition proceeds from what the proposition as a whole stands for. Indeed through a true assertive sentence, "denotatur quod res importata per subiectum sit res importata per praedicatum".<sup>20</sup> These are words that remind us very closely of the expression used by the Dominican William of Crathorn when he explained the content of a true proposition: "nichil enim aliud importari videtur per propositionem affirmativam veram nisi quod res importata per subiectum sit res importata per praedicatum".<sup>21</sup> It may be helpful to observe the *res* we are dealing with here is quite different from the *res significata per propositionem* that realists, such as Chatton, used to speak of. Along with the *complexum* - whose apprehension he disregarded as being useless even in complex knowledge - Chatton refused any entity (*fictum*) distinct from proposition and from reality; he assumed the *res extra* (i.e. real, individual entities distinct from proposition) to be the direct object of science and of assent and, by consequence, to be the meaning of *complexum*.<sup>22</sup> On the contrary in the above mentioned statements we find that the *res* cannot be reduced to the meaning of separate terms and that the *denotatum* cannot exist apart from the denotation, even though the former never coincides with the proposition it is the object and the meaning of.

In contrast the Dominican Robert Holkot maintained the terministic doctrine of identity between *denotatum* and *denotatio* against realism as well as against every theory implying that the object and the truth of complex knowledge have an existence of their own, apart from the proposition itself. As the assent relates to the *signum*, not to external

<sup>19</sup> Id., *Summa Logicae*, pars II, cc.2-7 (O.P. I, 251-272).

<sup>20</sup> Ockham, *Quodl.* III, q. 12 (O.T. IX, 250,89-90).

<sup>21</sup> G.Crathorn, *Quaestiones de universalibus* (ed. J.Kraus, Aschendorff, 1937, p.13,24-27). See Crathorn, *In Sent.* (Basel B V 77, quoted by H.Schepers, "Holkot contra dicta Crathorn, II", *Philosophisches Jahrbuch*, 79 (1972), pp.106-136, p.123, n.77).

<sup>22</sup> Chatton, *Sent. Prolog.* q.1, a.1 (ed. Reina, pp.54-55); Id., *Reportatio*, I, d.3, q.2 (ed. G.Gál, *Franciscan Studies*, 27 (1967), pp.191-212; pp.202-203; Id., *Sent. Prolog.*, q.1, a.1 (ed. Reina, pp.53-56).

things,<sup>23</sup> Holkot assumed the *complexum* to be the sole object of science, faith and opinion and he denied that the truth and the meaning of a proposition could possibly be separated from the proposition itself, as if they were absolute qualities inherent in it, or absolute terms: on the contrary, they coincide with the proposition. The proof can be found - Holkot says - in negative or possible sentences which do not denote a *res* presently and actually existing and yet can still undoubtedly be true: "veritas propositionis non est res significata per propositionem, quia tunc aliqua propositio esset vera quae nulla haberet veritatem, ut patet de ista 'Caesar non est chimera', ubi termini non supponunt pro aliquibus rebus".<sup>24</sup> After having thus criticized the *res*, Holkot advances the same argument against the *significatum per propositionem*. In the first of his *Sex Articuli*, probably meant to confute Crathorn, he refuses the fact that the *significatum* might have an existence of its own and he often identifies it with the *res per complexum significata*, thus discarding the *significatum per propositionem* as the proper object of complex knowledge. He defends instead the value of *complexum mentale* that is not, as Crathorn maintained, a *similitudo* of written and spoken sentences: we do not "know" (*scitur*) "things" or "denoted things"; what we know is the composition of terms in a sentence: "cuiuscumque notitiae assertivae obiectum est complexum mentale".<sup>25</sup> In his anti-realism controversy,<sup>26</sup> Holkot does not speculate upon - nor does he explain - what is to be known: he only repeats that "obiectum scitum, creditum vel opinatum est complexum et not res significata".<sup>27</sup> Nevertheless there are some statements in which he seems to recognize that the terministic solution is not fully adequate, e.g. when he deals with the denotation of mental propositions, or with the relationship between *signum* and *res*, or when he

<sup>23</sup> Robert Holkot, *Sent.* I, q. 2 (Lugduni 1518; Oxford, Oriel College, 15, f.198ra).

<sup>24</sup> Ibid.; Id., *Sex Articuli*, I (Oriel College 15, f.199rb); "Utrum Deus possit scire plura quam scit" (ed. Courtenay, *Archiv für Geschichte der Philosophie*, 53 (1971), pp.1-21; p.7,11.81-88). See F.Hoffmann, "Der Satz als Zeichen der theologischen Aussage bei Holcot, Crathorn und Gregor von Rimini", in *Der Begriff der Repraesentatio im Mittelalter* (hrsg. von A.Zimmermann), Berlin 1971, pp.296-313; Id., *Die theologische Methode des Oxforder Dominikanerlehrers Robert Holcot*, B.G.P.T.M.A., N.F.5, Münster i.W. 1972; Schepers, "*Holcot contra dicta... II*", pp.127ff.

<sup>25</sup> Holkot, *Sent.* II, q.2, a.4 (Lugduni 1518 H).

<sup>26</sup> Id., *Sent.* I, q.2 (Oriel 15, f.198rb); *Sent.* II, q.2, a.4 (Lugduni 1518 H); *Sex Art.*, I (Oriel College 15, ff.199va-200ra).

<sup>27</sup> "Utrum Deus..." (ed. Courtenay, 5,46-47).



tries not to give a merely terministic explanation of *complexum*.<sup>28</sup> But Holkot cannot go beyond these hints, remaining among those - as Crathorn observed - who did not manage to draw a sharp outline "inter signa et significata". This very distinction was to Crathorn himself of primary importance, as Schepers has shown, for without it we cannot understand what is - according to him - the *real* object of intellectual knowledge: neither the mental nor the spoken proposition, but what is signified through it, i.e. the whole meaning of the proposition ("totale significatum propositionis"). We cannot know this meaning either *in se* or through natural concepts, but only through *signa ad placitum instituta*, an expression by which Crathorn means to include the terms, *voces* and *concepts* forming the proposition. Thus the meaning does not coincide with the proposition, it rather corresponds to what is being expressed through the *complexum* ("illud totale significatum quod exprimitur per istud complexum").<sup>29</sup> Accordingly, instead of referring to the conclusion, science refers to the meaning denoted by it.

Though a mutual influence cannot be conclusively proved, Crathorn's solution shows more than one similarity with Wodeham's. However, it is not possible to consider them the same because of several remarkable differences, as for instance, in their understanding of the nature of mental *complexum*.<sup>30</sup>

Entering the controversy over the object of science,<sup>31</sup> Wodeham tried to overcome the fixed choice between realism and terminism, for neither could adequately answer the problem. His refusal of both theories was due to certain difficulties he had met with, and he thought he could solve them with his own doctrine of the *obiectum totale propositionis*.<sup>32</sup>

<sup>28</sup> Id., *Sent.* II, q.2, a.4 (Lugduni 1518, O); "Utrum Deus..." (ed. Courtenay 5,43-46; 7,96-101; 16,291-293); *Sex Art.* I (Oriol 15, f.200ra).

<sup>29</sup> Cf. Schepers, "Holkot contra dicta... II", pp.123-125, and Crathorn's text of the *Sentences* quoted in the footnotes 79 and 90.

<sup>30</sup> Ibid. pp.118-120 and W.J.Courtenay, *Adam Wodeham. An Introduction to his life and Writings*, Leiden 1978, pp.95-106.

<sup>31</sup> G. Nuchelmans, "Adam Wodeham on the meaning of declarative sentences", *Historiographia Linguistica*, 7 (1980), pp.177-187. K.A.Tachau, "The Response to Ockham's and Aureol's Epistemology (1320-1340)", in *English Logic in Italy in the 14th and 15th centuries* (a cura di A.Maierú), Bibliopolis Napoli 1982, pp.185-217; M.E.Reina, "Cognizione intuitiva ed esperienza interiore in Adamo Wodeham", *Rivista di Storia della Filosofia*, 41 (1986), pp.19-49; 211-244; O.Grassi, *Intuizione e significato. Adamo Wodeham ed il problema della conoscenza nel XIV secolo*, Milano 1986.

<sup>32</sup> Wodeham, *Lect. Sec.*, d.1, q.1 (Gál p.83,39-40; p.86,52).

His studying was especially devoted to assent and to give a satisfactory explanation of its dynamics. From the analysis of the relationship between apprehension and assent, and of the necessity of this same relationship (because we assent only to what we know, that is to what we learned), he comes to discard *complexum* as the direct object of assent. Wodeham resumes Ockham's theory of the *Quodlibeta*,<sup>33</sup> maintaining that when the *complexum* takes shape in one's mind, while always inducing an act of assent, it does not necessarily do the same with the act of knowing:<sup>34</sup> the latter may come later - anyway it is not necessary - and it is induced by a *actus reflexus*; therefore "non est pars dicti assensus ad quem ipsum non necessitat".<sup>35</sup> As it is clearly stated in his sixth conclusion, *complexum* cannot be the object of assent, though assent is induced by it, as by a necessitating cause. In the same conclusion, Wodeham introduces his own solution: the direct object of the assenting act is the whole object of that *complexum* inducing the assent, i.e. the "significatum totale propositionis immediate sibi conformis, concausantis illum et necessario sibi praesuppositae". This *significatum* is the *sic esse vel sic non esse sicut per propositionem denotatur*, which corresponds to the infinitive expression of the sentence - that is to say the meaning of "Deus est Deus" and of "homo est albus" are respectively "Deum esse Deum" and "hominem esse album". Anyway, as Crathorn had already observed, these *significata* are by no means propositions, because the *sic esse* does not proceed from an act of consciousness nor from any *signum*, but is *a parte rei*; yet, it cannot be a "thing", denoted by single terms. If for instance we change the verb tense in one out of two sentences otherwise formed with identical terms, we will obtain two different sentences, with two distinct meanings. Therefore the *sic esse* can be "signified" only by a mental *complexum* (*signum compositum vel divisum*). Wodeham refuses either a *complexum* or a *res* as the object of assent; this object could not be the *dictum* of the proposition either. The direct object, he states, is what is "signified" by the *dictum*, i.e. *quoddam significabile per complexum*. The object of assent is then a *something*

<sup>33</sup> Ockham, *Quodl.* III, q. 8 (O.T. IX, 233,12-235,60); *Quodl.* IV, q. 16 (O.T. IX, 376,15-377,43).

<sup>34</sup> Wodeham, *Lect. Sec.*, d.1, q.1, a.1 (f.129vb): "... omne quod est obiectum actus assentiendi partiale vel totale prius natura comprehenditur. Quia ... anima non assentit nisi cognito ... Sed complexum <quod> necessitat ad assensum non praecognoscitur assensui, igitur". I prefer this transcription to Gál's (p.83,41).

<sup>35</sup> *Ibid.* (Gál p.85,46-47).

seen in its meaning of *esse quid* rather than in that of substance or accident.<sup>36</sup> On the basis of this definition, Wodeham turns his attention to the object of scientific knowledge. Strictly speaking, it is an evident judgement which necessarily causes the assent:<sup>37</sup> as Ockham says, "notitia evidens veri necessarii nata causari per praemissas ad ipsum per discursum syllogisticum applicatas".<sup>38</sup> Real science is caused by direct acts and its object is the *sic esse a parte rei* denoted through the premise as well as through the conclusion of demonstrative syllogism.<sup>39</sup> Therefore the peculiar and adequate object of science cannot be the *significatum totale conclusionis* or rather *propositionis*, because however certain the assent bestowed on this meaning might be, it could never attain an evident nor a scientific nature. The conclusion as object of science has to be discarded as being, at the most, the object of an *actus reflexus*. The right and proper object of science, Wodeham concludes, is the meaning of the *discursus* as a whole.<sup>40</sup>

Now, if we observe this solution closely, we will discover it to be different from Gregory of Rimini's,<sup>41</sup> although, as far as the nature of the object of complex knowledge is concerned, these authors show a remarkable similarity. Gregory disregards *conclusio* as the direct object of science. His reasoning develops as follows: when we consider a demonstration, we directly refer to the meaning of its conclusion, and the truth or falsehood of the premise proceed from the knowledge of this meaning, a meaning that can be either true or false. But he also refuses to consider the whole demonstration or the *significata omnium propositionum demonstrationis* as the adequate object of the complex knowledge. The one and only object of science is then the *significatum totale conclusionis*.<sup>42</sup> Because of its meaning, mental conclusion suffices to cause assent. In fact, it is the assent itself, for assenting means

<sup>36</sup> Ibid. (Gál p.86,49; p.87,57; p.88,59; p.89,61; p.90,64).

<sup>37</sup> Ibid. a.2 (Gál p.99, n.102).

<sup>38</sup> *Lectura* d.1, q.2, a.1 (f.132rb). See Ockham, *Scriptum* I Prol., q.2, a.2 (O.T. I, p.87,20-88,2) and *Exp. s. Phys.* Prol. (O.P. IV, p.6,46-48).

<sup>39</sup> *Lectura* d.1, q.1, a.2 (Gál p.99,105); q.2 (f.132rb).

<sup>40</sup> Ibid. q.1 a.2 (Gál p.99,104; p.100,106 and 108).

<sup>41</sup> See W.Eckermann, O.S.A., *Wort und Wirklichkeit*, Wurzburg 1978, pp.45-105, and L.D.Davis, "Knowledge according to Gregory of Rimini", *The New Scholasticism*, 55 (1981), pp.331-347.

<sup>42</sup> Gregorii Ariminensis, *Lectura* Prol. q.1, a.1 (ed. Trapp, I, p.4,11-13; p.5,17ff.; p.7,17-23; p.10,26-28); d.2, q.1 (ed. Trapp, I, p.282,17-19).

judging things as they really are, i.e. "enuntiare mentaliter quod sic est", which is the essential component of a real scientific act.<sup>43</sup> Obviously the very name *conclusio* would involve its being inferred, yet Gregory does not consider the whole demonstration necessary before having scientific knowledge and assent. On the contrary, according to Wodeham and Ockham,<sup>44</sup> scientific truth is *dubitabilis* in itself and such it remains as long as we do not have it demonstrated. This is what distinguishes *scire* from *intelligere*: only the former "knows" from evidence and through a demonstrative process - a process necessary in order to know the conclusion as well. Yet there is another way to attain scientific truth: following Ockham's reasoning,<sup>45</sup> Wodeham asserts that as well as a science *per demonstrationem* there is a science *per experientiam*. Through it we do not merely acquire a knowledge of empirical facts: this would be absolutely non-scientific knowledge, lacking necessity; by experience we know a certain event *can* happen (e.g. the eclipses of the moon, fire's power of heating).<sup>46</sup> Such knowledge we would never attain through a demonstrative process. We do not reach a categorical judgment, but hypothetical one: *if* the moon is eclipsed, the moon *can* eclipse or it *must* be possible for the moon to be eclipsed. The scientific approach and the character of necessity dwell here in the *modus* of the sentence: "it is possible, and it is absolutely not impossible, that 'the moon is eclipsed'". In this case we reach a knowledge of "the moon being eclipsable", i.e. the meaning of a proposition describing things the way they are, or rather, the way they can be or must be possible.

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<sup>43</sup> Ibid. (ed. Trapp, I, p.27,9-23; p.28,4ff.; p.30,15-21).

<sup>44</sup> Ockham, *Scriptum* I Prol., q.2, a.2 (O.T. I p.76,13-16). Wodeham, *Lectura* I, d.1, q.2, a.2 (f.134vb; f.135ra). Ibid., q.2, a.1 (f.133va): "... anima scit sic esse, non quod actus ille sciendi cadat immediate super sic esse, sed super demonstrationem quae cadit super sic esse...".

<sup>45</sup> See Ockham, *Scriptum* I Prol., q.2, a.2 (O.T. I p.88,9-12). Wodeham, *Lectura*, d.1, q.2, a.3 (f.137ra): "... mediante conclusione eadem, est scibilis sic esse sicut conclusio significat, tam a priori quam a posteriori, demonstrative et per experientiam". See *ibid.* q.2, a.1 (f.133vb).

<sup>46</sup> Ibid. (f.134ra): "Ad primum dico quod licet non habeatur iudicium evidens categoricum quod luna eclipsatur, habetur tamen evidens iudicium hypotheticum, scilicet quod ita est, nisi Deus decipiat me; et ex hac statim est evidens quod ita esse est possibile et non impossibile, et per hoc ad illud unumquodque etc. concedo. Et sic est hic hypothetice, licet non categorice"; (f.134rb): "... licet nulla propositio mere de praesenti esset vera ubi affirmatur aliquid de igne, tamen affirmativa de possibili est vera, tunc sicut nunc".

What comes out here is that scientific truth is always the same in its nature, even though the ways through which it can be reached differ, because it corresponds to the content or meaning of the proposition in demonstrative and in experimental science. Thus we have a new confirmation of that close relationship between epistemology and semantics, which represents one of the most peculiar features of philosophical debate during the 14th century.

Milano



ELŻBIETA JUNG-PALCZEWSKA

Discussion on *infinitas vigoris Dei* in Averroists  
in the 13th and 14th Centuries

Anneliese Maier in *Metaphysische Hintergründe der spätscholastischen Naturphilosophie*, talking about the history of the problem of motion<sup>1</sup> shows that the scholastic conception, radically different from the conception of modern mechanics, which is based on the law of inertia, arrived at the conclusions which came to scientific consciousness only after many centuries with the discovery of the law of conservation of energy.<sup>2</sup> In her considerations Maier does not give much attention to Averroism; she says that it does not give any impulse to development of scholastic physics. This enunciation is based on the knowledge of the questions on *Physics* by John of Jandun and some parts of the question *Utrum essentia divina sit infinita intensiva* by Thomas Wilton.<sup>3</sup>

Using Averroistic manuscripts that have been recently discovered, namely the question by John of Jandun *De infinitate vigoris Dei*<sup>4</sup> and the whole question by Thomas Wilton,<sup>5</sup> we make an attempt to answer the problem; whether Averroism really did not contribute anything new to the problem of motion in scholastic physics.

The starting point of consideration of the philosophy of nature in the Middle Ages are the laws of motion formulated in the seventh book of *Physics*, where Aristotle shows the interdependence between *vis movens*, resistance, way and time. He does not use the term "velocity" in this book, which appears only in the end of the eighth book, on the occasion of solution of the problem if any power can be active in infinite time. Aristotle answers this question in three ways: first he says that

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<sup>1</sup> Cf. A. Maier, "Bewegungskräfte und Energien", in: *Metaphysische Hintergründe der spätscholastischen Naturphilosophie*, Roma 1966, p.227-269.

<sup>2</sup> Ibidem.

<sup>3</sup> Ibidem, p.247-248.

<sup>4</sup> This question was discovered and published by Z. Kuksewicz in: *Studia Mediewistyczne*, 24, 1, 1985, p.77-152.

<sup>5</sup> This question is known from two manuscripts: *Thomas Wilton Quodlibeta* (q.1) ms Vat. Lat. Borgh. 36, ff. 47ra-55va; Firenze Bibl. Nation. II, II 281.

there is no *infinitum in actu*, but only something potentially infinite and in the case of substances not even the latter, because the world is finite. Secondly: *movens finitum* can not move *tempore infinito*, i.e. the infinite motion in time presupposes intensively infinite power. Thirdly: *primus movens*, which causes eternal motion, can not be *in magnitudine*, but it must be immaterial, because substance can not take infinite power. According to Maier, Aristotle can not prove the last theorem because he used a new concept, which was later called energy.<sup>6</sup>

Even Averroes had some problems with the interpretation of Aristotle's thought. He gives three acceptable solutions of the problem, namely: why infinite power of motion, which has immaterial nature, can move *per tempus infinitum*, but can not move with infinite velocity. The first solution of this problem can be found in Averroes' *Commentary on the Physics* where he says that Aristotle wanted to prove only the immateriality of *primum movens*, because power which is not in substance is not finite or infinite, and that he did not want to prove the infinity of *primum movens*.<sup>7</sup>

The second solution can be found in the *Commentary on the Metaphysics* where Averroes introduced two different terms for active agents: infinite *motor separatus* - the reason of eternal motion, and *motor coniunctus* - the cause of finite velocity of motion.<sup>8</sup>

The third interpretation is contained in *De substantia orbis*, and it states that Aristotle proves only the temporal infinity of the power of *primum movens*.<sup>9</sup>

In medieval philosophy the problem touched by Averroes is presented in other way. The question does not concern the acceptance or rejection of the infinite power of God, because it is a dogma of Faith. Now the question is: whether it is possible to prove that God possesses infinite power by rational means.

This is the problem which Latin Averroists try to solve in their works. The solution presented by the first representative of Averroism - Siger of Brabant, is known only from a short question from *Liber de causis*, Siger's last work. Unfortunately, Siger's commentary to

<sup>6</sup> Cf. A. Maier op. cit. p.229.

<sup>7</sup> *Phys. VIII comm.* 78-79.

<sup>8</sup> *Metaph. XII comm.* 41.

<sup>9</sup> *De substantia orbis*, cap. 3.

the eighth book of *Physics* and the Commentary to the twelfth book of *Metaphysics* are unknown. We also do not know any 13th century works by other Averroists which touch this problem.

In his question *Utrum causa prima sit infiniti vigoris in movendo*<sup>10</sup> Siger shows three interpretations by Averroes and some arguments by Thomas of Aquinas, who misinterpreting Aristotle proves the infinite power of God.<sup>11</sup> In the conclusion Siger states that God has a triple infinite power: "ad essendum semper, virtus infinita perfecta in causando et in movendo in quantum in se est".<sup>12</sup> And since the *primus motor* can take only infinite temporal power, *prima causa* has power like that.<sup>13</sup>

The broad discussion of the problem of infinite power of God by Averroists can be found only in the 14th century.<sup>14</sup> This problem is dealt with by John of Jandun in his questions on the *Physics* and the *Metaphysics* and in the question *De infinitate vigoris Dei*, where he is relating, at the great length, the arguments by his older colleague - Averroist Thomas Wilton, who similarly discussed the problem of infinite power in a separate question: *Utrum essentia divina sit infinita intensiva*.<sup>15</sup>

Both John of Jandun and Thomas Wilton in their works report on arguments of advocates and opponents of the thesis about the infinite

<sup>10</sup> Siger from Brabant, *Quaestiones super Librum de causis*, q. 56 (*Utrum essentia divina sit infinita intensiva*), in: *Philosophes Médiévaux*, T.XII, Louvain, 1972.

<sup>11</sup> Cf. A. Maier op. cit. p.236-237.

<sup>12</sup> Cf. Siger from Brabant op. cit.

<sup>13</sup> Ibidem.

<sup>14</sup> We have not any information about the possible questions on infinite power of God by Averroists like Boethius from Dacia, Taddeo from Parma, Anthony from Parma. We even do not know if the Commentaries on the eighth book of *Physics* and on the twelfth book of *Metaphysics* were written by them.

<sup>15</sup> This is a schema of the question by Thomas Wilton:  
The title: *Utrum essentia divina sit infinita intensiva*.

*Ratio principalis*: Ex parte distinctionis essentiae divinae.

*Corpus quaestionis*.

Argument: Contra improbans.....

(analysis of the problem)

1. Contrary arguments to Wilton's position.

2. Response on these arguments.

3. Proper Wilton's solution.

4. *Ad rationem principalem*: Ad primam rationem principalem respondeo.....

5. *Dubia*.

6. Answers on *dubia*.

power of God.<sup>16</sup> They discuss the problem of the infinite power basing themselves on the authority of Aristotle and Averroes.

First of all, John of Jandun gives careful consideration to two of Averroes' solutions, namely the one from the *Commentary on the Physics* - that God has neither finite nor infinite power<sup>17</sup> and the one from the *Commentary on the Metaphysics* in which Averroes assumes the existence of two motors.<sup>18</sup>

In his actual point John of Jandun assumes that God has infinite temporal power, because time has no limits and neither Aristotle nor Averroes said that God has *virtus infinita intensiva*.<sup>19</sup>

The quodlibetal question by Thomas Wilton includes a profound analysis of opinions of Aristotle, and first of all of his Commentator, and at the same time it discusses penetratingly other interpretations. Wilton thinks that Averroes' three interpretations are given in the following order: the *Commentary on the Physics*, the *Commentary on the Metaphysics*, *De substantia orbis* and that each of them had to correct the preceding one, and that the last one properly interpreted the world of Aristotle.<sup>20</sup>

In Wilton's opinion the first interpretation of Averroes i.e. the one from the *Commentary on the Physics* omits and does not resolve the problem posed by Aristotle, because of two reasons: Firstly, Aristotle was proving that a *virtus* moving in infinite time is infinite itself, and that such a *virtus* can not be *in magnitudine*. Secondly, irrespectively of the location of the infinite power *in magnitudine* or *extra magnitudinem*, it moved the heavens in an infinitely short time, but time as a measure can not be zero.

<sup>16</sup> Cf. John of Jandun, *De infinitate vigoris Dei* and Thomas Wilton, *Utrum essentia divina sit infinita intensiva*.

<sup>17</sup> John of Jandun op. cit.

<sup>18</sup> Ibidem.

<sup>19</sup> "Et ideo dico, quod eius vigor (scil. Deus) sit infinitus per negationem terminorum durationis, quia numquam incipit nec numquam terminatur. Sed quod sit infinitus intensivae ita quod omnem alium vigorem impropotionaliter excedat non concederet Aristoteles nec Commentator." John of Jandun, *De infinitate...* in: *Studia Medievistyczne*, 24, 1, 1985, p.151.

<sup>20</sup> "Ad aliud cum dicitur, quod Philosophus dicit quod si illa virtus esset in magnitudine meveret in non tempore - ad istam rationem respondet Commentator tribus locis, tribus modis. Duo primi sunt insufficientes ut videbitur, sed ultima responsio quam scripsit est sufficiens." Thomas Wilton, *Utrum essentia divina...* ms Vat. Lat. Borgh. 36, f. 48va.

For Wilton, the answer provided in the *Commentary on the Metaphysics* is also insufficient, because once the existence of two separate motors is assumed there arises a question: whether they move the *primum mobile* directly or not?

If we accept the former solution, it must occur in a moment i.e. with infinite velocity, if we accept the latter, a question if *motor coniunctus* takes finite or infinite motion from *primum movens* can be asked.

Moreover, when Averroes states that *motor coniunctus* takes some *virtus* from *primum movens*, he is in contradiction with himself, because substances separated from matter are pure acts and have no receptive potency. Moreover, quoting Averroes, Wilton proves that *substantia prima* acts as aim and *causa efficiens*, and because of this it moves as what acts.

Averroes' last proposal from *De substantia orbis* correctly assumes that Aristotle intended only to show the temporal infinity of *primum movens*.<sup>21</sup> Wilton proves this statement firstly by showing that it is impossible for temporal infinity to be in substance, because in this case it would move in non-time (according to Aristotle's statement) or a *virtus finita* and a *virtus infinita* would be able to move a body for the same time, because *finite partes virtutis* could be added to *virtus finita* and time, which is the measure of its motion, would be equal with the time of infinite power action, which is possible in respect of the *ratio* of time.

Next, Wilton unfortunately not giving any satisfactory proofs, is referring to *De substantia orbis* and to the *Commentary on De caelo* and asserts that there is a difference between the infinity of the first cause i.e. of God, comprehended as *infinitum actionis et passionis in se* and the infinity of the motors moving the heavens, comprehended as *infinitae actionis et passionis in tempore*; but *finitas in se in velocitate et in vigore*.

Wilton's final conclusion, taken as true, is the following: neither the Philosopher nor the Commentator, nor any rational reasons allow to prove that God is *infinitive virtutis intensive in vigore*.

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<sup>21</sup> "Dico igitur tertiam responsionem quam ponit Commentator circa illud sciendum, quod Aristoteles per primam demonstrationem intendit ostendere, quod virtus infinita duratione quae non potest esse in corpore requiritur ad motum perpetuum, nec etiam de alia infinitate loquitur." Thomas Wilton, op. cit. f. 50vb.



Summarizing, it should be stated that Averroist considerations took Averroes' theses as the most important authority, widely quoting and discussing his three versions of the solution of Aristotle on problem.

The third thesis that God has only infinite temporal power seemed the most interesting and best proved for them. This statement was in contradiction with Aquinas' position which, at that time, was obligatory. Referring to the misunderstood Aristotelian supposition he was arguing for God to have infinite intensive power.

In the opinion of Peter Aureoli, Averroes' position taken by Averroists and particularly penetratingly discussed by Wilton does not solve the problem completely, because such a distinguishing of the first cause as infinitely permanent does not characterize it. Wilton stopped in midway, although he aptly proved that Aristotle wanted to show nothing more than that the first cause is immaterial and that the cause of infinite motion is *virtus incorruptibilis et infatigabilis*.<sup>22</sup>

Coming back to our basic problem about the role of Averroism in the development of medieval mechanics it should be said that being surrounded by "their" problems and basing themselves very strongly on the authority of Averroes, they, unfortunately do not develop the problem of the motion.

The thesis about the infinite power of God is also within the sphere of interests of philosophers who take into their considerations the possibility of improvement of the thesis, and come into similar conclusions. Francis from Marchia, William Ockham, Walter Burley and John Buridan also realized that Aristotle wanted to prove only the infinity of time but not the intensity of God's power. What is important in their considerations is the appearance, by the way, of the problem of specifying of the definition of *vis infatigabilis et fatigabilis* which leads to the conclusion that *perpetuum mobile* is not possible because of the lack of that "vis" within the sphere of earthly events.<sup>23</sup>

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<sup>22</sup> Cf. A. Maier, *Metaphysische...* p.248.

<sup>23</sup> *Ibidem*, p. 269.

HEIKKI KIRJAVAINEN

Existential Presuppositions in Semantics  
According to Ockham and Holcot

1. *Introduction* One of the main disputes between Ockham and Holcot concerns the idea of intuitive knowledge.<sup>1</sup> According to Ockham we may have intuitive knowledge of nonexistent things.<sup>2</sup> Holcot criticizes this view although he first takes sides, to a certain extent, with Ockham's conception of theology by saying that the blessed can have theological knowledge through divine causation, although not in the natural way, viz. through secondary causes.<sup>3</sup> But then he continues by arguing that being a wayfarer and a blessed one are compatible notions and, therefore, we can in fact have intuitive theological knowledge within the natural order.

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<sup>1</sup> The texts of the dispute are the first book of Ockham's *Ordinatio* on the first book of *Sentences* (*Sent. Prol.*, q. 1); *Quodlibeta septem* V, q. 5 and VI, q. 6 and Holcot's comments on that in his quodlibetal disputation *Utrum Theologia sit scientia*. A Quodlibet Question of Robert Holcot O.P., Ed. J. T. Muckle C.S.B, *Medieval Studies* XX (1958). The general background of the dispute is the question of the possibility of theological knowledge. Ockham maintains that there is in principle a possibility for intuitive theological knowledge by divine power (*potentia absoluta*). *Quodlibeta* VI, q. 6: "...ita non est possibile quod Deus causet visionem sui in intellectu nisi exhibita sua actuali praesentia." But according to Ockham, there is no factual occasion for this kind of intuitive knowledge within the natural order (*potentia ordinata*). Accordingly, divine matters are accepted by faith alone.

<sup>2</sup> Cf. "Secunda conclusio est quod naturaliter cognitio intuitiva non potest causari nec conservari, obiecto non existente." *Liber I, Prologus, q. 1* p. 38: "... naturaliter notitia intuitiva non possit esse sine existentia rei, quae est vere causa efficiens notitiae intuitivae mediata vel immediata, sicut alias dicitur." p. 30: "Dico igitur quantum ad istum articulum quod respectu incomplexi potest esse duplex notitia, quarum una potest vocari abstractiva et alia intuitiva. ... Sed distinguuntur per istum modum: quia notitia intuitiva rei est talis notitia virtute cuius potest sciri utrum res sit vel non, ita quod si res sit, statim intellectus iudicat eam esse et evidenter cognoscit eam esse, nisi forte impediatur propter imperfectionem illius notitiae. Et eodem modo si esset perfecta talis notitia per potentiam divinam conservata de re non existente, virtute illius notitiae incomplexae evidenter cognosceret illam rem non esse."

<sup>3</sup> Cf. *Utrum theologia sit scientia*: "Quod tamen omnes (articuli) sint scibiles secundo modo per notitiam, videlicet intuitivam, aliquarum rerum credo esse verum." ... "Nulla notitia quam viator potest *naturaliter* adquirere de articulis fidei est scientia secundo modo vel tertio dicta." (My italics)

Holcot's main criticism against Ockham has usually been taken to be the same which was earlier expressed by Duns Scotus and by Godfrey of Fontaines, *viz.* that it is inconsistent to speak of knowing intuitively nonexistent things so that the intuitive cognition is the "total" cause of our judgement concerning some contingent things and that we can, at the same time, maintain that there are no such things within the natural order.<sup>4</sup> This is not, however, the most interesting point in Holcot's criticism; rather, Holcot is interested in an even more fundamental point: he wants to show what are the ultimate *semantic* consequences if we speak about intuitively knowing nonexistent things.

My purpose in the following will be to consider the dispute between Ockham and Holcot in a slightly wider perspective than perhaps is usual, and ask: what bearings does the dispute have on semantics in general and on religious language in particular? My presentation is nothing more than a sketch for an argument which attempts to show how far the difference might go between Holcot and Ockham when their epistemological solutions are put into the context of semantics. I shall first try to introduce the crucial problems Ockham has with his view and then illustrate Holcot's comments on it.

2. *Ockham on epistemic contradiction* The criticism against Ockham may be taken in a trivial or a nontrivial way. The trivial way implies that we do not directly violate the metalogical Truth Criterion of this epistemic attitude, *viz.* that we adopt the line of argument that it is inconsistent to say that one knows that *p* when non-*p* is the case. The nontrivial interpretation emerges when we realize that Ockham did not want to violate this metalogical Criterion, and further, that he did not want to apply this criterion in a merely negative way by saying that if one knows that something is not the case then it is not. Therefore, we meet here a real noncircular problem, *viz.* the question: in what sense does Ockham claim that we can have intuitive cognition of nonexistent beings?

Ockham's claims referred to in footnote 2 lead one to question what is consistent and what is contradictory in the context of intuitive cognition. This means that we have to explore the metalogical criteria

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<sup>4</sup> Cf. *Prologus*, p. 31: "Et eodem modo si esset perfecta talis notitia per potentiam divinam conservata de re non existente, virtute illius notitiae incomplexae evidenter cognosceret illam rem non esse." Holcot comments on this at the beginning of his disputation; see the "contra" part of his second conclusion.

Ockham wants to apply in the context of intuitive knowledge. The basic idea is aptly illustrated by Ockham himself in the answer he gives to the main argument in his *quodlibetal* question VI:

It is a contradiction that an act of seeing should exist while that which is seen neither exists nor can exist in reality. Hence it is a contradiction that a chimera should be intuitively seen. But it is no contradiction that what is seen should be nothing actually existing outside its cause, provided only that it can exist in reality or has once been in the universe. (Boehner's translation)<sup>5</sup>

This answer merely concerns, however, the well-known distinction between intuitive and abstractive knowledge; we may have the latter kind of knowledge of things which are not actually present provided only that they are logically possible beings. The crucial question, therefore, concerns whether even God can produce in us such an *intuitive* knowledge where the object is nonexistent. Ockham's way of expressing himself seems to be somewhat obscure on this point. In one place he says that God, as the Prime Cause, can immediately produce in us intuitive knowledge of a nonexistent thing.<sup>6</sup> On the other hand, he says that this is not possible in the sense of evident intuitive knowledge, because this would imply a contradiction:

... I say that God cannot cause in us such a cognition through which a thing appears to be present to us when it is absent because this implies a contradiction.<sup>7</sup>

In order to explain this dilemma one could suggest that Ockham tries to qualify the metalogical criterion for intuitive cognition. He first applies one which implies the logical connection with the actual reality of the object (Truth Criterion). Then he qualifies it so that it only implies the actual reality of the cognition itself, with or without the existence of the object. The latter view is presented by Ockham as follows:

... it is not a contradiction that we have a vision of a thing and in spite of that we do not, on the basis of that vision, judge whether

<sup>5</sup> "Dico quod contradictio est, quod visio sit et quod illud quod videtur non sit in effectu nec esse possit. Ideo contradictio est, quod chimaera videatur intuitive. Sed non est contradictio, quod illud quod videtur nihil sit in actu extra suam causam, dummodo possit esse in effectu, vel aliquando fuit in rerum natura." *Quodl.* VI, q. 6.

<sup>6</sup> Cf. *Quodlibet*, q. VI: "...omnem effectum quem potest Deus mediante causa secunda, potest immediate per se; sed in notitiam intuitivam corporalem potest mediante obiecto; igitur potest in eam immediate per se."

<sup>7</sup> *Quodlibet* V, 5, (ad instantiam 1): "... dico quod Deus non potest causare in nobis cognitionem talem per quam evidenter apparet nobis rem esse praesentem quando est absens, quia hoc includit contradictionem."

this thing exists or not. This is because God can make this vision without any assent to it; but naturally this cannot happen.<sup>8</sup>

This, however, seems to lead into ambiguities concerning the meanings of 'intuitive cognition' and 'exist'. On the one hand, according to Ockham, it is clearly inconsistent to speak of intuitive cognition without presupposing the validity of the Truth Criterion with existence; on the other hand, Ockham would also take into account the case where this criterion is not satisfied<sup>9</sup> in the existential sense but where he, nevertheless, claims that "it follows (from the previous clarifications) that it is possible that there is sensitive as well as intellectual intuitive knowledge of a nonexistent thing".<sup>10</sup> This case has to be checked against the following quotation which crystallizes Ockham's problem:

I admit, however, that God can cause an assent of *the same species* as is the evidential assent which we get in respect to the contingent sentence 'this whiteness exists' when that whiteness does not exist, but this assent is not evident. (My italics)<sup>11</sup>

Apparently, Ockham wants to say that the assent produced by God is *similar* to the case where the Truth Criterion does not include existence. What troubles us here is that according to Ockham all of the following statements seem to be claimed as simultaneously true:

- (a) *a* has intuitive vision of a star which does not exist / by Divine Power
- (b) *a* knows that this star does not exist / Assumption in *Prologus* q. I
- (c) if the star does not exist then it is impossible for *a* to have an intuitive vision of it / Principle in *Quodlibet* V, 5

<sup>8</sup> *Ibid* (ad instantiam 3): "... quia non est contradictio quod visio rei sit et tamen quod per illam visionem nec iudicem rem esse nec non esse, quia Deus potest facere visionem sine omni tali assensu; sed per naturam non potest hoc fieri." Cf. *Prologus*, q. I: "omnis res absoluta, distincta loco et subiecto ab alia re absoluta, potest per divinam potentiam absolutam existere sine illa, quia non videtur verisimile quod si Deus vult destruere unam rem absolutam existentem in caelo quod necessitetur destruere unam aliam rem existentem in terra. Sed visio intuitiva, tam sensitiva quam intellectiva, est res absoluta, distincta loco et subiecto ab objecto."

<sup>9</sup> E.g. when we see something ceasing to be we intuitively know that the thing does not exist any more. Cf. *Prologus*, q. I, s. 36: 6-12, where Ockham has in mind precisely the termination of a thing.

<sup>10</sup> *Prologus*, q. I, (Corollarium) s. 38: 15.

<sup>11</sup> Cf. *Quodlibet*, V, 5 (ad inst. 4): "Concedo tamen quod Deus potest facere assensum eiusdem speciei cum illo assensu evidenti respectu huius contingentis 'haec albedo est' quando albedo non est; sed ille assensus non est evidens, ..."



One gains the impression that it is not only the tacit presupposition of existence as such which causes difficulties but also the very basic semantic implications of this presupposition.

3. *The formal explication* On behalf of what was said above, Ockham seems in the first place to support the following eccentric situation:

$$(1) \quad K_a b \ \& \ \sim(\text{Ex})(x = b)^{12}$$

But as we have seen, he not only says that we may know something which does not exist, but that if we have a cognition of the being  $b$  which does not exist, then we know that it does not, i.e.

$$(2) \quad K_a b \ \& \ K_a \sim(\text{Ex})(x = b) .$$

One interpretation of (2) says that  $a$  knows  $b$  and also knows that whoever ' $b$ ' refers to there is no such being. This interpretation is due to the *de dicto* reading of the latter part of the formula. This clearly seems to imply an inconsistency: it is not possible, i.e. it is a contradiction, that somebody knows something and that whoever or whatever that being is there is no such being which is supposed to be known. This means that from ' $K_a \sim(\text{Ex})(x = b)$ ' it follows on the basis of the Truth Criterion that ' $\sim(\text{Ex})(x = b)$ ' is the case, and this of course is in contradiction with ' $(\text{Ex})(x = b)$ ', which seems to be implied by knowing  $b$  intuitively. Consequently, (1) seems to be inconsistent.

But what is really implied by ' $K_a b$ '? It can be shown that it does not follow from ' $K_a b$ ' alone that knowing  $b$  is not compatible with ' $\sim(\text{Ex})(x = b)$ '. Is, then, (1) consistent after all? Whether it is or not depends on whether ' $K_a b$ ' implies ' $(\text{Ex})(x = b)$ ' or not, i.e. whether ' $K_a b$ ' is taken with this existential presupposition or not. And whether it is taken this way depends on what we mean by knowing somebody or something intuitively. Consequently, we have to be very careful with the tacit presuppositions implied here. I shall return to this in a moment.

If instead of (2) we have *de re* reading we get

$$(2') \quad K_a b \ \& \ \sim(\text{Ex})K_a(x = b) .$$

This formula says that  $a$  knows  $b$ , but of no actual being does  $a$  know that it is  $b$ , i.e.  $a$  does not know *who*  $b$  actually is. In one sense (2') is

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<sup>12</sup> The expression ' $K_a b$ ' might seem ill-formed, but we can think of it as a convention for "knowledge by acquaintance".

not inconsistent, because we can quite sensibly say that we know someone but could not actually find that person among the existent things known to us. This is possible because from the latter part of the formula it does not follow that ' $\sim(\text{Ex})(x = b)$ ' is valid; this is intuitively quite sensible:  $a$  might know  $b$  but cannot know who  $b$  actually is, because none of his actually known acquaintances is  $b$ . But from this it does not follow that there is no  $b$  in an absolute sense; there is only no  $b$  actually known to  $a$ . So the inconsistency of (2'), if there is any, is only of the sort: "I know  $b$ , but who is  $b$  anyway?"<sup>13</sup>

4. *Ockham on the Truth Criterion* We may then ask how did Ockham conceive of this Criterion. Does it, in addition to truth, also presuppose existence, or not? At first sight the criterion might seem to be taken in a modal way.<sup>14</sup> But on closer inspection, this is clearly not the case. In order to express the Truth Criterion in the sense of semantic metatheory, we have to say that it determines intuitive cognition not in the modal form but in the form of material implication

$$(3) \quad K_a b \supset (\text{Ex})(x = b) .$$

What (3) says is that if somebody intuitively knows something then this "something" actually exists. Apparently (1) and (3) are contradictory, but it is not so clear what exactly are the other implications of (3). The

<sup>13</sup> In the standard theory of epistemic logic (2) cannot be true if ' $K_a b$ ' implies the actual existence of  $b$ . It can also be shown that although the Condition (CEK=), i.e. if  $(\text{Ex})K_a(x = b) \in \mu$ , then  $(\text{Ex})(x = b) \in \mu$ , is valid, the corresponding negative condition (C. $\sim$ EK=) is not. Cf. J. Hintikka, *Knowledge and Belief. An Introduction to the Logic of the Two Notions*, Cornell University Press, Ithaca, New York 1962, p. 160. Adam Wodeham also criticizes Ockham and follows Walter Chatton at this point when he says that while the intuitive cognition together with the existing object suffice to produce a judgement of existence, intuitive cognition cannot in the same way produce a judgement of nonexistence. Cf. *Quaestiones in I librum Sententiarum, Prologus*, q. II, sec. 24 (according to Marilyn McCord Adams, *William Ockham*, University of Notre Dame Press, Notre Dame, Indiana 1987, Vol. II p. 602).

<sup>14</sup> The passage *Quodl.* VI, 6 (quoted in the note 5) gives a *de dicto* reading (\*)  $\sim M(K_a b \ \& \ \sim(\text{Ex})(x = b))$ . But from the *de dicto* reading of the passage - and Ockham is well aware of this - the formula (\*\*)  $K_a b \supset N(\text{Ex})(x = b)$  or (\*\*\*)  $K_a b \supset (\text{Ex})N(x = b)$  does not logically follow. These two are variations of the *de re* reading of the modal form of the Truth Criterion. (\*\*) says that if somebody knows  $b$ , then it is necessary that  $b$  actually exists. But it is not necessary because one can perfectly well speak of knowing a real being which is not actual. The existence of  $b$  is a necessary rather than a contingent matter and we can speak of knowing contingent things which are not actual at a certain moment of time. (\*\*\*), instead, says that something real necessarily is  $b$ . But again, something being  $b$  is not a necessary but a contingent matter.

following, at least, seems plausible: we can move from ' $K_a b$ ' to ' $(\text{Ex})(x = b)$ ' only if there is an actual individual of which  $a$  knows that it is  $b$ , i.e.  $a$  can identify  $b$ . This is to say that we have to presuppose that ' $(\text{Ex})K_a(x = b)$ ' is fulfilled because this guarantees that ' $b$ ' in ' $K_a b$ ' is not empty. In other words:  $a$  has to know precisely *who* or *what* ' $b$ ' actually is. We can namely quantify existentially in epistemic contexts only if it is presupposed that we can somehow *identify* entities we are speaking about.<sup>15</sup> The formula (3) says precisely that the quantificational presupposition is fulfilled, viz. that in the context of intuitive knowledge the term ' $b$ ' is not empty. But it does not say that, knowing only  $b$ , we can identify any actual being as ' $(\text{Ex})K_a(x = b)$ ' says. In other words, we may have a kind of intuitive knowledge where we are acquainted with a real actual being without being able to identify it properly. And, then, from not being able to identify it properly, it follows that we cannot properly know whether it exists or not either. This is to say that we may have a kind of semantically loose knowledge which satisfies the general existential presupposition, but not the personal identity condition.

We may conclude that the fulfilment of existential presupposition follows from the condition ' $(\text{Ex})K_a(x = b)$ ' i.e. from the condition that we can identify ' $b$ '. This condition, therefore, implies both ' $K_a b$ ' and ' $(\text{Ex})(x = b)$ '. However, the crucial question remains, namely, whether the converse implication holds. It is this question which brings us to the Holcotian approach, as well as to the *Speculum puerorum* tradition.<sup>16</sup> Ockham could assert the cognition of nonexistent beings only in the sense of (2'), i.e. in the sense that the individual term ' $b$ ' is not specified by a condition like ' $(\text{Ex})K_a(x = b)$ '. We shall see that precisely this condition is behind Holcot's criticism. Since Ockham does say that the Criterion of Truth is to be taken with the existential presupposition in the case of intuitive knowledge, but does not say much of that sort in

<sup>15</sup> See Jaakko Hintikka, "Replies and Comments" in *Jaakko Hintikka*. Synthese Library, Profiles, Vol. 8, Ed. R.J. Bogdan, Reidel Publ. Comp., Dordrecht/Boston/Lancaster/Tokyo 1987, p. 285; "Are there nonexistent objects? Why not? But where are they?" *Synthese* 60 (1984), p. 451-458.

<sup>16</sup> The discussion concerning the relationship between epistemic and semantic conditions became quite explicit shortly after Holcot's time. Martin of Alnwick, Richard Billingham and Edward Upton became famous by their tracts on the "probationes terminorum". Cf. *Some 14th Century Tracts on the PROBATIONES TERMINORUM*. Ed. L.M. de Rijk, Artistarium 3, Nijmegen Ingenium Publishers 1982. These authors tried to define the rules which would govern semantic ties in different sorts of semantic relations, viz. in "*resolubilia*", "*exponibilia*" and "*officiabilia*".

the case where the cognition of a nonexistent thing is at stake, he clearly rejects (2) but not perhaps (2').

Furthermore, if we do not realize the import of existential and specificity presuppositions for the logic of intuitive knowledge, then it is very problematic indeed to consider (1), (2) and (3) as compatible with each other. And if they are incompatible, then Ockham seems to be forced to end up with a choice between two alternatives: *either he has to accept the ambiguity of knowing or he has to accept the equivocity of the term 'exist'*. I would now like to explore these alternatives a little further.

5. *The univocity of 'exist' and 'knowing'* Formulae (2) and (2') do not, however, fully reveal Ockham's basic difficulty. There are, as I see it, two types of presuppositions involved: existential presuppositions concerning the actual existence of 'b', and semantic presuppositions concerning the identifiability of 'b'. Consequently, we get the following alternatives for reformulations of (2) and (2'):

$$(2^{Ex}) \quad K_a b \ \& \ (Ex)(x = b) \ \& \ K_a \sim (Ex)(x = b) ,$$

$$(2'^{Ex}) \quad K_a b \ \& \ (Ex)(x = b) \ \& \ \sim (Ex)K_a(x = b) ,$$

$$(2^{Eb}) \quad K_a b \ \& \ (Ey)(y = b) \ \& \ K_a \sim (Ex)(x = b) ,$$

$$(2'^{Eb}) \quad K_a b \ \& \ (Ey)(y = b) \ \& \ \sim (Ex)K_a(x = b) .$$

If (2<sup>Ex</sup>) is the correct explication of Ockham's thought, then it is easy to see that both 'knowing' and 'exist' become ambiguous and Ockham's position is *inconsistent simpliciter*. If (2'<sup>Ex</sup>) is the case, then it is hard to say in which sense the formula is inconsistent, though I would like to suggest that it is *epistemically inconsistent*. If (2<sup>Eb</sup>) is the correct formulation, then Ockham is proposing that one always knows according to which limits something is knowable i.e. intuitive knowledge is restricted by the semantics of absolute terms.<sup>17</sup> In this sense (2<sup>Eb</sup>) can be said to be *restrictedly inconsistent*. If, lastly, (2'<sup>Eb</sup>) is the case, then Ockham is not speaking *epistemically inconsistently* (though he may be speaking ambiguously) because only the condition of the identifiability of the object of intuitive cognition is not fulfilled.

Which one of these cases is the most plausible interpretation of Ockham's thought? We can, according to Ockham, talk sensibly of

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<sup>17</sup> See the footnote 21.

individuals only by making knowledge claims in the form of categorical predications. These predications of the form 'K<sub>a</sub>θ(b)' are the objects of intuitive knowledge. By intuitive knowledge the existence of the individuals which the claims are about is semantically presupposed, because the individuals compose the domain of all references of the terms in categorical sentences. Therefore, Ockham seems to accept Existential Importation when he thinks that intuitive cognition implies the following formula:

$$(4) \theta(b) \supset (Ex)\theta(x)$$

The existence of the individuals met in intuitive knowledge is always semantically presupposed, as seen from formula (4), because what it needs for its validity - as has been shown for general semantic purposes by Jaakko Hintikka<sup>18</sup> - is precisely that the individual in question actually exists, i.e. it presupposes that

$$(5) (Ex)(x = b)$$

is true. But precisely this presupposition was secured *via* the epistemic Truth Criterion in (2<sup>Eb</sup>) and (2<sup>Ex</sup>). Therefore, the presupposition of Existential Importation relating to absolute terms in Ockham's semantics strongly supports the view that he would be helplessly ambiguous in trying to offer (2) as an explication of his thought.<sup>19</sup> What he needs, instead, is some sort of differentiation concerning the semantic roles of 'b'. That is, in order to avoid an inconsistency, Ockham must allow some kind of non-identifiability for the object of intuitive knowledge. In this sense (2<sup>Eb</sup>) is the most plausible candidate for Ockham. Consequently, when he says that in such a case the assent "is not evident"<sup>20</sup> he must mean that it is not evident *what* or *who* actually is the object of intuitive knowledge.

6. *The Holcotian approach* I would now like to turn to Holcot. His discussion is confused in many places, mostly because of the corruption of the text. In any case, he does not share Ockham's view concerning the cognition of nonexistent beings, although he follows Ockham in claiming

<sup>18</sup> Cf. "Existential Presuppositions and Existential Commitments", *Journal of Philosophy*, vol. 56 (1959), pp. 125-137.

<sup>19</sup> See the quotation in footnote 7 above.

<sup>20</sup> See the footnote 11.



that mental language as acts of the mind is the "natural" access to reality. The semantic conditions, according to Holcot, culminate in three contexts, in the context of: (i) the referential ties of negative and categorical epistemic sentences, (ii) the interdependence of the Truth Criterion and existence, (iii) the compossibility of intuitive theological knowledge and the natural order.

Concerning the first context, i.e. knowing the nonexistence of an individual *via* intuitive knowledge, Holcot says the following: If we consider a negative existential proposition e.g. 'Socrates does not exist', then, in order to become a genuine object of intuitive knowledge, this proposition is to be seen as a logical sum of the existentially relevant "exponents", i.e. truth conditions or existential presuppositions expressible in simple categorical sentences. But all the candidates for such "exponents" in our example are simple sentences of sensation, such as 'I do not see Socrates now' or 'I do not touch Socrates now'. However many such sentences of immediate sensation we compose, it does not logically follow from them that the sentence 'Socrates does not exist' is true. Consequently, the idea of Holcot's criticism against Ockham is that a particular and negative existential proposition is not verifiable through factual empirical "exponents", because they do not constitute the sufficient semantic or quantificational truth conditions of the sentence. Therefore, however many such "exponents" we have we do not know all of the truth conditions of the sentence expressing intuitive knowledge of the non-existence of a certain being.

Furthermore, if the truth value of the sentence 'Socrates does not exist' is not settled *via* empirical "exponents" or truth conditions, then the semantic presuppositions for knowing a nonexistent being are not settled either. This is because if we can specify among our acquaintances who Socrates is, then Socrates exists, but if we cannot, it certainly does not follow that he does not exist. This is to say that Holcot is rejecting (2), and is more or less consciously relying on (2'), which only is a theoretical possibility for Ockham. But Holcot is clearly saying even more.<sup>21</sup>

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<sup>21</sup> Another way of putting Holcot's idea is to say that even if every intuitively known categorical proposition makes its contradictory false, this is not enough to say *which of all the possible* propositions contradictory to intuitively known ones are false, i.e. we cannot define the whole Universe of Discourse. This is crucial, because it implies that we cannot, logically speaking, know the cause of non-existence because we could know it only if we could list all the existent beings against the non-existent

7. *The univocity of 'exist'* Concerning the second context, i.e. the interdependence of the Truth Criterion and existence, Holcot tries to specify the semantic conditions of existential propositions. (This is the main content of the discussion of the latter part of Holcot's disputation, not forgetting many considerable difficulties in the exegesis of the text.) He, too, thinks that 'exist' is univocal, although 'is' is equivocal in *secundum adiacens* and in *tertium adiacens*. Below I shall discuss the latter part of Holcot's disputation.

Every proposition as a truth claim (if not simple and categorical) is "implicative" i.e. it has "exponents" or truth conditions which imply the reality of some *res*. Holcot's unusual theory seems to be that there are in fact innumerable truth conditions for each cognitive expression because, semantically speaking, every cognitive expression is identified with an adequate mental act, and thus the meaning of the expression becomes a semantic function of the innumerable indexical truth conditions. The most crucial truth condition for any existential expression is what is called *secundum adiacens* ('this is' meaning 'this thing exists'). But if we negate the implicative proposition we are not supposing that anything exists. Holcot says:

It is possible to say that in order to get the contradictory part of an implicative proposition, we have to put the negation before the implicative proposition as follows: no chimera exists. *And this holds for all implicative propositions ...* In a usual way of speaking one could say more easily - whether true or not - that an implication before the negation *does not posit anything as existing* and thus we can say: what is bigger than God is not bigger than God. (My italics)<sup>22</sup>

What Holcot means here is, I think, that only explicitly existentially quantified sentences import existential truth claim, not what is referred to *via* exponents.

In more technical jargon: the semantic rules of personal distributive supposition, i.e. the descent to singulars, do give us the semantic rules

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ones. And if we cannot know the cause of something we simply cannot know it. Therefore, we cannot intuitively know non-existent things.

<sup>22</sup> Cf. "Utrum Theologia Sit Scientia." Ed. J. T. Muckle p. 149: "Et posset dici quod ad habendum contradictorium propositionis implicativae, oportet ponere negationem ante implicationem et sic haec concedenda: non chimera est. Et sic est de omnibus implicativis. Levius posset dici propter usum loquentium, sive verius sive non, quod implicatio ante negationem non possit aliquid et concedere tales: melius deo non est melius deo ..."

of an existential expression. Correspondingly, the negation of an implicative existential proposition empties its extension. In that case we have: "*this* (is not) and *this* (is not)" etc. Therefore, the conclusion must be that in no sense does the being in question exist (provided of course that this "*this*" is defined for all objects). Consequently, it is inconsistent to speak of knowing nonexistent things intuitively.

But this is not what is the most crucial idea here. Holcot ingeniously thinks that we cannot exhaust the *semantic* conditions *via* *epistemic* conditions. These two sets of conditions are not on a par. If we ask, having arrived at the final point of our descending procedure: what is "*this*"? (pointing to something), the answer must be that we do not exhaustively know it because we cannot know its complete concept, i.e. we cannot semantically identify "*this*" in an absolute sense. It follows that we can, while knowing something, fail to know for semantic reasons what it *really* is. And if we cannot do that, we cannot know, for semantic reasons again, *which extensions are empty and which not* in an absolute sense. On the other hand, if we cannot intuitively know nonexistent things without spoiling the logic of knowing, then, it must be that the objects of intuitive cognition, although real and existent, are not semantically *ready made*. Therefore, Holcot wants to remind us of something which could be expressed in modern clothing by saying that we may fail to identify an object of intuitive cognition in some of the relevant possible worlds.

With the help of the separation of the semantic rules from the epistemic conditions Holcot can support the consistency of his own view, *viz.* that it is impossible to define the term 'God' in such a way that we could assimilate the semantic "exponents" of this term with the epistemic "exponents" of the corresponding statements. A few lines later from the citation above Holcot says that "there is no demonstration that a lion is not God". This is because God could be anything in the world, i.e. 'this' or 'this' or etc.<sup>23</sup> The semantic conditions for "*this*" could imply that "*this*" refers to God. But the innumerable semantic conditions which could set up the relation between the term 'lion' and 'God' do not tell us

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<sup>23</sup> Cf. acc. to Muckle ed.: "Probari ergo potest octava conclusio quia fide tenetur quod deus potest esse quaelibet res de mundo simul et per consequens non potest probari quod leo non est deus..."

what epistemic "exponents" have to be satisfied in order for us to be able to make epistemic truth claims concerning God.<sup>24</sup>

8. *The theological context* What was said above comes out nicely concerning the third context of Holcot's discussion. He says that if one knows intuitively that 'God judges', then the term 'God' cannot be like the term 'b' in the sentence F(b), i.e. 'God' is a *complexum* where the parts only indirectly signify what 'God' signifies. We can, however, know the truth of the proposition 'God judges' because God is in principle identifiable as a *being* before we know *who* he is. This is in spite of the fact that we lack the cognitive means for further identification. But without definite knowledge of who God is we can know that he judges, i.e. we identify him as a judging being.

Furthermore, Holcot is of the opinion that ' $K_a F(x)$ ' is the form of theological knowledge because 'x' could be identified, not only metaphysically as *being* (as Scotus said), but also as something specific in the world. This is in fact the case with Christ; it means that we can intuitively know a theological proposition of the form 'F(b)' even if the relevant "exponents" within the natural order do not offer us sufficient cognitive evidence for reaching the complete identification. In other words, we may have intuitive knowledge without knowledge of *what it really is about* in some ontologically more perfect sense.

If we have this kind of intuitive cognition, perhaps without any mediation by the Prime Cause, are we not forced to give up the univocity of 'exist'? In a sense, we are not. We could deal with divine things without supposing for them any peculiar ontological category. We should only remember that these perfectly normal individuals of our world could be bearers of considerably deeper semantic burdens than can be seen on the surface level. In this sense ordinary terms of our language must be understood as becoming metaphorical, so that those individuals which we quantify over *via* these terms are not *ready made* in any ontological sense.<sup>25</sup>

<sup>24</sup> See the footnote 15.

<sup>25</sup> This Holcotian idea is not to be assimilated to some modern ideas in this area. E.g. Hintikka suggests that we have to distinguish between two distinct quantifiers here, one ranging over acquainted individuals, another ranging over public figures. Cf. "Objects of Knowledge and Belief: Acquaintances and Public Figures", *The Intentions of Intentionality and Other New Models for Modalities*. D. Reidel Publishing Company, Dordrecht-Holland / Boston-U.S.A. 1975, p. 43-58.

9. *Conclusion* The main difference between Ockham and Holcot concerns the nature of the semantic ties of language. According to Ockham, intuitive cognition presupposes a domain of existent and well specified individuals. Instead, what Holcot wants to remind us, is that Ockham is not wrong, in the first place, in maintaining that we could intuitively know nonexistent things, although this is somewhat peculiar from the point of view of his theory concerning absolute terms. So, according to Holcot, quantification over nonexistents is not the only problem here. Admittedly Holcot wants to say that Ockham's presupposition of existential generalization concerning absolute terms in the context of intuitive knowledge cannot be the *semantic "exponent"*, because in that case we would be bound to infer ambiguously the existence of a nonexistent. The crucial point, however, is that and in any case our commitment to an object of intuitive knowledge sets up requirements concerning the identifiability of that object, and furthermore, that the failures in satisfying these requirements are not simply due to our epistemic incapacities, but to the ways our language works.

Intuitive cognition, according to Holcot, then, allows a continuous specification of terms. This is especially seen in theological sentences which might acquire their meaning through the language of our everyday world without us having a perfect semantic metatheory for setting up how they manage this. This is why, in my opinion, Holcot is not as radical or sceptical as Ockham concerning the cognitive possibilities of the semantics of religious language. He is rather drawing from Ockham's own ideas conclusions which go a step further towards modern semantic theory.

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**On Being and Essence in St. Thomas Aquinas's Metaphysics  
and Philosophy of Science**

In this paper I would like to present the outlines of a formal reconstruction of St. Thomas Aquinas's concepts of being and essence as they function in his metaphysics and philosophy of science. This will necessitate the introduction of some formalism, however, I try to keep certain balance between formal and informal presentation so that we can steer our way safely between the Scylla of empty concepts and the Charybdis of blind intuition.

Now, as we all know well, "esse duobus modis dicitur. Uno modo secundum quod significat veritatem propositionis, secundum quod est copula ... Alio modo dicitur esse, quod pertinet ad naturam rei, secundum quod dividitur secundum decem genera." (3SN.d.6.q.2.a.2.)<sup>1</sup> So the copulative 'est' signifies the truth of a proposition.

But what is it that makes a proposition true? Well, it is the actual existence of an individualized form, or nature, *signified* by the predicate term *in* the individual supposed for, i.e. referred to by the subject term *at* the time of the predication.<sup>2</sup>

For what individualizes a form in the first instance is the individual *of which* it is a form. Such a form is what St. Thomas speaks of as "forma in supposito singulari existens per quod individuatur". (ST1.q.13.

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<sup>1</sup> [Since severely restricted space did not allow me to indulge in detailed textual analysis, let me ask the reader to "take my notes seriously", i.e. to read my paper with an eye on the texts referred to below, *secundum illud vulgo dictum: melius est esse limum quam caecum.*]

Cf. 1SN 19.5.1.ad1.; 1SN 33.1.1.ad1.; 2SN 34.1.1.; 2SN 37.1.2.ad1.&ad3.; De Ente 1.; De Pot 7.2.ad1.; De Malo 1.1.ad19.; Quodl 9.2.2(3); in Meta 4.1.; in Meta 5.9.; in Meta 6.2.; in Meta 6.4.; in Meta 11.8.; ST1 3.4.ad2.; ST1 16.3.ad2.; ST1 48.2.ad2.; ST1-2 36.1; ScG 1.12.; ScG 1.58.; ScG 3.9.; cf. also Cajetan: Comm. in de Ente, c.1. in princ. in: *Opuscula Omnia*, (Lugduni, 1577); Alamannus: *Summa Philosophiae*, Tom.1.Sect.II.5.1. (Paris, 1888); R.W.Schmidt: *The Domain of Logic according to Saint Thomas Aquinas* (The Hague, Martinus Nijhoff, 1966) Part II. ch.4. & Part III. ch.VIII.

<sup>2</sup> Cf. "Sicut cum dico, Socrates est homo, veritas huius enuntiationis causatur ex compositione formae humanae ad materiam individuaem, per quam Socrates est hic homo." in Meta 9.11. *vide totum locum*; cf. also Schmidt, op. cit. pp.212-214 & 224-226.

a.9.)<sup>3</sup> But the other individuating condition is time: for even if an individual can have numerically the same form at different times, still, the form once emitted cannot recur numerically the same, "quia quod omnino in nihilum decidit idem numero resumari non potest". (4SN.d.22.q.1. a.1.)<sup>4</sup>

So predicates signify individualized forms, which are numerically different in different individuals (except for the case of divinity, of course<sup>5</sup>) and may be different in the same individual at different times. But the same predicate in the same individual at the same time cannot signify different forms. So we can speak of *the significate of a predicate P in an individual u at time t*, which, therefore, can be denoted as a value of a function for these arguments like this: Sgt(P)(u)(t).

Now it is the existence of such an individualized form that accounts for the truth of a predication (namely, of predicating P of u at t): "ex hoc enim quod aliquid in rerum natura est sequitur veritas vel falsitas in propositione, quam intellectus significat per hoc verbum 'est' prout est verbalis copula." (in *Meta* 5.9.)<sup>6</sup>

But so we can say that a proposition of the form 'S est P' is true at time t according to a given supposition, or acceptance of its subject term, if the significate of P in the individual supposed for by S at time

<sup>3</sup> Cf. "Non enim oportet si hoc est homo, et illud homo, quod eadem sit numero humanitas utriusque, sicut in duobus albis non est eadem albedo numero" 2SN 17.1.1.; cf. e.g. ST1 85.1. & 2.ad2.; cf. also Alamannus, op.cit. q.2. aa.1-3. Note that from the point of view of this reconstruction it makes no difference whether we speak of Socrates's humanity or of the humanity individualized by Socrates's matter, i.e. by the *materia signata* that makes Socrates *this* individual. Indeed, these are one and the same form, the *forma totius* of Socrates. Cf. also the references of the next note.

<sup>4</sup> Cf. In Phys. 5.6.; Quodl. 4.3.2.; Quodl. 11.6.; ScG 4.80 & 81; 4SN 44.1.1.; Comp. Theol. 1.154.

<sup>5</sup> Cf. ST1 39.2 & 3.; 1SN 9.1.2.; De Pot. 9.6. By the way, this approach offers a very good criterion of truth for relative identity statements, like "a is the same F as b", as opposed to absolute identity statements like "a is identical with b". The former holds iff the significate of 'F' in the suppositum of 'a' is identical with the significate of 'F' in the suppositum of 'b'. So "Filius est idem Deus cum Patre" is true, for 'Deus' signifies the same nature in the suppositum of 'Filius' and in the suppositum of 'Pater'. But "Filius est idem cum Patre" is false, since the Son and the Father are distinct supposita of this nature, while this sentence states the identity of these supposita.

<sup>6</sup> Cf. 1SN 19.5.1.; 1SN 33.1.1.ad1: "esse quod significat veritatem compositionis in propositionibus ... fundatur in esse rei"; Schmidt, op. cit. pp.232-237.

t, at time t exists. It is the actual existence of this significate that founds the truth of this proposition.<sup>7</sup>

But from this it does not follow that this form is the significate of this proposition. For the proposition involves also the copula, which signifies composition, which need not have a direct counterpart in reality. For the copula is "significans compositionem cuiuslibet enuntiationis quam anima facit, unde hoc esse non est aliquid in rerum natura, sed tantum in actu animae componentis et dividensis". (Quodl.9.2.2(3)).<sup>8</sup>

But so we can say that what is signified by a propositional composition is a sort of *ens rationis* signified by the copula, which is in the second sense, if and only if the form signified by the predicate in the suppositum of the subject is in the first sense.<sup>9</sup> (In the case, of course, when the predicate is such that it signifies some real form, not a privation, negation or relation of reason. In these latter cases also the significate of the predicate would be an *ens rationis*. See n.17.)

Now to give this idea a formal expression consider the following. First, let us suppose that everything that can be signified by any means is either actual or not actual at a given time t.<sup>10</sup> Let us suppose further that everything which is actual is either a mere *ens rationis* or also an *ens reale*.<sup>11</sup> The significate of a predicate P in an individual u at time t is an element of one of these domains:  $Sgt(P)(u)(t) \in W(t)$ , where  $W(t)$  is the set of all signifiable things which are either actual or not actual at

<sup>7</sup> Cf. Schmidt, op.cit. pp.224-228., cf. also H. Weidemann: "The Logic of Being in Thomas Aquinas", in: S. Knuutila - J. Hintikka: *The Logic of Being* (Dordrecht, Holland, 1986).

<sup>8</sup> This point is brought out nicely in Weidemann, op.cit. sect.IV; cf. also Schmidt, op.cit. pp.238-239.

<sup>9</sup> I would tentatively identify the significate of a proposition as the *enuntiabile* expressed by the proposition, expressly called by St. Thomas a *res rationis* in 1SN 41.1.5. I say: "tentatively", because of St. Thomas's tendency to use the term *enuntiabile* as a synonym for *enuntiatio* (although "emphasizing the objective meaning of enunciation" Schmidt, op.cit. p.223. n.84.). For St. Thomas's use of the term see 3SN 24.1.1b.; 1SN 38.1.3.; De Ver. 2.13.ad7.; 1.6.; 14.8.; 2.7.; 1.5.; 14.12.; Quodl. 4.9.2.; ST1 14.14.; ST1 14.15.ad3.; ST1 16.7.; ST3 1.2.ad2. For a clear expression of the view that an *enuntiabile* is the significate of a proposition see e.g. *Logica Modernorum*, vol.II. - part two (ed.: L.M. de Rijk, Assen, 1967) pp.208-213. See also: Peter of Spain: *Tractatus* (ed.: L.M. de Rijk, Assen, 1972.) pp.205-207. Cf. also G. Nuchelmans: *Theories of the Proposition - Ancient and Medieval Conceptions of the Bearers of Truth and Falsity* (Amsterdam-London, 1973.) pp.165-194.

<sup>10</sup> Cf. e.g. De Princ. c.1. For a medieval-style resolution of the problems involved in referring to and quantifying over nonexistents see my "Existence, Quantification and the Mediaeval Theory of Ampliation", *Doxa* 9(1987) pp.83-112.

<sup>11</sup> Cf. 2SN 34.1.1.

time  $t$ , so that the set  $A(t) \neq Ra(t)$  is a part of  $W(t)$ , and  $Re(t)$  is a part of  $Ra(t)$ .

Now this significate may be construed as the value of a function for the argument  $t$ . But so the function itself can be got from this by lambda-abstraction as follows:

$$\lambda t(\text{Sgt}(P)(u)(t))$$

But this, again, can be regarded as a value of a function for the argument  $u$ . So, again, we get the function itself by applying lambda-abstraction to  $u$  too - and let me call the result the *signification of P*.<sup>12</sup>

$$\text{Sg}(P) = \lambda u(\lambda t(\text{Sgt}(P)(u)(t)))$$

Now let us suppose further that what the copula, the sign of composition composes are this function and its consecutive arguments, supplied by the subject term and the time of the predication. So we can write:

$$\text{Sgt}(S \text{ est}_2 P)(t)(Sp) = \text{Sgt}(\text{est}_2)(\text{Sg}(P))(Sp(S)(t))(t),$$

where  $Sp(S)(t) \in \{u: \text{Sgt}(S)(u)(t) \in A(t)\}$ , if this set is not empty, otherwise  $Sp(S)(t) = \emptyset$ ,<sup>13</sup> and  $\text{Sgt}(\text{est}_2)(V)(u)(t) \in W(t)$ , where  $V(u)(t) \in W(t)$  and  $\text{Sgt}(\text{est}_2)(V)(u)(t) \in A(t)$  iff  $V(u)(t) \in A(t)$ .

That is, what is signified by a proposition (at time  $t$  according to a given supposition, or acceptance of its subject term) is what is signified by the copula when it composes the nature signified by the predicate (according to its absolute consideration<sup>14</sup>) with the suppositum of its subject (at time  $t$ ) at time  $t$ : for "compositio enuntiabilis significat aliquod esse rei" (ST1.q.14.a.14.ad2.). It is this composition of the intellect

<sup>12</sup> For the use of lambda-abstraction see A. Church, *Introduction to Mathematical Logic* (Princeton, 1956.), pp.15-23. Concerning the close parallelism between functional abstraction, on the one hand, and the Aristotelian conception of abstraction, on the other, see P.T. Geach, "Form and Existence", in: *God and the Soul* (London, 1969) and my "St. Thomas Aquinas on the Meaning of Words", *Magyar Filozófiai Szemle* 3-4(1984) pp.298-313. (in Hungarian with English abstract). As for the terminology used, of course, the terms "signification" and "significate" are not to be regarded as strictly corresponding to St. Thomas's use of *significatio* and *significatum*. What I call "signification" is most frequently referred to by St. Thomas as *forma significata (per praedicatum)*, and what I call "significate" is St. Thomas's *forma vel natura individuata*. Cf. e.g. ScG 4.49.; ST1 39.4.ad1.; ST 16.2.; 1SN 25.1.4.; 3SN 7.1.1.ad5.; 1SN 4.1.2. &c.

<sup>13</sup> As can be seen,  $\emptyset$  is the semantic value of empty terms. If we add the condition that for any predicate *non habens vim ampliandi*  $\text{Sgt}(P)(\emptyset)(t) \notin A(t)$ , and that an  $A$  proposition is true (at time  $t$ ) iff its predicate is true of every suppositum of its subject (i.e.,  $|\text{Omne } S \text{ est}_2 P|t = T$  iff for every  $u \in \{u: \text{for some } Sp, Sp(S)(t) = u\}$ ,  $\text{Sgt}(P)(u)(t) \in A(t)$ ), then all relations of the Square of Opposition and all syllogistical forms are saved. Cf. My "Modernorum Logica Modernorum", in: *Festschrift for Imre Ruzsa* (ed.: L. Pölös, Budapest, 1988).

<sup>14</sup> Cf. De Ente c.4. in fine. Cf. etiam Cajetanum ad hunc locum.

which answers the composition that is found in the thing.<sup>15</sup> And just as from the real composition in the thing there results an *esse reale*, so from the composition of the intellect results an *esse rationis* answering the *esse reale* which ultimately founds the truth of the proposition.<sup>16</sup>

But so we can say that the proposition is true if and only if what it signifies exists in the second sense, i.e. if it is an *ens rationis* and that this is so if and only if the nature or form signified by the predicate in the suppositum of the subject exists in the first sense, i.e. if it is an *ens reale* (provided that the predicate is such that it does not signify negation, privation or rationate relation) at the time of the predication:<sup>17</sup>

$$|S \text{ est}_2 P|t, Sp = T \text{ iff } \text{Sgt}(S \text{ est}_2 P)(t)(Sp) \in \text{Ra}(t) \\ \text{iff } \text{Sgt}(P)(Sp(S)(t))(t) \in \text{Rc}(t)$$

But what about the case when the copulative 'est' is used absolutely, without the addition of a predicate term, when it answers the question *an est?*

Well, we may say that despite appearances this case is not so different from the former: for just as in the former case the copula signified the existence of what is signified by a predicate in a suppositum, so it signifies in this case the existence of the suppositum - the absence of the predicate term means that it is not some determinate mode of existence that is attributed to the suppositum, but existence *simpliciter*. So in our reconstruction we may suppose that in this case what holds the place of the signification of the missing predicate term is an "identical" operation, i.e. a function which, somewhat loosely speaking, sends its argument into itself:

$$\text{Sgt}(S \text{ est}_2)(t)(Sp) = \text{Sgt}(\text{est}_2)(I)(Sp(S)(t))(t),$$

where  $I(u)(t) = u$ .

<sup>15</sup> Cf. Schmidt, op.cit. pp.224-226. See also the texts referred to by him.

<sup>16</sup> "Tertio modo dicitur esse quod significat veritatem compositionis in propositionibus, secundum quod 'est' dicitur copula: et secundum hoc est in intellectu componente et dividente quantum ad sui complementum; sed fundatur in esse rei, quod est actus essentiae." (ISN 33.1.1.ad1.) Cf. Schmidt, op.cit. pp.215-222.

<sup>17</sup> I think when the predicate signifies an *ens rationis*, then (and only then) we can identify the significate of the predicate with that of the copula: if  $\text{Sgt}(P)(u)(t) \in \text{Ra}(t) - \text{Re}(t)$ , then  $\text{Sgt}(\text{est}_2)(\text{Sg}(P))(u)(t) = \text{Sgt}(P)(u)(t)$ . In this way the *esse* of the significate of the predicate will consist indeed *in actu animae componentis et dividensis*. However, against this identification cf.: Cajetan: *Commentaria in Praedicamenta Aristotelis* (Romae, 1939) pp.210-212.



From this we can derive that

$$|S \text{ est}_2|t, Sp = T \text{ iff } Sp(S)(t) \in Ra(t),$$

i.e., that the sentence 'S est<sub>2</sub>' is true, iff an S is a rationate being.<sup>18</sup>

Now this reconstruction may perhaps gain further confirmation from the fact that if we take into consideration St. Thomas's claim that a substantive name, as opposed to an adjective name, can be taken for its suppositum even in predicate position,<sup>19</sup> then from this reconstruction it follows that deletion of a substantive predicate term does not affect the signification of a proposition, thereby doing justice to the intuition behind the "ellipsis" theories of the copula.<sup>20</sup> For if  $Sg(P) = I$ , i.e., if the predicate P is taken to signify not a form in a thing distinct from the thing, but the thing itself, then from the above equivalences it follows that

$$Sgt(S \text{ est}_2 P)(t)(Sp) = Sgt(S \text{ est}_2)(t)(Sp).$$

So we can say that 'est' in the second sense, whether it is used as a copula, i.e. as *tertium adjacens*, or absolutely, as *secundum adjacens*,

<sup>18</sup> Of course, through  $|S \text{ est}_2|t, Sp = T \text{ iff } Sgt(S \text{ est}_2)(t)(Sp) \in Ra(t)$ . For, in general, for any proposition p:  $|p|t, Sp = T \text{ iff } Sgt(p)(t)(Sp) \in A(t)$ . Cf. Mohan Matthen: "Greek Ontology and the 'Is' of Truth", *Phronesis* 2(1983) pp.113-135. And from this:  $|p|t = T \text{ iff}$  for some Sp:  $Sgt(p)(t)(Sp) \in A(t)$ , *secundum regulam: indefinita aequipolet particulari*.

<sup>19</sup> Cf. 3SN 5.3.3. I think I should briefly comment on St. Thomas's remark in this text that in this case the predication is a *praedicatio per identitatem* as opposed to a *praedicatio per informationem sive denominationem*, the latter being a *magis propria praedicatio for praedicata tenentur formaliter*. (Cf. e.g. in Meta 9.11.; ST3 16.7.ad4.; ST1 13.12.; 85.5.ad3.) Now this reconstruction, as it stands, of course, favors the "inference theory" as opposed to the "identity theory" of predication (cf. e.g. L.M. de Rijk's "Introduction" (pp.37-48.) to his edition of Abelard's *Dialectica* (Assen, 1956); D.P. Henry: *Medieval Logic and Metaphysics* (London, 1972) pp.55-56; P.T. Geach: "Nominalism", in: *God and the Soul* (London, 1969)) in that it assigns the predicate the semantic function of signifying inherent forms through its abstract signification. However, this does not preclude the fact that even in this reconstruction a "proper predication" is always equivalent to an identity statement: 'S est<sub>2</sub> P'  $\Leftrightarrow$  'S = P'; if  $Sgt(=)(u_1)(u_2)(t) \in A(t) \text{ iff } u_1 = u_2 \in A(t)$ , whence  $Sgt(S = P)(t)(Sp) = Sgt(=)(Sp(S)(t))(Sp(P)(t))(t)$ . Now since supposition of a term is defined through the actual inherence of the form signified by the term, this reconstruction expressly shows that a predication is true iff its terms supposit for the same thing, i.e. iff the forms signified by its terms inhere in their common suppositum. Furthermore, if we take the predicate (in St. Thomas's, but not e.g. Ockham's and his followers', view, improperly) to stand immediately for its suppositum, i.e., if we identify its significates with its supposita, then we can identify also the significate of a predication with that of an identity statement. So in this case taking the copula in the sense of identity will not affect even the *sense* of a proposition, thereby doing full justice also to the identity theory of the copula.

<sup>20</sup> Cf. e.g. R.M. Dancy: "Aristotle and Existence", in: Hintikka - Knuuttila: *The Logic of Being* (Dordrecht, 1986); A. Kenny, *The Five Ways* (London, 1969) pp. 91-95.

predicates existence in the second sense, i.e. existence proper to ratiolate beings.<sup>21</sup>

But this kind of existence is founded on existence in the first sense, proper to real beings, which is signified by 'est' in the first sense:

$$|S \text{ est}_1|t, Sp = T \text{ iff } \text{Sgt}(\text{est}_1)(Sp(S)(t) \in A(t),$$

where  $\text{Sgt}(\text{est}_1)(u)(t) \in A(t) \text{ iff } u \in \text{Re}(t)$ .

But so

$$|S \text{ est}_1|t, Sp = T \text{ iff } Sp(S)(t) \in \text{Re}(t)$$

while

$$|S \text{ est}_2|t, Sp = T \text{ iff } Sp(S)(t) \in \text{Ra}(t)$$

and so, since  $\text{Re}(t) \subseteq \text{Ra}(t)$ , therefore 'S est<sub>1</sub>' implies 'S est<sub>2</sub>' but not conversely. (Whether the converse implication holds or not depends on the meaning of S: if S denotes real beings, then, of course, also the converse implication holds.)

So the verb 'est' primarily signifies actual, real existence (as its "focal meaning").<sup>22</sup> But this signification is extended also to ratiolate beings, which exist in a secondary, derivative sense, owing this derivative existence to the real existence of real beings, whether these be subsistent individuals, or real forms inhering therein.<sup>23</sup>

For this real existence is attributed to something in a twofold manner: "Uno modo, sicut ei quod proprie et vere habet esse, vel est ... Omnia vero quae non per se subsistunt, sed in alio, vel cum alio, sive sint accidentia, sive formae substantiales, aut quaelibet partes, non habent esse ut ipsa vere sint, sed attribuitur eis esse alio modo, idest ut quo aliquid est. Sicut albedo dicitur esse, non quia ipsa in se subsistat, sed quia ea aliquid habet esse album." (Quodl.9.2.)

Now, since any individual substance can have only one *esse substantiale*,<sup>24</sup> therefore we can say that a form is substantial to an individual if and only if the *esse* of this form (*ut quo aliquid est*) is identical with the *esse* of the individual (*quod est*). But so, further, a

<sup>21</sup> This is why (*pace* Schmidt, p.235) 'est' means the same in 'Caecitas est' and 'Aliquid est caecum', or even in 'Deus est' when this is an answer to the question 'An Deus est?' Cf. texts referred to in n.1.

<sup>22</sup> I have borrowed the term from G.E.L. Owen through Weidemann, *op.cit.* p.190.

<sup>23</sup> Cf. in *Meta* 4.1.

<sup>24</sup> "Impossibile est enim quod unum aliquid habeat duo esse substantialia" 3SN 6.2.2.

predicate P is essential, or substantial to an individual u, if and only if it signifies such a form in u:

$$(P)\text{Subst}(u) \text{ iff } \text{Sgt}(\text{est}_1)(u)(t) = \text{Sgt}(\text{est}_1)(\text{Sgt}(P)(u)(t))(t),$$

from which, besides, it follows that if P is essential to u, then it is necessary that if u exists, then it is P.<sup>25</sup>

Now, as the significate of a substantial predicate is a substantial form, St. Thomas's thesis of the unity of substantial form can be expressed in this framework as follows:<sup>26</sup>

If G and S are substantial predicates of u, then

$$\text{Sgt}(S)(u)(t) = \text{Sgt}(G)(u)(t).$$

On the other hand, since a species term signifies the quiddity, or essence of a thing, therefore the thesis of the real distinction of essence and existence in the creatures may be expressed as follows:<sup>27</sup>

If S is a species term, then

$$\text{Sgt}(S)(u)(t) \neq \text{Sgt}(\text{est}_1)(u)(t).$$

Now this is how *esse* and *essentia* are found in the individuals; and it is by abstracting from these that we arrive at the cognition of universals, a class of rationally beings.<sup>28</sup>

But so, if the significate of a predicate P in an individual u at time t is a *natura individuat*a of P-ness, then what we get by this abstraction is the nature of P as considered absolutely, without any individuating conditions:<sup>29</sup>

$$\text{Nat}(P) = \lambda u \lambda t (\text{Sgt}(P)(u)(t)) / = \text{Sg}(P) /$$

"Haec autem natura habet duplex esse, unum in singularibus, aliud in anima, et secundum utrumque consequuntur dictam naturam accidentia..." Namely, for example: "ratio speciei accedit naturae humanae secundum illud esse quod habet in intellectu ... Et quamvis haec natura intellecta

<sup>25</sup> Cf. Porphyry's definition of accident; also my paper referred to in n.10.

<sup>26</sup> Cf. e.g. De Ente c.3.

<sup>27</sup> Cf. e.g. De Ente c.5.

<sup>28</sup> The "basic texts" for St. Thomas's theory of abstraction are the following: in De Anima 3.8-12; ST1 13.12.ad1.; ST1 85.1.; in De Trin. 3.5.3. cf. Also Alamannus, op.cit., tom.1.sect.1.q.2.aa.1-3; Schmidt, pp.177-202.

<sup>29</sup> Concerning the connection between abstraction and reduplicative constructions extensively used by St. Thomas in this connection (cf. e.g. De Ente c.4 & comm. Cajetani ad idem), see J. Lear: "Aristotle's Philosophy of Mathematics", *The Philosophical Review*, April 1982, pp.161-192. Concerning 13th century treatment of reduplicative propositions in general, see my "Libellus pro Sapiente - a Criticism of Allan Bäck's Argument against St. Thomas Aquinas' Theory of the Incarnation", *The New Scholasticism*, 58(1984) pp.207-219.

habet rationem universalis secundum quod comparatur ad res quae sunt extra animam, quia est una similitudo omnium, tamen secundum quod habet esse in hoc intellectu vel in illo est species quaedam particularis". (De Ente 4.)

Now from these and related remarks we may form the following picture: by concretion, the inverse operation of abstraction as presented above, we can *go*, as it were, in two directions: either *ad extra*, and then we arrive at the real individualized natures of individuals, or *ad animam*, and then we arrive at the universal intentions of particular minds.<sup>30</sup> But these intentions are universal only insofar as they are got by abstraction, carried out by these particular minds, from representations of individuals, namely from phantasms.

Now from these mental representations (universal intentions and phantasms), in a similar manner as we could construct the significates of propositions *ad extra*, we can construct their significates *apud mentem*.<sup>31</sup> Correctness of belief, then, consists in the *adaequatio* of these two kinds of significates. But this correctness is based on the evident truth of first principles, which, in turn, owe their evidence to induction, based on correct, essential abstraction; for "sensus est quodammodo et ipsius universalis. Cognoscit enim Calliam, non solum in quantum est Callias, sed etiam in quantum est hic homo, et similiter Sortem, in quantum est hic homo. Et inde est, quod tali acceptione in sensu praecistente, anima intellectiva potest considerare hominem in utroque. ... Sic enim, scilicet per viam inductionis sensus facit universale in anima, in quantum considerantur omnia singularia." (An. Post.2.20)<sup>32</sup>

However, limited space does not allow me to present here the relevant reconstructions. All I hope to have shown in this paper is that by the semantic approach presented here St. Thomas's thoughts concerning essence and existence can be given such a strict formulation that meets even present day standards of exactitude, whereby these thoughts can be treated as something very substantial, and highly relevant even to our modern ways of doing philosophy.

<sup>30</sup> Cf. Schmidt, op.cit. pp.98-130 & 212-215.

<sup>31</sup> Concerning how this approach can be developed into a fully-fledged formal semantics see my "Understanding Matters from a Logical Angle", in: Gyula Klima: *Ars Artium: Essays in Philosophical Semantics, Mediaeval and Modern*, Budapest, 1988.

<sup>32</sup> Cf. in Meta 1.1.; in Anal.Post. 2.20.; Schmidt, op.cit. pp.270-302.

Appendix

In this Appendix I supply a brief, exact description of the formal theory outlined in the body of the paper, lest any technically obscure point should remain.

The language of the theory, the language of categorical propositions, is defined as follows:  $L := \langle C, Pr, F \rangle$ , where  $C := \{est_1, est_2, -, Q, =\}$  (where  $-$  is the sign for negation and  $Q$  is 'Omne' or 'Quoddam' or their equivalents),  $Pr$  is a set of predicate parameters ( $S, P$ , etc.), and  $F$ , the set of formulae, or sentences is defined by the following clauses:

/i/ If  $S, P \in Pr$ , then ' $S est_2 P$ ', ' $Q S est_2 P$ ', ' $S est_1$ ', ' $S est_2$ ', ' $S = P$ '  $\in F$ .

/ii/ If  $p \in F$ , then ' $\neg p$ '  $\in F$ .

A model for this language is defined as follows:  $M := \langle W, T, \langle, A, Ra, Re, \emptyset, Sg \rangle$ , where  $W(t)$  is a nonempty set,  $T$  is a set of time-points ordered by  $\langle$ ,  $A(t)$  is a part of  $W(t)$ ,  $Ra(t) = A(t)$ , and  $Re(t)$  is a part of  $Ra(t)$ , where  $t$  is an element of  $T$ . Intuitively,  $W(t)$  is the set of all signifiable things which are either actual or not at time  $t$ ,  $A(t)$  is the set of things which are actual at time  $t$ ,  $Ra(t)$  is the set of ratiolate beings and  $Re(t)$  is the set of real beings at time  $t$ .  $\emptyset$ , the zero-entity, the semantic value of empty terms falls outside the whole universe of discourse  $W!$ , i.e.  $\emptyset \notin W!$ , where  $W! := \bigcup_{t \in T} W(t)$ , i.e.,  $W!$  is the union of all  $W(t)$ 's.  $Sg$ , the signification function is defined for any expression (primitive as well as complex) as follows:

$$Sg(\text{exp}) := \lambda e_1 (\dots \lambda e_n (Sgt(\text{exp})(e_1) \dots (e_n)) \dots),$$

where  $Sgt(\text{exp})(e_1) \dots (e_n)$  is the significatum of any expression in respect of any entities  $e_1 \dots e_n$  whatever (including elements of  $W! \cup \{\emptyset\}$ ,  $T$ , elements of  $L$  and functions defined on these).

Note that I use the lambda-operator and repeated pairs of parentheses after functional expressions according to the following equivalences:

If  $f$  and  $g$  are functions, then

$$f(x)(y) = g(y) \text{ iff } f(x) = g \text{ iff } \lambda y(f(x)(y)) = g.$$

Now  $Sgt(\text{exp})(e_1) \dots (e_n)$  is defined by the following clauses (if not otherwise indicated, it is supposed throughout that  $t \in T$  and  $u \in W!$ ):

/i/  $Sgt(P)(u)(t) \in W(t)$

/ii/  $Sgt(P)(\emptyset)(t) \notin A(t)$ , provided  $P$  is non-ampliative



- /iii/  $\text{Sgt}(\text{est}_2)(V)(u)(t) \in W(t)$ , where  $V(u)(t) \in W(t)$ , and  $\text{Sgt}(\text{est}_2)(V)(u)(t) \in A(t)$  iff  $V(u)(t) \in A(t)$  (Intuitively,  $V$  is the place-holder of the signification function of the predicate term, while  $u$  is the place-holder of the suppositum of the subject term. Cf. /viii/ below.)
- /iv/  $\text{Sgt}(\text{est}_1)(u)(t) \in W(t)$ , and  $\text{Sgt}(\text{est}_1)(u)(t) \in A(t)$  iff  $u \in \text{Re}(t)$
- /v/  $\text{Sgt}(=)(u_1)(u_2)(t) \in W(t)$  and  $\text{Sgt}(=)(u_1)(u_2)(t) \in A(t)$  iff  $u_1 = u_2 \in A(t)$
- /vi/  $\text{Sgt}(-)(u) \in W(t)$  and  $\text{Sgt}(-)(u) \in A(t)$  iff  $u \notin A(t)$
- /vii/  $\text{Sgt}(Q)(N^*)(E(V))(t) \in W(t)$ , and  $\text{Sgt}(Q)(N^*)(E(V))(t) \in A(t)$  iff for  $Q'u \in N^*$ ,  $E(V)(u)(t) \in A(t)$ , where  $Q'$  is the English equivalent of  $Q$ ,  $E(V)(u)(t) \in W(t)$ ,  $N(u)(t) \in W(t)$ , and  $N^* := \{u: N(u)(t) \in A(t)\}$ , if  $\{u: N(u)(t) \in A(t)\}$  is not empty, otherwise  $N^* := \{\emptyset\}$ . (Intuitively,  $N$  and  $E(V)$  are the place-holders of the signification functions of the NP and VP of the quantified statement,  $E$  is the placeholder of the signification of the copula, while  $N^*$  is the place-holder of the range of values of the NP, i.e., of the subject of the quantified statement. Cf. /iii/ above, and /xii/ below.)

These were the clauses for the primitive expressions of  $L$ . Now here follow the clauses for the complex expressions of  $L$ :

- /viii/  $\text{Sgt}(S \text{ est}_2 P)(t)(\text{Sp}) = \text{Sgt}(\text{est}_2)(\text{Sg}(P))(\text{Sp}(S)(t))(t)$ , where  $\text{Sp}(S)(t)$  is an element of  $\{u: \text{Sgt}(S)(u)(t) \in A(t)\}$ , if this set is not empty, otherwise  $\text{Sp}(S)(t) = \emptyset$
- /ix/  $\text{Sgt}(S \text{ est}_2)(t)(\text{Sp}) = \text{Sgt}(\text{est}_2)(I)(\text{Sp}(S)(t))(t)$ , where  $I(u)(t) = u$
- /x/  $\text{Sgt}(S \text{ est}_1)(t)(\text{Sp}) = \text{Sgt}(\text{est}_1)(\text{Sp}(S)(t))(t)$
- /xi/  $\text{Sgt}(S = P)(t)(\text{Sp}) = \text{Sgt}(=)(\text{Sp}(S)(t))(\text{Sp}(P)(t))(t)$
- /xii/  $\text{Sgt}(Q S \text{ est}_2 P)(t)(\text{Sp}) = \text{Sgt}(Q)(\text{Sp}(S)(t)^*)(\text{Sg}(\text{est}_2)(\text{Sg}(P)))(t)$ , where  $\text{Sp}(S)(t)^* := \{u \in W! \cup \{\emptyset\}: \text{for some Sp, } u = \text{Sp}(S)(t)\}$  and  $\text{Sg}(\text{est}_2)(\text{Sg}(P)) = \lambda u (\lambda t (\text{Sgt}(\text{est}_2)(\text{Sg}(P))(u)(t)))$ .
- /xiii/  $\text{Sgt}(-p)(t)(\text{Sp}) = \text{Sgt}(-)(\text{Sgt}(p)(t)(\text{Sp}))$ .

Now the definition of truth for any formula  $p$ , at time  $t$ , according to a given supposition, or acception of its terms is the following:

$$|p|t, \text{Sp} = T \text{ iff } \text{Sgt}(p)(t)(\text{Sp}) \in A(t);$$

wherefrom the definition of truth at time  $t$  is as follows:

$$|p|t = T \text{ iff for some Sp, } |p|t, \text{Sp} = T.$$

Now, if we define: 'Quoddam  $S$  non est<sub>2</sub>  $P$ '  $\Leftrightarrow$ df. '- Omne  $S$  est<sub>2</sub>  $P$ ' and 'Nullum  $S$  est<sub>2</sub>  $P$ '  $\Leftrightarrow$ df. '- Quoddam  $S$  est<sub>2</sub>  $P$ ', then all the relations

required by the Square of Opposition among the four categoricals are provably valid in this system.

For possible extensions of this approach see my paper referred to in note 31.

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### Nomic Necessities in Late Medieval Thought

My aim in this paper is to pay attention to the fact that on the basis of their 'modern' theory of modality many fourteenth century thinkers were led to a new understanding of the nature of natural necessities. It was realized that at least some of the natural invariances which had been called necessary were necessary in a sense which did not have anything to do with logical or conceptual necessity. Instead of demanding that only logical necessities should be treated in natural philosophy, they were inclined to think that the notion of necessity is equivocal and its different meanings should be kept separate. One of them is the weak necessity which is used in some branches of natural philosophy. I also try to show that this theory of the nomic necessities differs in a remarkable way from what Thomas Aquinas says about natural necessity.

#### 1. *Natural Modalities in Thomas Aquinas*

One of the Aristotelian modal paradigms, used by Boethius and after him by many others in the Middle Ages, can be called the statistical model of modality. It is based on the idea that temporal or generic frequencies can be spoken of by means of the modal notions. According to the statistical interpretation, what always is, is by necessity, and what never is, is impossible. Correspondingly, if a property belongs to all members of a species, it can be called necessary relative to that species, and if it is not actual in a species, it is impossible vis-à-vis that species. Possibility is taken to refer to actuality at least at some time or in some member of a group.<sup>1</sup>

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<sup>1</sup> For the history of the statistical interpretation of modality, see J. Hintikka, *Time and Necessity: Studies in Aristotle's Theory of Modality*, Clarendon Press, Oxford 1973, J. Hintikka with U. Remes and S. Knuuttila, *Aristotle on Modality and Determinism* (Acta Philosophica Fennica 29, 1), North-Holland Publishing Company, Amsterdam 1977, S. Knuuttila, "Time and Modality in Scholasticism" in S. Knuuttila (ed.), *Reforging the Great Chain of Being* (Synthese Historical Library 20), Reidel, Dordrecht 1981, pp. 163-

We find this model in many places in the writings of Thomas Aquinas. While classifying propositions which state something about necessary or contingent matter, respectively, Aquinas delineates them as follows:

In necessary matter all affirmative enunciations are determinately true; this holds for enunciations in future time as well as in past and present time; and negative enunciations are determinately false. In impossible matter the contrary is the case. In contingent matter, however, universal enunciations are false and particular enunciations are true. This is the case in enunciations about the future as well as those of the past and present. In indefinite enunciations, both are at once true in future enunciations as well as in those of the present and the past. (*In Periherm.* I, lect. 13, n. 168)<sup>2</sup>

This account belongs to the introductory remarks of Aquinas's discussion of the future sea-battle problem, a part of which is to locate singular propositions about future contingents in the above scheme. In an interesting remark on Diodorus's statistical definitions of modal notions, Thomas Aquinas says that they can be criticized for being formulated *a posteriori*. In his opinion, the statistical interpretation of modality is secondary and should be understood in the light of the basic necessities and possibilities included in the nature of things:

Some who distinguished them according to result - for example Diodorus - said that the impossible is that which never will be, the necessary, that which always will be, and the possible, that which sometimes will be, sometimes not. ... The first distinctions are a posteriori, for something is not necessary, because it always will be, but rather, it always will be because it is necessary; this holds for the possible as well as the impossible. ... Others distinguished these better by basing their distinction on the nature of things. They said that the necessary is that which in its nature is determined only to being, the impossible, that which is determined only to nonbeing, and the possible, that which is not altogether determined to either... (*In Periherm.* I, lect. 14, n. 183)

If the Diodorean formulations are turned in the way Thomas Aquinas thinks they should be turned, something will be at some time and not be at other times, because it is possible and neither necessary nor impossible. So the actuality at some moment of time remains the indicator of the genuineness of an alleged possibility and the statistical use of modalities is legitimate, although it is not primary. What is more close to

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257, L. Alanen and S. Knuuttila, "The Foundations of Modality and Conceivability in Descartes and His Predecessors" in S. Knuuttila (ed.), *Modern Modalities* (Synthese Historical Library 33), Kluwer Academic Publishers, Dordrecht 1988, pp. 1-69.

<sup>2</sup> Translated by J.T. Oesterle in *Aristotle: On Interpretation. Commentary by St. Thomas and Cajetan*, Marquette University Press, Milwaukee, Wisconsin 1962.

the nature of things is another Aristotelian modal paradigm, namely that which is connected with the concept of potency. An elaborate version of this model played a significant role in Aquinas's theory of the principles of natural philosophy.<sup>3</sup>

Thomas Aquinas divides the necessities pertaining to the natural things into those founded on intrinsic principles, *i.e.*, the form or the matter of things, and those founded on extrinsic principles, *i.e.*, the efficient and final causes (*S. th.* I, q. 82, a. 1c, III, q. 14, a. 2c, *In Met.* V, lect. 6, n. 832). Generic natural potentialities are, *qua* potentialities, intrinsically necessary features of things. They consist of passive potencies, determined by the nature of the subjects in which they occur, and of the corresponding activators, called active potencies, which are similarly determined by the intrinsic principles of their subjects. (See, *e. g.*, *S. th.* III, q. 13, a. 1c, *In Met.* IX, lect. 1, n. 1782.) Thus the generic partial potentialities, divided into passive propensities and related activating principles, belong as such to the necessary order which is based on the nature of things.

In the description of the partial possibilities, there is a reference to the dynamic necessity by which the active potency acts and the passive potency is acted on, when the agent and the patient meet in a way appropriate to the potency in question (*In Met.* IX, lect. 4, n. 1818). From the point of view of passive potencies, this is the necessity of actualization connected with the extrinsic efficient causation. It is based on the metaphysical principle, according to which intrinsically necessary potentialities, divided into active and passive components, are necessarily actualized, when they can be actualized. As for the heavenly bodies, the meeting of the active and passive potencies is continuous and exhaustive in the sense that no partial potentialities remain unrealized. In the sublunar world this concurrence is neither continuous nor complete with respect to passive potencies, due to the circularity of the influence of the higher active potencies and other complexities in the system of motions. (See, *e.g.*, *In Met.* VI, lect. 3, n. 1210-1212, XII, lect. 6, *In Phys.* II, lect. 4, VIII, lect. 8, *In Periherm.* I, lect. 14, n. 184, *S. th.* I, q. 115, a. 3, *S.c.g.* III, c. 82-86.)

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<sup>3</sup> For some discussions of the topic, see K. Jacobi, "Kontingente Naturgeschehnisse", *Studia Mediewistyczne* 18 (1977), pp. 3-70, J.A. Aertsen, *Nature and Creature. Thomas Aquinas's Way of Thought*, Brill, Leiden 1987, Chapters 6-8.



It is easily seen how the statistical theory of modalities could be employed here to classify actualizations, either without qualifications or in certain types of circumstances. As for the efficient causes, Thomas Aquinas makes use of it when distinguishing between necessary and contingent causes. The distinction is based on the view that there are causes which *in statu causae* always produce the effect and causes which *in statu causae* are sometimes hindered from bringing about their effect. The causes *ut in pluribus* are in a few cases hindered from working by accidental impediments.<sup>4</sup> Aquinas interprets the Aristotelian theory of chance in the Boethian manner as a theory of an irreducible indeterminacy factor in nature. Accidental impediments occur without having essential previous causes; this was needed to refute the Stoic view of causal determinism. The statistical division of the causes does not affect the dynamic necessity by which the passive potencies are realized, because the effect necessarily occurs when the active cause is present and it is not impeded by accidental hindrances. The chance itself is treated as if it were an essential factor in the material substrate of the actual world.<sup>5</sup>

## 2. Natural Necessities and Hypothetical Metaphysical Necessities

All natural invariances, whether static or dynamic, are essential. This becomes more apparent when we look at what Aquinas says about the absolute modalities. He often remarks that absolute possibilities and those referring to potencies are different, because the former ones are defined independently with the help of the notions of coherence or compatibility between the subject and the predicate. (See, e.g., *In Met.* IX, lect. 1, n. 1775.) For Aquinas this means only that one can speak about absolute possibilities without a reference to existence outside the divine essence. What is coherent or incoherent between a subject and its attributes is determined by the metaphysical forms of things which are eternally determined as possible modes of imitating the divine being. So

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<sup>4</sup> See A. Maier, *Die Vorläufer Galileis im 14. Jahrhundert*, Edizioni di Storia e Letteratura, Roma 1949, pp. 219-241.

<sup>5</sup> For the notion of chance in Boethius and Thomas Aquinas, see also S. Knuuttila, "Natural Necessity in John Buridan" in S. Caroti (ed.), *Studies in Medieval Natural Philosophy*, Leo S. Olschki, Firenze 1989, pp. 160, 168-169.

the absolute possibilities are not metaphysically prior with respect to being. They are models for finite being deduced from Divine being.<sup>6</sup>

When a number of metaphysical forms are instantiated in the world, they bring with themselves the necessities and possibilities attached to them. Therefore the intrinsic necessities based on the metaphysical structure of beings are called absolute natural necessities (*S. th.* I, q. 82, a. 1c). The extrinsic necessity connected with the efficient causation is a conditional necessity of actualization. It refers to what in a metaphysically necessary way happens when things provided with the necessary properties they have are actualized in a dynamic order, kept in motion by the first mover. There are, of course, unrealized divine possibilities, and the world as such is contingent, because it is created. (See *De pot.* q. I, a. 5, q. 3, a. 15.) But contrary to what might be expected against the twelfth century background, these theological modalities were not very relevant in Aquinas's natural philosophy.<sup>7</sup> Their main import is that the states of affairs, the structures of which are metaphysically necessary, are contingent with respect to actuality. In this sense the natural necessities are hypothetical metaphysical necessities.

What has been said sheds some light on Aquinas's remarks on miracles and Divine Omnipotence. According to him, God cannot violate absolute necessities. This means that the miraculous events, taking place against the course of nature, must always occur through a separate supernatural causation. They do not qualify natural necessities any more than chance does. There are things impossible to the inferior causes and possible to the divine cause. Miraculous activities of the latter do not consist in changing the nature of things but in actualizing something which otherwise lacks a cause in nature. (See, *De pot.* q. 6, a. 1-2.)

### 3. *The Theory of Merely Natural Necessities*

There are many recent studies on the early fourteenth century discussions on modal theories. Instead of entering into the details of the emergence of the 'modern' interpretation of modality in late medieval thought, I

<sup>6</sup> See, e.g., *S. th.* I, q. 15, a. 1-3, q. 25, a. 3; Alanen and Knuuttila, *op. cit.* p. 58, J.F. Wippel, "The Reality of Nonexisting Possibles According to Thomas Aquinas, Henry of Ghent, and Godfrey of Fontaines", *Review of Metaphysics* 34 (1981), pp. 730-740.

<sup>7</sup> See note 13 below.

refer to some systematic ideas which led to a new evaluation of the notion of necessity in natural philosophy.

Duns Scotus was the first to use the term *possibile logicum*. Although the idea of formal possibilities was in a sense known since Aristotle, Scotus developed the twelfth century views of modality as multiplicity of reference into a theoretical model where the area of logical possibility is structured into 'possible worlds' on the basis of compossibility relations. Scotus says that God's knowledge produces things in intelligible being, thus giving them an ontological status, weaker than existence, as intentional objects of divine thought. Much of this could have been said by Thomas Aquinas, too. The important difference between these thinkers pertains to their views about the nature of possibilities *qua* possibilities. According to Duns Scotus, the possibilities having *esse obiective* as objects of divine thought or power are real as such, without having any actuality or ontological foundation. "This logical possibility could remain separately in power by its own nature even when there were, *per impossibile*, no Omnipotence to which it would be an object" (*Ord. I, d. 36, q. un., n. 61, Ed. Vat.*; see also *d. 43, q. un., n. 5*). William Ockham criticized Scotus's modal theory, partly because he misunderstood it; but he also often repeats the new view, according to which possibilities as such do not have any existence or actuality and they are what they are by themselves. This way of speaking about logical possibilities makes them independent preconditions of being and thought.<sup>8</sup>

The idea of the first rank of possibility belongs to the background of the fourteenth century speculative physics where the questions of natural philosophy were discussed *secundum imaginationem*. The conceptual properties of the theoretical terms were codified in the rules of sentential analysis, the validity of which was tested through peculiar extreme cases.<sup>9</sup> It was at the same time realized that many of the natural invariances which were traditionally called necessary could not be reduced to any conceptual necessities. Instead of referring to unknown natures of things or giving up the notion of necessity in these contexts, many fourteenth century thinkers accepted the view that the term

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<sup>8</sup> Alanen and Knuuttila, *op. cit.* pp. 32-41.

<sup>9</sup> J. E. Murdoch, "From Social into Intellectual Factors: An Aspect of the Unitary Character of Medieval Learning" in J.E. Murdoch and E.D. Sylla (eds.), *The Cultural Context of Medieval Learning* (Synthese Library 76), Reidel, Dordrecht 1975, pp. 271-339.

"necessity" is equivocal and that the nomic natural necessities do not necessarily have anything in common with the necessities the denials of which are inconceivable.

In an often quoted passage (*Ord. I, d. 3, p. 1, q. 4, n. 237*) Duns Scotus says that the scientific knowledge of the lowest degree is about invariances which cannot be reduced to self-evident principles. Such invariances are in power in the actual world and they cannot be changed by natural agents, although they could be changed by Divine Omnipotence.<sup>10</sup> There is a similar distinction in William Ockham's writings. While commenting on the distinction between the notions of separable and inseparable accidents in *Summa logicae*, Ockham writes as follows:

A separable accident is one which can be removed from its subject by nature without the destruction of that subject; whereas, an inseparable accident is one that cannot be removed by nature without the destruction of the subject. It could, however, be so removed by divine power.<sup>11</sup>

In his questions on Aristotle's *Metaphysics* John Buridan says in the same way that there are propositions whose truth is firm in the sense that they cannot be falsified in any case and there are propositions which cannot be falsified on the supposition of the common course of nature. An example of the latter type is the assertion that fire is hot. It is not falsified on the supposition of the common course of nature, although God could make fire cold and so the proposition "Every fire is hot" would be falsified.<sup>12</sup>

From the twelfth century on, it was commonly thought that something which is necessary with respect to inferior causes may be contingent with respect to superior causes.<sup>13</sup> Thomas Aquinas explains this by postulating a special *potentia oboedientialis* by which things can receive an exceptional influence from the divine cause. This was needed

<sup>10</sup> See also *Ord. I, d. 8, p. 2, q. un., n. 306*.

<sup>11</sup> *Summa Logicae*, ed. Ph. Boehner, G. Gál, St. Brown (Guillelmi de Ockham Opera Philosophica et Theologica: Opera Philosophica I), Editiones Instituti Franciscani Universitatis S. Bonaventurae, St. Bonaventure, N.Y. 1974, p. 83.50-53.

<sup>12</sup> *In Metaphysicen Aristotelis quaestiones*, Paris 1518 (Unveränd. Nachdr. Minerva, Frankfurt a. M. 1964), II, q. 1, f. 8v. See also *Quaestiones super libris De caelo et mundo*, ed. E.A. Moody, The Mediaeval Academy of America, Cambridge, Mass. 1942, I, q. 1, p. 6.

<sup>13</sup> See Knuuttila 1981, pp. 198-207, Alanen and Knuuttila 1988, p. 53, W.J. Courtenay, "Nature and the Natural in Twelfth-Century Thought" in W.J. Courtenay, *Covenant and Causality in Medieval Thought*, Variorum Reprints, London 1984, III, pp. 8-12.



when natural necessities were regarded as hypothetical metaphysical necessities (see *De pot.* q. 1, a. 3, ad 1, q. 6, a. 1, ad 18, *De virtutibus in communi*, q. un., a. 10, ad 13). In the fourteenth century examples mentioned above the natural invariances are themselves considered metaphysically and logically contingent. Miraculous events could then be connected with voluntary suspensions of the laws of nature.

According to Buridan, the terms of the propositions used in natural philosophy have natural supposition. They supposit for everything (past, present, future) they signify. Propositions which are necessary in natural philosophy are necessary in the statistical sense of being universally true about past, present, and future states of affairs on the supposition of the common course of nature. It may be that he wanted to give to natural invariances as necessities a status which is somewhat stronger than that of merely extensional generalizations, and the same is probably true of Scotus and Ockham, too.<sup>14</sup> Instead of treating this question here, I refer to the discussions of some obligations rules which took place at the same time.

After the Scotist revision of the old rules, it was possible to understand the list of the answers of the respondent as a description of a possible state of affairs partially overlapping the actual world. This led Richard Kilvington and some others to the view that the invariances of the actual world should be attended to in obligational disputations and considered in a way which comes close to some ideas formulated in the modern discussion of counterfactual conditionals. So there were different rules for the games depending on whether merely natural necessities were counted as a basis of inferences or not.<sup>15</sup>

In his paper "Ockham, Buridan, and Nicholas of Autrecourt" E. A. Moody remarked that Buridan considered the laws of nature as logically

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<sup>14</sup> *Quaestiones super decem libros Ethicorum Aristotelis*, Paris 1518 (Unveränd. Nachdr. Minerva, Frankfurt a. M. 1968, VI, q. 6, ff. 122v-123r. For a more detailed discussion of Buridan's views, see Knuutila 1989.

<sup>15</sup> See P.V. Spade, "Three Theories of Obligations: Burley, Kilvington and Swyneshed on Counterfactual Reasoning", *History and Philosophy of Logic* 3, (1982), pp. 19-28, E. Stump, "Roger Swyneshed's Theory of Obligations", *Medioevo* 7 (1981), pp. 143-153, S. Knuutila and M. Yrjönsuuri, "Norms and Action in Obligational Disputations" in O. Pluta (ed.), *Die Philosophie im 14. und 15. Jahrhundert* (Bochumer Studien zur Philosophie 10), Gruener, Amsterdam 1988, pp. 199-202.



or metaphysically contingent.<sup>16</sup> Moody's view on Buridan's conception of natural philosophy was heavily criticized by Anneliese Maier and, after her, by many others.<sup>17</sup> It is true that Moody exaggerated the role of hypothetico-deductive reasoning in Buridan and that there are some terminological problems in his paper. However, what is correctly noticed by Moody and not realized by his critics is the interesting fourteenth century trend of separating merely natural necessities from some other types of necessities with which they have only the name in common.

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<sup>16</sup> E.A. Moody, *Studies in Medieval Philosophy, Science, and Logic. Collected Papers 1933-1969*, University of California Press, Berkeley, Los Angeles, London 1975, p. 156. Moody mistakenly attributed this kind of view to Thomas Aquinas, too; *op. cit.* p. 154.

<sup>17</sup> A. Maier, *Ausgehendes Mittelalter I*, Edizioni di Storia e Letteratura, Roma 1967, p. 403, W.A. Wallace, *Prelude to Galileo. Essays on Medieval and Sixteenth-Century Sources of Galileo's Thought*, Reidel, Dordrecht 1981, pp. 132-133.

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### Natural Necessity in William of Ockham\*

The question as to how *logical* modalities are to be distinguished from *natural* (physical, nomic, real) modalities is still an important issue in contemporary philosophy. The possible worlds idiom, temporalized modalities, dispositional attributes, counterfactuals and the concepts of a law of nature and an empirical generalization are central ingredients in this ongoing debate.<sup>1</sup> Therefore it seems of some interest to investigate the origins of these notions and distinctions to see in which context and form they were first suggested.

It is generally accepted that Aristotle did not draw any clear line between logical and natural modalities.<sup>2</sup> Rather, within the Western world this distinction stems from debates over the applicability of Aristotle's extensional interpretation of modality to divine possibilities, and the subsequent need to develop conceptual frameworks that could keep divine-metaphysical modalities apart from natural ones. In this paper, I shall try to make some suggestions concerning Ockham's contribution to this latter issue.

A first context in which it is possible to see Ockham's awareness of the distinction in question is his criticism of Scotus's theory of the will.<sup>3</sup> What makes this issue especially noteworthy from a contemporary

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\* I am grateful to professor Simo Knuuttila for comments on an earlier version of this paper.

<sup>1</sup> See e.g. Jaakko Hintikka, *The Intentions of Intentionality and Other New Models for Modalities*, Reidel, Dordrecht 1975; David Lewis, *Counterfactuals*, Basil Blackwell, Oxford 1973; D. Lewis, *On the Plurality of Worlds*, Basil Blackwell, Oxford 1986; Hans Poser, "The Failure of Logical Positivism to Cope with Problems of Modal theory", in Simo Knuuttila (ed.), *Modern Modalities*, Reidel, Dordrecht 1987, pp. 311-327; Nicholas Rescher, *A Theory of Possibility*, Blackwell, Oxford 1975; Georg Henrik von Wright, *Truth, Knowledge, and Modality, Philosophical Papers*, Volume III, Basil Blackwell, Oxford 1984; Fred Wilson, *Laws and Other Worlds*, Reidel, Dordrecht 1986.

<sup>2</sup> See e.g. Jaakko Hintikka, Unto Remes, Simo Knuuttila, *Aristotle on Modality and Determinism*, Acta Philosophica Fennica, 29.1, North-Holland 1977.

<sup>3</sup> See especially, G. de Ockham, *Tractatus de praedestinatione et de praescientia dei respectu futurorum contingentium*, ed. Philotheus Boehner, Opera Philosophica II, St. Bonaventure University, St. Bonaventura, N.Y. 1978, pp. 505-539.

point of view is that in this debate an opposition between *synchronic* and *diachronic* modalities looms large. This opposition was introduced into the modern analytical scholarly debate by professor von Wright in the nineteen-seventies.<sup>4</sup> von Wright suggests that synchronic modalities are logical whereas diachronic modalities are natural or real.<sup>5</sup> Curiously enough, this is also the position of Ockham who vigorously opposes Scotus's thesis that at least in the case of the choosing will we are dealing with an instance of synchronic real possibility.

Scotus maintains that the notions of contingency and possibility can be applied to the will in two ways: not only does our will will contingently since it wills different things at different times<sup>6</sup> ...

$$C_t W_t p \equiv (W_t p \ \& \ M_t - W_t p)$$

... but furthermore our will also wills contingently in that it can either will or abstain from willing one and the same thing in the same moment of time:<sup>7</sup>

$$C_t W_t p \equiv (W_t p \ \& \ M_t - W_t p)$$

For Scotus the possibility referred to in this latter analysis is not only a logical one but also a real one, where real modalities are here to be understood as being causal. Scotus's central insight seems to be that there is a special and unique case of a causal relation, namely contingent simultaneous causation, a causal relation that holds between the choosing will as cause and the act of willing as (contingent) effect.

Ockham agrees with Scotus that the possibility of not-willing while willing is at least a logical one. Moreover, he never criticizes Scotus's general definition of contingency, according to which an event is logically contingent "cuius oppositum posset fieri quando istud fit":<sup>8</sup>

$$C_t p_t \equiv p_t \ \& \ M_t - p_t$$

<sup>4</sup> See his work mentioned in note 1.

<sup>5</sup> In synchronic modalities modalisator and modalisatum have the same time-index, whereas in diachronic modalities they have not.

<sup>6</sup> See *Lectura I*, Dist. 39, qu. 1-5, n. 48, *Opera omnia studio et cura Commissionis Scotisticae*, Civitas Vaticana 1950-.

<sup>7</sup> *Ibid.*

<sup>8</sup> Johannes Duns Scotus, *Abhandlung über das erste Prinzip*, herausgegeben und übersetzt von Wolfgang Kluxen, Wissenschaftliche Buchgesellschaft, Darmstadt 1974, p. 70.

Furthermore, both authors hold that this formula does not apply to natural contingency, which both rather analyze in terms of antecedent possibility:

$$C_t p_t \equiv p_t \ \& \ (Et') \ (t' < t \ \& \ M_{t'} \neg p_t)$$

What Scotus and Ockham do disagree over, however, is the issue whether the contingency of the will is an exception to this general case of real contingency or not. To discuss this controversy in sufficient detail would demand a separate investigation, therefore I can only briefly indicate what seems unsatisfactory in Ockham's position. Ockham holds, e.g. that given that 'the will wills  $p$  at  $t$ ' is actual, the possibility of 'the will does not will  $p$  at  $t$ ' cannot be actualized by any cause and is thus not real.<sup>9</sup> But Scotus claims not that  $W_t p$  and  $\neg W_t p$  could both be actual at the same time but rather that in the instant when the will elicits willing  $p$  it could also abstain from doing so. Ockham's main argument in his *Tractatus de praedestinatione* relies on the necessity of the past and establishes that at any time after  $t$  it will be necessary that the will willed  $p$  at  $t$ .<sup>10</sup> But from this it does not follow formally that the will necessarily wills  $p$  at  $t$ . The argument works, however, once we regard the present as a part of the past. This is what Ockham does in other places. von Wright, in his more systematic rather than historical investigations on this topic, has argued that this kind of move makes good sense, since like the past the present can no longer be prevented from occurring.<sup>11</sup> However, in the case of the will this would mean that at the moment when the will elicits one possibility it cannot be prevented from eliciting this possibility, not even by itself. This must be regarded as a strange result for the case of a genuinely free will.

Despite Ockham's deviation from Scotus concerning the issue whether the real possibility of not-willing while willing is to be analyzed in terms of synchronic modalities, it is in any case noteworthy that both authors are quite aware of and clear on the connection between synchronic and logical modalities on the one hand, and diachronic and natural modalities on the other hand. In general, it seems fair to say that despite Ockham's polemics against some ingredients of Scotus's modal theory, e.g. against Scotus's famous divine psychology, Ockham

<sup>9</sup> *Tractatus de praedestinatione*, *op. cit.*, p. 533.

<sup>10</sup> *Ibid.* p. 534.

<sup>11</sup> See von Wright, *op. cit.* pp. 80-81.

nevertheless is deeply indebted to the *Doctor Subtilis* in this field. Most importantly, Ockham follows Scotus in that he analyzes modal notions in terms of possible worlds and in that he too allows for unrealized possibilities. For example, Ockham writes in *Summa Logicae* I, cap. 38, that *ens* is divided into potential and actual *ens*,<sup>12</sup> and in his treatment of supposition he regards the quantification over *possibilia* as a distinct case from quantification over past, present, and future *res*.<sup>13</sup>

As concerns the ontological-logical framework to account for unrealized possibilities, i.e. the possible worlds idiom, Andre Goddu, in his pioneering study *The Physics of William of Ockham* (1984)<sup>14</sup>, has argued that Ockham's modal thought and especially the notions of "essence" and "essential nature" in Ockham's logic and in his philosophy of nature are most naturally interpreted in terms of possible worlds. Goddu bases his case on the observation that Ockham repeatedly stresses the contingency of the actual world and that Ockham allows for the possibility that God could create different worlds, different that is from the world that we inhabit. I agree with Goddu on this point but find it difficult to understand his account as to how and where Ockham distinguishes between logical-metaphysical necessity and natural necessity.

Based on an interpretation of book 1, d. 44 of the Commentary on the sentences and on Ockham's definition of *proprium* in *Summa Logicae*, Goddu takes the *propria* as delimiting the area of essential properties. Goddu spells out the concept of essential property in the following way:

If *P* is an essential property of *x* in *W*, then

- (1) in every possible world it is true that *x* has *P* in *W*, every *x* has *P*, only *x* has *P*, and 'x does not have *P*' is false;
- (2) if *P<sub>1</sub>* is the negation of *P*, then it is logically impossible for *x* to possess both *P* and *P<sub>1</sub>*;
- (3) world *W* containing *x* possessing property *P* is essentially different from *W<sub>1</sub>* containing *x<sub>1</sub>* possessing *P<sub>1</sub>*.<sup>15</sup>

In order to go further and to reconstruct different levels of necessity in Ockham, Goddu draws a distinction between truth *in* and truth *of* possible

<sup>12</sup> See on this passage Elizabeth Karger, "Would Ockham have shaved Wyman's Beard?", *Franciscan Studies* 40 (1980), pp. 244-264.

<sup>13</sup> See Michael Loux, "Ockham on Generality", in M. Loux, *Ockham's Theory of Terms*, University of Notre Dame Press 1974, pp. 23-46, here p. 41.

<sup>14</sup> Brill, Leiden 1984.

<sup>15</sup> *Ibid.* p. 68.



worlds. A proposition is true *of* a world  $w_1$  if and only if the state of affairs referred to by the proposition is part of the ontology of  $w_1$ . A proposition is true *in* a world  $w_1$  if and only if the state of affairs referred to is part of the ontology of some world or other, say  $w_2$ , but known as being part of the ontology of  $w_2$  in  $w_1$ . Using this distinction Goddu makes the following suggestions as to how different notions of necessity can be distinguished:

- (1) logical =<sub>df</sub> true *of* every possible world
- (2) metaphysical =<sub>df</sub> true *in* every possible world
- (3) logical metaphysical =<sub>df</sub> true minimally *in* every possible world and maximally *of* every possible world
- (4) physical =<sub>df</sub> true *in* every possible world
- (5) ontological =<sub>df</sub> true *of* every possible world<sup>16</sup>

Goddu observes that Ockham does not differentiate between logical and metaphysical necessity, and he therefore feels that only categories (3), (4), and (5) can be attributed to Ockham. Examples given for logical-metaphysical necessity include "A and non-A cannot be true at the same time", "If man is, man is a rational animal", and "If man is, he is risible". As examples for physical necessity Goddu provides "Man is risible", and as an example for ontological necessity "God exists".<sup>17</sup>

The problems I have in understanding Goddu's treatment are the following:

First of all it remains unclear to what extent Goddu intends his suggestions as providing a general framework for systematic as well as historical study of modal notions. Occasionally he writes as if he wanted to evaluate Ockham's notions against the background of his, that is Goddu's, distinctions, yet he also writes that "these distinctions reflect Ockham's meanings".<sup>18</sup> In case Goddu does want to provide a theory that is also of systematic interest, I think his theory is open to several serious objections. In his model, the *definiencia* of ontological and logical necessity coincide, and so do the *definiencia* of metaphysical and physical necessity. Furthermore, the distinction between truth of and truth in possible worlds needs to be related to such much-debated issues like

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<sup>16</sup> *Ibid.* p. 69-70.

<sup>17</sup> *Ibid.*

<sup>18</sup> *Ibid.*

world-indexed and unindexed attributes or accessibility relations holding (or not holding) between possible worlds.<sup>19</sup>

To make my uneasiness more concrete, a brief glance at Goddu's examples will suffice here. Goddu treats the necessity of "If man is, he is risible" as being logical-metaphysical, while regarding "Man is risible" as expressing physical necessity. Sticking with Goddu's own definitions of logical-metaphysical and physical necessity, it seems that once explicitly spelled out, there is, however, no difference between these two cases, for both cases amount to saying that "In every possible world in which man exists, he is risible, and this fact about those worlds is known in all possible worlds."

As the last example already suggested and as Goddu makes clear also explicitly, he regards the *proprium* as the main case of physical necessity in Ockham. In reasoning for this conclusion Goddu relies on Ockham's discussion of *peccabilitas* in d. 44, where we are told that God could separate this attribute from man. Goddu draws the conclusion that what Ockham says on *peccabilitas* applies to *propria* in general. But this is hard to accept, for by Ockham's own criteria *peccabilitas* cannot be regarded as a *proprium* of *homo*. *Peccabilitas* is not only predicated of the species *homo* but also of the species *angelus*. Thus the *solī et semper* condition of *proprium* is not met here. It is noteworthy that in the context of d.44 Ockham never refers to *peccabilitas* as a *proprium* of *homo*.

The reason why this point is rather important is that we have to bring the discussion of d.44 somehow into line with what Ockham writes on *proprium* and *accidens inseparabile* in *Summa Logicae* I, cap. 24 & 25. For in these passages Ockham states quite explicitly that he regards the *accidentia inseparabilia* as constituting the true area of merely natural necessity. For instance Ockham writes that "... risible is a property of man; for it belongs to every man, and only to man, and always to man. God could not create a man without making him risible ..." <sup>20</sup>

The *proprium* is predicated with a necessity that binds even God's hands, it is *omni-soli-semper* true, since God cannot make a human being such that it cannot laugh. The attempt to make the proposition 'homo est

<sup>19</sup> See e.g. the works by Hintikka, Plantinga and Lewis cited in note 1 above.

<sup>20</sup> Loux, *op. cit.* p. 101.

risibile' false would involve God in a contradiction in terms since it would amount to trying to make human beings non-human.

This case of logical-metaphysical necessity is contrasted by Ockham in the following chapter (SL c. 25) with God's and nature's abilities vis-à-vis *accidentia*:

... accidents are separable or inseparable. A separable accident is one which can as a matter of natural fact be removed from its subject without the destruction of that subject; whereas an inseparable accident is one that cannot. It could, however, be so removed by divine power.

Inseparable accidents differ from properties in that although an inseparable accident cannot as a matter of natural fact be taken away from the subjects whose inseparable accident it is, it could be taken away from some other subject without the destruction of that subject. ... A property, on the other hand, cannot be taken away from anything.<sup>21</sup>

Here God's *potentia* is contrasted with that of nature: even though God cannot - as seen above - separate the *proprium* from its subject, God can nevertheless separate the *accidens inseparabile*. Nature can separate *accidentia separabilia*, but it cannot separate *accidentia inseparabilia*.

More questions arise from these passages than can be dealt with here. Therefore I have to confine myself to three brief concluding remarks.

First of all, Ockham's definitions of *accidens inseparabile* and *proprium* suggest a more complex definition of necessary attributes than Goddu provides us with. Such definitions must take into account possible worlds, time and comparisons of different species. As the key to such an enterprise one can use Ockham's idea that worlds themselves come in species and that the belonging of a world to a given species of worlds is determined by the natural species that that world contains. Thus one might suggest an Ockhamian definition of *proprium* along the following lines:

If attribute *A* is the *proprium* of species *s*, then

- (1) *s* has *A* always in every possible world in which *s* exists, and
- (2) no other species has *A* in any possible world.
- (3) Furthermore, since *A* is a disposition 'can  $\varphi$ ', *s* has *A* in a given world  $w_1$  always, iff
  - (3.1) *s* is a part of  $w_1$ , and
  - (3.2) a member of *s*  $\varphi$ 's at least once in at least one possible world  $w_2$ .

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<sup>21</sup> *Ibid.* p. 104.

Along these same lines the case of natural-physical necessity, i.e. the case of the *accidens inseparabile*, would have to be analyzed in the following way:

If attribute *A* is the *accidens inseparabile* of a species *s* in a world  $w_1$ , then

- (1) *s* has *A* always in every world that coincides with  $w_1$  in metaphysical as well as in accidental structure (as far as inseparable accidents are concerned), and
- (2) there is at least one possible world  $w_2$  coinciding with  $w_1$  in metaphysical structure only, such that *s* does not have *A* in  $w_2$ , and
- (3) there is at least one possible world  $w_3$  (possibly identical with  $w_1$ ) in which another species *t* has *A* for some time only.

Secondly, even though I have not as yet found any other medieval author who draws the distinction between *proprium* and *accidens inseparabile* as the distinction between metaphysical and natural necessity as clearly as Ockham does, many schoolmen, when commenting on Porphyry, still come close to suggesting such a kind of distinction. As the driving force behind such moves one might suspect the statistical interpretation of modalities<sup>22</sup> since *prima facie* this conception seems committed to treating *proprium* and *accidens inseparabile* on equal terms. There are two main strategies in medieval thinkers in dealing with this difficulty: on the one hand the *de omni* case of the inseparable accident is unequivocally accepted as a *per se* case and thus accepted as a necessary *de re* predication. On the other hand - and this was perhaps the more usual approach - we find the commentators engaged in attempts to explain why the *de omni* case of the inseparable accident is only *prima facie de omni*; thus the commentators draw attention to the fact that the accident in question must first develop, that the same accident appears separably in other species, or that the *prima facie de omni* case still allows for exceptions or changes. In parentheses, it must be mentioned that the whole tradition of commentators does not give an exhaustive list of possible forms of attributions, e.g. the question as to how we are to classify cases like *peccabilitas* or 'having two hands' is never sufficiently tackled. Neither case can be handled as *proprium* since the *solus*-condition is not met, nor can they be treated as *accidentia inseparabilia*, since we

<sup>22</sup> See the study by Hintikka et al. in note 2 above, as well as Simo Knuutila (ed.), *Reforming the Great Chain of Being*, Synthese Historical Library 20, Reidel, Dordrecht 1981.

can refer to no second species of which they could be separated at some time or other.

Thirdly and finally, it should be pointed out that an intensional interpretation of *proprium* and *accidentia* is only justified as far as their ontological status is concerned. Due to the limitations of human epistemic capacities, we have to add to both definitions given above that at least initially worlds  $w_1$ ,  $w_2$ , and  $w_3$  have to be identical. As science proceeds, this identity can in some cases - and in some cases only - be given up. Scotus held that in natural science there remain inductive generalizations that cannot be reduced to conceptual truths.<sup>23</sup> Perhaps Ockham commits himself to the same stand when he states that knowledge by demonstration and knowledge by experience are of the same kind.<sup>24</sup> But Ockham does not seem to state his position on this issue as clearly as Scotus does.

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<sup>23</sup> *Ord.* I, Dist. 3, Pars 1, qu. 4, n. 237.

<sup>24</sup> SL III:2, p. 524. *Opera philosophica et theologica*, The Franciscan Institute, St. Bonaventure 1967-.



DOUGLAS C. LANGSTON

### Scotus and Possible Worlds

In *Ordinatio*, Book I, distinction 38, part two and distinction 39, questions one to five as well as in the corresponding sections of the *Lectura*, Scotus explains in two parts how God knows future contingents: He first explains how there are contingencies; he then indicates how this explanation of contingency is consistent with the certainty and immutability of God's knowledge of contingents. According to Scotus, there is an essential order of causes for every effect in the universe. Moreover, all these essential orders are ordered to one cause, God. His activity sustains every chain of co-existing causes and co-causes all the effects of every essential order. Since Scotus equates "being contingent" with "having been caused contingently," it follows that there can be contingents only if God causes contingently.<sup>1</sup> If God necessarily produces whatever he produces, all the essential orders of causes would be orders of necessary causes and there would be no contingent causes or effects. Since Scotus believes it is obvious that there are contingents, it follows that God causes contingently. Thus, on Scotus' analysis, there are contingents because there are some things God has willed that he could logically have refrained from producing.

Since Scotus claims that all occurrences are co-caused by God's will, it is not surprising that he sees the activity of God's will as an important part of God's knowledge of contingents. According to Scotus, in the eternal now, the divine intellect presents to the divine will all possible states of affairs. Out of all these possibilities, the divine will chooses one possible consistent set to exist in willed existence. The divine intellect then grasps the determination of the divine will. Because Scotus believes that whatever the divine will causes to exist in willed existence necessarily comes to exist in actual existence, Scotus concludes

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<sup>1</sup> *A Treatise on God as First Principle*, translated by Allan B. Wolter (Chicago: Franciscan Herald Press, 1966) p. 85.

that the divine intellect knows with certainty what states of affairs exist in actual existence. Of course, these states of affairs are contingent even though they are known with certainty since God could will into willed existence some other consistent set of contingents.

We can recast Scotus' analysis in terms of possible worlds. Instead of thinking about consistent sets of possibilities presented to God, we can think of God's intellect as presented with an infinite number of possible worlds. Thus God, in creating a world, is effectively willing that some one possible world be actual. The actual world, on that account, is contingent because God could have willed some other possible world to be actual than the one he, in fact, did. God knows what occurs in the actual world because he knows the complete content of all possible worlds and he knows what possible world he wills to become actual.

These possible worlds are perhaps best understood as maximal or complete states of affairs, i.e., a state of affairs such that no additional state of affairs can be included in it without causing a contradiction.<sup>2</sup> They are populated by possible persons, possible chairs, possible events, and so on. Each item in a possible world carries with it a complete history of all that occurs concerning it. Thus, in the actual world we are part of, which is also a possible world, there is a person named Ronald Reagan, who is the current president of the United States, who was born in Dixon, Illinois, who was married to Jane Wyman, who starred with Shirley Temple in a movie named "That Hagen Girl," who will meet with Gorbachev in 1988, and so on. Since God knows the complete history of Ronald Reagan in our world and knows that our world is actual, he knows what Ronald Reagan in our actual world does at any time in his life. Of course, all of Ronald Reagan's actions are contingent because God could have made actual some other possible world than the one he did. He might have made actual, for example, a world in which there is no Ronald Reagan. Of course, God did not so choose; he chose to make actual our world with Ronald Reagan as we know him.

Let us think some more about Ronald Reagan, however. It is reasonable to think that the Ronald Reagan we know about in our world is not the only Ronald Reagan there could be. Surely, in the infinite

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<sup>2</sup> Plantinga, Alvin *God, Freedom, and Evil* (New York: Harper and Row, inc., 1974) p. 35.

number of possible worlds God conceives of, there is a possible world in which Ronald Reagan, instead of Jimmie Stewart, starred in the movie "It's a Wonderful Life," went on to true cinematic success, and ignored politics. This perhaps seems obvious, but we must think carefully about the relationship between our Ronald Reagan in our world and the Ronald Reagan in the possible world in which he starred in "It's a Wonderful Life," which world we shall call W for short. Is Ronald Reagan in W identical to Ronald Reagan in our world?

There are strong reasons to think that they are identical. It seems to make perfect sense for us to say that our Ronald Reagan in our world could have starred in "It's a Wonderful Life." This is captured by saying that our Ronald Reagan is found in W and in W stars in "It's a Wonderful Life." The fact that Ronald Reagan in possible world W is only a possible person should not deter us from equating our actual Ronald Reagan with Ronald Reagan in W. After all, since every actuality is also a possibility, our actual Ronald Reagan can also be described as a possible person.

On the other hand, there are reasons to wonder if Ronald Reagan in W is identical to our Ronald Reagan. The complete history associated with our Ronald Reagan is different from the complete history of Ronald Reagan in W. There are a number of similarities between the two histories, but there are significant differences. Most importantly, however, the fact that Ronald Reagan in W is in world W seems to be an essential characteristic of the world W just as the fact that our Ronald Reagan is in our world is an essential characteristic of our world. That is to say, part of what makes a possible world the world it is, is the persons inhabiting it and their characteristics. If there is some characteristic of some person different from the characteristics of the person in the actual world, by definition we are talking about a possible world different from our actual world.

It is for such reasons that some philosophers claim that Ronald Reagan in W is a counterpart of our Ronald Reagan. A counterpart is an entity that is very much like some real entity, in fact it is more like the actual entity than anything else in the relevant possible world; but it is not identical to the real entity. Moreover, these counterparts are bound to the worlds they are in. Thus the counterpart of Ronald Reagan found in W can exist only in W. Likewise, the actual Ronald Reagan can

exist only in our actual world. This counterpart view has been defended most strongly by David Lewis.<sup>3</sup>

Those who claim that Ronald Reagan can be found in more than one possible world dismiss the types of problems I have described by talking about world-indexed properties. In general, they wish to acknowledge that Ronald Reagan who starred in "It's a Wonderful Life" is found in possible worlds different from our own. But they insist that it is our Ronald Reagan but with different properties who is found in these worlds. This is so because our Ronald Reagan has world-indexed properties like "in possible world W has the characteristic of having starred in 'It's a Wonderful Life'" and "in the actual world has the characteristic of not having starred in 'It's a Wonderful Life'". So it is the actual Ronald Reagan in all the different possible worlds Ronald Reagan exists in, but the properties that characterize his existence in the various worlds differ from world to world. This type of analysis of possible worlds has been developed at great length by Alvin Plantinga.

In short, there appear to be at least two ways of understanding possible worlds: the counterpart view and the canonical view. Which one would Duns Scotus have endorsed? While this is obviously a peculiar sort of question to ask, it is not without meaning. If we see the question as an invitation to decide which view better fits his texts, we stand a chance of answering it in an intelligible way. To be sure, any answer will be less than certain, but this should not deter us from attempting an answer. Since we cannot possibly examine all relevant texts, let us look at a particularly relevant one from *Ordinatio*, Book I, d. 44, q. unica, n. 11.<sup>4</sup>

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<sup>3</sup> In his essays "Counterpart Theory and Quantified Modal Logic" and "Possible Worlds" which are reprinted in Michael J. Loux's *The Possible and the Actual: Readings in the Metaphysics of Modalities* (Ithaca: Cornell University Press, 1979) pp. 110-128 and 182-89. See also his book *On the Plurality of Worlds* (Oxford: Blackwell's Press, 1986).

<sup>4</sup> The text is presented by Simo Knuuttila in "Being Qua Being in Thomas Aquinas and John Duns Scotus" (in *The Logic of Being* (Netherlands: D. Reidel Publishing Company, 1986), pp. 217-8, footnote 56) as showing that Scotus believed that individuals exist in more than one possible world. His article is the occasion for my present paper. I am grateful to him for sending the article and for raising the question about Scotus' views about possible worlds. The Latin text is found in Duns Scotus *Opera Omnia*, Vatican Edition (Vatican City: Vatican Press, 1950- ), Volume VI, pp. 367-68.

The text is:

A power is said to be ordained according to the order of universal law and not according to the order of a right law about some particular. This is clear from the fact that God can save someone he does not save, [someone] who will die in final impenitence and be damned. It is not granted, however, that he can save Judas already damned ([even though] this is not impossible for God's absolute power because it does not involve a contradiction). Therefore, this [phrase] "save Judas" is impossible in the same order in which it is possible to save the someone [who will die impenitent]. Therefore, he can save this someone by his ordained power and cannot save Judas by it. Not, however, by a particular order (which is only of particular agents and operations), but by a universal order; because if he saves this someone, this fact would obtain together with pre-established right laws concerning the salvation and damnation of individuals. For the fact would obtain with this law, "that one who dies evil will be damned," (which is a fixed law about the damned). [This is so] because this someone is not yet a sinner at the end of his life, and can refrain from sinning especially while he is alive since God can with his grace prevent him [from sinning]. It is like the case of the king who prevents someone from committing murder and by not damning him does not act contrary to his universal law concerning murder. The fact that God saves Judas, however, cannot obtain together with the specific law [that one who dies impenitent will be damned]. God can see that Judas can be saved by ordained power, but in some order different from the present order brought about by God's absolute power.

The point at issue here is how God can save someone whom he does not save. There are two people discussed: Judas, who is already damned and will die in the state of final sin; some person who will die in the state of final sin. According to Scotus, God cannot save Judas by his presently ordained power because on that power Judas will die in final impenitence and there is a universal law that "he who dies in final impenitence will be damned." Scotus thinks this apparently because what he means by Judas' being already damned ("iam damnatum") is that it is fixed as part of Judas' identity that he will be in the state of final impenitence and that in an order where the general law "he who dies in final impenitence will be damned" obtains, Judas must be damned.

Of course, by his absolute power God can save Judas already damned. By his absolute power God could make an order in which other general rules obtain, e.g. "he who dies in final impenitence will be damned unless he followed Christ as a disciple for at least one year." Since Judas followed Christ for at least one year, in this new ordained order (different from the one that now obtains), Judas already damned in the present ordained order could be saved.



In the case of the "someone who will die in the state of final sin" the situation is this. If the person dies in the state of final impenitence, he will be damned because the general law "one who dies in the state of final impenitence will be damned" obtains in the present ordained order. If he does not die in the state of final impenitence because God prevents him from so doing by his grace, he will not be damned.

It is very easy to regard these cases as in line with the canonical interpretation of possible worlds. On this reading, one would claim that it is the very same Judas in one order (or possible world) who is saved and in another order (another possible world) who is damned. Likewise, it is the same person who is damned without God's help in one possible world and who is saved with God's help in another possible world. To substantiate this canonical reading of these cases, one might point to the general tone of the whole question. Clearly, one would argue, the question is investigating God's ability to change the contingent truths about some individual. It is asking whether God can save some person who is damned.

This is, of course, a very plausible reading of the text. Yet, I think there is an equally plausible alternative reading, which is in line with what I have described as the counterpart theory of possible worlds. That is to say, were God to save someone in the actual world whose history included the fact that he will die in final impenitence, God would establish a new state of affairs. He would need to bring about a world in which the individual did not die from final impenitence. The new individual would be different from the old individual precisely in not dying in final impenitence but would otherwise be very much like the old individual. In fact, the new individual would be a counterpart of the old one who will die in final impenitence.

It is perhaps not elegant to describe alternatives for individuals by means of counterparts. Yet, I believe that this counterpart reading of the text is more consistent with Scotus' remarks on how God knows contingents I sketched above than the canonical interpretation, and so it should be the preferred reading.

Recall that in Scotus' discussion of God's knowledge God is presented with an infinite variety of possible worlds. Also recall that these worlds are complete: the individual entities of these worlds have complete histories associated with them and God knows what occurs at

any time in any possible world by knowing these histories. In the possible world *W*, Ronald Reagan has the property of starring in "It's a Wonderful Life" among many other properties that give a complete history for him. In the possible world we live in, i.e., the actual world, Ronald Reagan's complete history does not include starring in "It's a Wonderful Life." Of course, Ronald Reagan in *W* cannot be found in the actual world for in the actual world Ronald Reagan does not star in "It's a Wonderful Life." Likewise, our Ronald Reagan cannot exist in *W*, for Ronald Reagan in *W* stars in "It's a Wonderful Life" and his so starring is one of the factors that constitute the possible world. It is clear, then, that individuals are "world-bound" for Scotus. That is to say, they can exist in only one possible world. Thus God, in creating the world he does, does not choose what circumstances to place Ronald Reagan in; rather, he chooses which Ronald Reagan to make actual. Moreover, God's ability to save someone in the actual world whose history includes dying in the state of final impenitence is really God's ability to have made actual a different possible world than the one he did. God does not change the individual conditions of possible worlds to change the histories of actual individuals; he changes the contingent components of the actual world by instantiating a different possible world. It seems to me that the counterpart view of possible worlds with its insistence on world-bound individuals better captures this tie between individuals and possible worlds in Scotus' thought than does the canonical view.

I also believe we reach a similar conclusion when we think about Scotus' views about human freedom. One of the motivations for ascribing the canonical view of possible worlds to Scotus is to undergird a claim that Scotus accepts a libertarian definition of 'freedom' as the ability and opportunity of an agent to do other than he does. It is held that this notion of freedom is best presented in terms of the canonical view of possible worlds. Thus, Ronald Reagan has the ability and opportunity to resign from the presidency and this can be represented by saying that in some possible world, our Ronald Reagan resigns from the presidency. Similarly, if there is no possible world in which our Ronald Reagan is able to run a mile in under one minute, we would say he is not free to run the mile in under one minute. Of course, the counterpart view does not offer much hope for a libertarian analysis of freedom. Simply put, since it is not our Ronald Reagan, but some counterpart to our Ronald

Reagan, who is found in other possible worlds, our Ronald Reagan does not really have the ability and opportunity to do other than he does. Each counterpart of Ronald Reagan, as well as Ronald Reagan himself, can only perform the actions he performs in the relevant possible world.

Scotus does not, however, subscribe to the libertarian definition of 'freedom'. As I have argued elsewhere,<sup>5</sup> he offers what today we would call a compatibilist definition of 'freedom'. In Scotus' eyes, God brings about the actions of all free agents, but they nonetheless remain free. These actions are brought about by God through his choice of which possible world to make actual. That there is a being very much like our Ronald Reagan who exists in another possible world and performs actions very different from our Ronald Reagan is an interesting fact but has little to do with the ability or opportunity of our Ronald Reagan to do other than he does. Once again, it seems to me that the counterpart view better matches Scotus' claims for it seems more in line with his views about human freedom than the canonical view. It thus seems to me that were Scotus asked which view of possible worlds he would endorse, he would opt for the counterpart view.<sup>6</sup>

I do not want to misrepresent the argument I am making in this paper. I certainly have not shown that the canonical view of possible worlds cannot be used to discuss Scotus' views. I have shown, however, that the counterpart view can be used to interpret Scotus' claims and in fact seems to fit better with Scotus' views on God's knowledge and human freedom than the canonical view.

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<sup>5</sup> I argue for this in my book *God's Willing Knowledge: The Influence of Scotus' Analysis of Omniscience* (University Park: The Pennsylvania University Press, 1986) and in my article "Scotus' Conception of Human Freedom" in *L'Homme Et Son Univers Au Moyen-Age. Actes du septième congrès international de Philosophie Médiévale*, edited by Christian Wenin (Paris: J. Vrin, 1986).

<sup>6</sup> The Scotus I am presenting obviously bears great similarity to Leibniz as I argue in chapter five of *God's Willing Knowledge*.

THOMAS A. LOSONCY

Ideas as Evidence(s) for Man's Knowledge of  
Angelic and Divine Being

'But it is hard for me to recount all this as if I were a God,'\* for it is not fitting for men to understand intellectually or to explain verbally all the dispositions of the Divine work.<sup>1</sup>

"Philosophy" avers a restraint in this passage that rightly captures the stance of many medieval thinkers. They profess a reluctance to address that which they somehow frequently speak about and investigate. Such expressions of inadequacy and reluctance didn't prevent Pseudo-Dionysius from writing the *De divinis nominibus* and the *De coelesti hierarchia*. St. Augustine developed a lengthy argument for God's existence in Book II of the *De libero arbitrio* which he would conclude was the somewhat "tenuous"<sup>2</sup> work of reason.

Later St. Anselm would tease the reader of the *Proslogion*<sup>3</sup> with the following:

- 1) I do not try, Lord, to attain Your lofty heights, because my understanding is in no way equal to it. But I do desire to understand Your truth to some extent (*aliquatenus*)... (chap. 1.)
- 2) I thank You, good Lord, I give thanks to You, since what I believed before through Your free gift I now so understand through Your illumination that if I did not want to *believe* that You existed, I should nevertheless be unable not to understand it. (chap. 4.)
- 3) Therefore, Lord, not only are You that than which a greater cannot be thought, but You are also something greater than can be thought. (chap. 15.)

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<sup>1</sup> Boethius, *Consolation of Philosophy*. Book IV, prose 6 & \*Homer, *Iliad* XII, 176; (tr. Richard Green), N.Y. & Indianapolis, Ind.: The Bobbs-Merrill Company, Inc. 1962, p. 96.

<sup>2</sup> This remark is not about the strength of Augustine's argument but rather a reflection upon the difficult reasoning process involved.

<sup>3</sup> The translations are those of M.J. Charlesworth, *St. Anselm's Proslogion with A Reply on Behalf of the Fool by Gaunilo and The Author's Reply to Gaunilo*. Oxford: Clarendon Press, 1965. Any variations are my own.

The list of thinkers and works could be extended well beyond such as Moses Maimonides, Avicbron, the *Liber de Causis* and others but it is the intent of this paper to focus briefly on the use of "ideas" (*species intelligibiles*) in trying to gain knowledge of angelic and divine being. The continuing investigation of and making precise man's knowledge of ideas enables him to expand his knowledge of separate substances (angelic beings) and God.

Plato's world of the immaterial is notable for certain features which were his trademark. It is characterized as a world where being is definite, fixed, with no past, present, or future,<sup>4</sup> and unlike the world of becoming, the material, which is changing and fleeting.

Recalling Saint Paul's words that the world is divided into "things seen and unseen",<sup>5</sup> early medieval thinkers, such as St. Augustine, contrast the material with the immaterial in words suggestive of Plato. Citing numbers, Augustine will claim the realm of reason differs from that of the senses in the following fashion:

Even if I did perceive numbers with the bodily senses, I would not be able to perceive with the bodily senses the meaning of division and addition. It is with the light of the mind that I would prove wrong the man who makes an error in addition or subtraction. Whatever I may experience with my bodily senses, such as this air and earth and whatever corporeal matter they contain, I cannot know how long it will endure. But seven and three are ten, not only now, but forever. There has never been a time when seven and three were not ten. Therefore, I have said that the truth of number is incorruptible and common to all who think.<sup>6</sup>

Augustine further asserts a difference between the material and immaterial on the grounds that material things are constantly changing into one another whereas the immaterial things do not.<sup>7</sup> Boethius too distinguishes the material and the immaterial in terms reminiscent of Plato.<sup>8</sup>

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<sup>4</sup> These characteristics are detailed in the following works: *Laches* 198DE and 199BC; *Gorgias* 482A; *Meno* 97E-98A; *Cratylus* 400AB; *Symposium* 210E-211A. See also my, "The Platonic Ideas: Some Permanent Contributions to Medieval Philosophies of Man", *Diotima*, VII (1979), 105-110, and for St. Thomas, R.J. Henle, SJ, *Saint Thomas and Platonism*. The Hague: Martinus Nijhoff, 1956.

<sup>5</sup> *Epistle to Corinthians* II, 4, 18.

<sup>6</sup> *De libero arbitrio*, II, 8. The translation is that of Anna S. Benjamin and L.H. Hackstaff in *On Free Choice of the Will*. (ed. The Library of Liberal Arts), Indianapolis, Ind.: The Bobbs-Merrill Co., Inc., 1964.

<sup>7</sup> *De Genesi ad Litteram* VII, 12, 19; Migne, *PL* XXXIV, 362.

<sup>8</sup> *Liber de Persona et duabus Naturis*, 6; Migne, *PL* LXIV, 1349C-D.



In the VIIIth century, John Erigena will repeat the division between the material and immaterial in typically Platonic fashion and enlarge upon the division.<sup>9</sup> Set within the context of a Christian view of the universe, the immaterial is repeatedly given distinctly Platonic features and overtones in early medieval thinkers.

Although thinkers throughout the Middle Ages will continue to echo Plato in speaking of the immaterial new precisions and refinements will be introduced so that what appears as Platonic is frequently new material in a new setting that invokes new principles. For example, St. Thomas Aquinas and Giles of Rome refer to ideas, now labelled universals and present in man's intellect, in a manner that still recalls Plato's description of the immaterial. Ideas, they claim, are abstracted from the here and now of the material world. As abstractions, ideas are set free from change and made permanent.<sup>10</sup>

These same ideas, in the human intellect, constitute a gateway to the exploration of the entire realm of immaterial being. This is not to imply that man actually experiences or knows the essences of such beings as God, angels, or even the human soul. Rather, according to St. Thomas, and later Giles, man gains *some* knowledge of such beings through examining the immaterial aspects of his own ideas.<sup>11</sup>

<sup>9</sup> *Homilia in Prologum S. Evangelii secundum Joannem*. Migne, PL CXXII, 294A-B.

<sup>10</sup> "... intellectus intellegendo dicitur abstrahere a materia, quia intellegendo rem abstractam iam non considerat formam ut est hic et nunc et ut habet esse materiale, sed considerat totam rem et totam quidditatem ut habet esse formale. Ergo ratio intelligibilitatis et abstractionis sumitur ex forma, quia in hac, ut dictum est, etiam ipsa materia trahitur ad conditiones formae." Giles of Rome, *Theoremata XXII de Esse et Essentia* (1278-85/6), ed. Edgar Hocedez Louvain: 1930; X; pp. 55, l. 24-p. 56, l. 4. Cf. *Expositio in Librum de Causis*, (c. 1290); Prop. XXIV, dub.; fol. 84v. The edition cited is Venice: 1550; fols. ai-aviii, bi-bviii & 1-112 fols. Also *Expositio in Aristotelis Libros (I-III) de Anima*, (1273); Lib. I, Comm. 75, dub. The edition cited is Venice: 1496, 86 fols. "Est etiam et in anima invenire quamdam virtutem activam immaterialitatis, quae ipsa phantasmata a materialibus conditionibus abstrahit. Et hoc pertinet ad intellectum agentem..." St. Thomas, *Quaestiones de Anima*, Q. V, (ed. James H. Robb), Toronto: Pontifical Institute of Mediaeval Studies, 1968. Cf. *Tractatus de Unitate intellectus contra Averroistas*, cap. V, 111.

<sup>11</sup> "Secundo, quia per intellectum nostrum et per ea quae experimur in nobis sumus apti nati ascendere ad ea quae sunt in intellectu angelico, assignabimus differentias inter intellectum nostrum et angelicum, ut ex differentiis illis possumus videre quod tenendum sit de angelico intellectu." Giles of Rome, *De Cognitione Angelorum*, q. VI; fol. 89r, A; Venice edition (1503), by Simon de Luere, fols. 76r-119r. For St. Thomas see, *Quaestiones de Anima*, q. XVI, (ed. Robb), pp. 224-225. St. Thomas also cautions one that this does not mean one comprehends the quiddity of separate substances through this knowledge of them, "Unde per hoc quod intellectus noster intelligit quidditates rerum materialium, non sequitur quod intelligat quidditates separatas." *Ibid.*, p. 244. For

Some specific texts from St. Thomas will provide details of this effort. They both represent an historical survey of these philosophical endeavors and reveal a specific thinker at work on these problems.

In article V of *Concerning Spiritual Creatures*, St. Thomas asks, "Whether some spiritual substance is created that is not united to a body?" An elaborate response leads to additional questions about one's knowledge of separate substances, God, and human knowledge as such.

First Thomas scans the previous philosophical research into being and the gradual advances made in understanding human knowing itself. His review moves from the early naturalists (materialists) to the awareness of the immaterial by Plato and Aristotle. He then comments on the methods surveyed: "However these ways are not very suited to us .... For this reason it is necessary for us to proceed in different (other) ways to show what is proposed."<sup>12</sup>

He first argues from the "perfection of the universe" that it is necessary for separate substances to exist. He notes that just as the *ratio* of substance is such that it exist as not inhering in another, as contrasted with the existence of an accident, so this distinction should apply to the very genus of substance in order that some substance exist without any dependence upon a body. This, of course, is said of creatures and not God who exists outside of any genus.

Next Thomas argues that from the very order of things, there should exist a middle ground between any two extremes. The universe, for this reason, should be thought of as comprised of beings with degrees of excellence in a vertical arrangement. Consequently as one finds extremes for the material realm of beings so too extremes exist for the immaterial realm of beings. St. Thomas adds that God is one extreme in the intellectual hierarchy albeit not a member of any class or genus. It is fitting then that between God and material beings there exist immaterial beings, both those joined to matter and those wholly separate from it.

Lastly, he considers the act of intellection itself as a key to resolving this question. Since the human intellect can operate

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further background material to this discussion and subsequent material in this paper consult, John O. Riedl, "The Nature of the Angels", *Essays in Thomism*. (Ed. Robert E. Brennan, OP), N.Y.: Sheed & Ward, 1942, 111-148. See also, Anton C. Pegis, "Penitus Manet Ignotum", *Mediaeval Studies*, XXVII (1965), 212-226.

<sup>12</sup> "Sed istae viae non sunt nobis multum accommodatae: ... Unde oportet nos aliis viis procedere ad manifestationem propositi." *Quaestio Disputata de Spiritualibus Creaturis*, q. unica, art. 5, *respondeo*.

independently of matter it must be an entity with *esse* independent of matter. Yet, as an intellectual being, this substance is so weak that it must learn through the material and so what is less than perfect in a genus bespeaks the perfect in that genus, an intellectual being that neither operates through matter nor exists in a body.

The Platonic overtones in the question are twofold. First, St. Thomas is developing something inherent in the Platonic view of ideas. Second, he takes the experience of the intellectual act and uses it to form insights about the natures of intelligences. Specifically, Aquinas's first two arguments exploit the Platonic position that any class - using a metaphysics of participation - consists of extremes, a most and a least, a best and a worst. He then converts this insight into an argument for the existence of a highest species in the created genus of intelligences. The second insight works out an ostensibly Aristotelian position, the independence of the intellectual from the material. This, however, depends upon the additional assessment of the difference of both the intellect and its contents, ideas, from the sensible. The latter is, obviously, a study initiated by Plato. The nuance of an "ostensibly Aristotelian position" is made for additional reasons. Aquinas is cognizant of a dictum from Boethius that exceeds Aristotle's principle. This contribution from Boethius is evident in questions which St. Thomas raises in his *Disputed Questions Concerning the Soul*. These were written after the *Disputed Questions Concerning Spiritual Creatures* and late in Thomas' career.<sup>13</sup>

In question VII, from *Concerning the Soul*, Thomas inquires, "Whether or not an angel and a soul differ specifically?" Origen is said to be behind this question. He then observes that Origen's view of the universe fails to appreciate properly the product of its maker. St. Thomas, instead, compares the creation of the universe to the work of a craftsman who does not make the parts of his work equal as this would be detrimental to the good of the whole. For, just as all the parts of a house are not equal in their contribution and value to the whole so too there exists a diversity of beings in the universe that constitutes the whole as good and as a fit reflection of its creator.<sup>14</sup>

<sup>13</sup> See the discussion in St. Thomas Aquinas, OP, *Questions on the Soul*, (tr. w. Intro. by James H. Robb), Milwaukee, Wis.; Marquette University Press, 1984; 2-8.

<sup>14</sup> Thomas carries on this discussion and line of argumentation in various places. See, for instance, *Summa Contra Gentiles*, Book II, chap. 46; *De spiritualibus creaturis*, art. 8.

Aquinas next discusses the way in which a difference of species is realized in the universe and one's discernment of same. He adds that to arrive at a knowledge of immaterial substances one must begin with a consideration of how material substances are known. Material substances are said to be differentiated by moving from the simple to the complex by reason of the additional properties each more complex being possesses. He concludes this part as follows:

It is because of this that the Philosopher, in Book VIII of the *Metaphysics*, states that the species of natural things are like the species of numbers, in which the addition or the subtraction of a unit brings about a change in species. In a similar fashion, therefore, a diverse grade of natural perfection brings about a difference of species in immaterial substances.

Nevertheless, the way in which species are diversified among immaterial substances is different in some respects from their diversification in material substances.<sup>15</sup>

To explain these "respective differences" Thomas notes that diversity in the levels of perfection results from the level's relation to a single principle. For material substances this results from their relation to matter. The lowest such substances are the simplest while the highest are those with more numerous and complex parts. For immaterial substances the opposite occurs. The relation immaterial substances bear to the First Efficient Cause is responsible for their hierarchical order. St. Thomas writes:

Now the supreme perfection of the First Efficient Cause consists in His possessing in simple unity the totality of goodness and perfection. Hence the closer an immaterial substance is to the First Efficient Cause, the more perfectly it possesses its goodness in its own simple nature, and the less it needs inhering forms for its own fulfilment. And indeed this process continues step by step down to the human soul, which holds the lowest rank among immaterial substances, just as prime matter does in the genus of sensible things.<sup>16</sup>

Two further observations will elucidate St. Thomas's claim here. He observes that because separate substances and the human soul are constituted differently in species the very acts of operating in the genus of intelligences, their respective acts of knowing, are different. Angels know by means of an intellectual species innate to them but human souls know discursively and they abstract their intelligible species from

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<sup>15</sup> The translation is that of Robb, *ed. cit.*, 105-106.

<sup>16</sup> *Ibid.*, 106.



phantasms.<sup>17</sup> Even more, diverse angels have intelligible species which differ in kind and so the angels themselves are specifically different. In effect, the closer an angelic being is to the First Efficient Cause the fewer and more efficacious are its ideas.<sup>18</sup>

St. Thomas enlarges upon the difference between human and angelic ideas in question XV of this series when he asks, "Whether or not the human soul can understand in a separated state from the body?" He answers that although human souls may know by reason of the influx of ideas from angels this is not especially beneficial for the human soul. Such ideas are extremely universal whereas the human soul is attuned to knowing singulars with the assistance of the senses.<sup>19</sup> (Thomas does allow that one retains previous knowledge of singulars and will know whatever additional knowledge of singulars is provided by God's special grace or allowance.)<sup>20</sup>

In question XVI, St. Thomas inquires outright, "Whether or not the human soul can know separate substances from the principles of philosophy and by knowing their quiddities directly such as it knows the quiddities of material things?" The response invokes another survey of philosophy's history. But going "his own way" on this issue Aquinas states that all proper human knowing is directed toward the use of phantasms and, for this reason, one cannot know what angelic quiddities are like. Rather, one knows of such beings through the reflective act of the intellect on its effects and the effects of beings of a superior order:

Therefore a soul, while united to its body, can rise to only such a knowledge of separate substances as that to which it can be led through species received from phantasms. Now in this fashion a soul is not able to understand what separate substances are, since such substances are utterly disproportionate to intelligible objects derived from phantasms; but we can in this way and in some fashion know that separate substances exist. In the same way we can proceed from lowly effects to a knowledge of higher causes, so that we know only that these causes exist; and at the same time that we [know] that these causes are superior, we know that they cannot be of the same order as the effects we observe. And this is rather to know what they are not than to know what they are. And in this sense it is to some extent true that insofar as we understand quiddities which we abstract from material things, our intellect, in turning toward those quiddities, can understand separate substances,

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<sup>17</sup> *Ibid.*, q. VII, *ad 1m*; 107.

<sup>18</sup> *Ibid.*, *ad 5m*; 107-108.

<sup>19</sup> *Ibid.*, q. XV, 189.

<sup>20</sup> *Ibid.*, 190.



so that it understands them to be immaterial, like those quiddities themselves which are abstracted from matter. And thus through the reflective activity of our intellect we are led to a knowledge of separate intelligible substances.<sup>21</sup>

Imbedded in these latter discussions of St. Thomas are some important principles hinted at earlier. It will help to identify them and assess their respective roles in the questions he treats. From Boethius he adopts the important principle that, "the known is in the knower according to the manner of being of the knower."<sup>22</sup> This principle is used to explain and account for the different knowing activities of human souls, angelic beings and God, their differing respective intelligible objects, and their respective ways of being. Coupled to this principle is the Aristotelian principle that "the higher includes, in itself, the lower's features and something more besides."<sup>23</sup> However, Aristotle's *De Anima* principle suggests a quantitative kind of complexity whereas St. Thomas's approach to the realm of intelligences' complexity is from a different perspective. Angelic complexity is not quantitative but intensive as regards the power of their ideas which are innate and more or less universal and the power of their intellects which deal with these intelligible objects. Varying degrees of intellectual power are indicative of a hierarchical ranking of intellectual beings. St. Thomas explains this as follows:

For it is clear that the more powerful an intellect is, the more it is able to grasp many meanings from a few instances. An example of this is that things must be explained one by one to ignorant persons and slow learners, and particular examples used for each single instance.<sup>24</sup>

St. Thomas's approach is also discernible in St. Bonaventure's argument in another context.

Asking whether the world has been produced in time or from eternity in his *Commentary on the Sentences*,<sup>25</sup> Bonaventure comments that if one were to wonder whether an angel could make a pottery cup or throw a stone in spite of its lack of hands the answer would be that it is capable of doing such without these human organs because of its

<sup>21</sup> *Ibid.*, q. XVI, 200.

<sup>22</sup> *The Consolation of Philosophy*, V, prose 4.

<sup>23</sup> *De anima* II, 3; 414b29-415a.

<sup>24</sup> Robb, q. XVIII, 217.

<sup>25</sup> Book II, d. I, p. 1; a. 1, q. 2, *ad 6m*.

higher being and power. He adds that similarly God could create the world from nothing without any change in God's being. The human difficulty in conceiving such things is a problem of separating one's thinking from their imagination.

To what extent then have things changed as medieval thinkers over the centuries repeatedly pondered man's knowledge of God and angels? What, especially, was the role of ideas? Certainly ideas provided many important clues and evidence regarding these questions. Furthermore their origin (innate or abstracted) and their intensity and number would be used to assert a hierarchical array of intellectual beings.

Still the initial caution endured if St. Thomas and numerous others before and after him are considered. Indeed, with Ockham and later medievalists, the approach became more cautious and wary. Yet there are also vast changes. The specifics of the problems are refined. The comprehension of man as an intellectual being has grown with the help of the studies of the intellect by Aristotle, the Arabian commentators, and the university faculties of the XIIIth Century. Thus, what St. Anselm sounded as a prayer in the XIth Century:

I pray, O God, that I may know You and love You, so that I may rejoice in You. And if I cannot do so fully in this life may I progress gradually until it comes to fulness. Let the knowledge of You grow in me here, and there [in heaven] be made complete; ...<sup>26</sup>

St. Thomas echoes with the metaphysician's calm statement:

The ultimate perfection for a human soul in the order of natural knowledge is to understand separate substances. But it can achieve this knowledge more perfectly by the fact that while in the body it can be disposed to this end through study and more especially through merit. Consequently it is not united to its body to no purpose.<sup>27</sup>

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<sup>26</sup> *Proslogion*, chap. 26.

<sup>27</sup> Robb, q. XVII, *ad 3m*, 207-208.

COSTANTINO MARMO

**Gregory of Rimini: *notitia intuitiva, species*  
and Semiotics of Images**

0. *Introduction*

In this paper I will briefly examine three cognitive problems that Gregory of Rimini regarded as preliminary to every science: his definition of intuitive and abstractive cognition, his theory of cognitive species and his reflections on signs. For the sake of conciseness, however, I will give only a sketchy account of the first two topics and focus on the third one. As it will appear, Rimini's semiotics is a radical renewal of Augustine's one, a renewal which implies a lessening of the cognitive value of sign and arises in opposition to Ockham's opinion.

1. *Intuitive cognition and species*

In at least three places, Rimini argues against Ockham's definition of intuitive cognition, charging it with circularity.<sup>1</sup> The reason why we can not know contingent truths through abstractive cognition is just the fact that it does not terminate in the real things outside the mind, but to their images. The distinction between intuitive and abstractive cognition is traced then not along Ockham's steps, that is starting by their effects (as also Wodeham did<sup>2</sup>), but by directly looking at their nature: "notitia intuitiva est notitia simplex, qua formaliter aliquid immediate in se ipso cognoscitur. Abstractiva vero est notitia simplex, qua formaliter aliquid in

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<sup>1</sup> *In 2 Sent.* d. 7, q. 3 *Additionalis*, vol. V, p. 107, 6-11. See also *In 2 Sent.* d. 7, q. 3, vol. V, p. 122 (against Franciscus de Trivisio and Joannes Scotus); and *In 1 Sent.* d. 3, q. 1, art. 1, vol. I, p. 307. For Ockham's definition, see *Ord.*, Prol., q. 1, OTH vol. I, p. 6.

<sup>2</sup> See Grassi 1986, p. 81.

aliquo medio repraesentativo cognoscitur".<sup>3</sup> The representative media for both sensible and intellectual cognition are called by Rimini "species".

Rimini's use of the term 'species' is rather problematic. First of all, he employs it to explain the physical process of perception, along the lines laid down by the *perspectivi*.<sup>4</sup> Although his adherence to their view could seem cautious in a passage - where he says "si verum sit commune dictum de multiplicatione specierum in medio" (*ibid.*, p. 331, 24-5) - he certainly does not question such a common teaching, as Ockham did. Furthermore, he argues against Ockham's total rejection of *species* in his II book, dist. 7, q. 3 *additionalis* (vol. V, pp. 102-4). According to Rimini, "quodlibet corpus visibile immutabit medium et etiam organum, multiplicando speciem suam" (*In 1 Sent.* d. 3, q. 1, art. 2, vol. I, p. 328, 20-1). Every organ not only receives species, but also keeps the species in absence of the objects, just as wax receives and keeps the figure of a seal (*ibid.*, p. 332, 21-26). Thanks to the physical process of species' retention, Rimini can rebut Peter Aureol's arguments in support of the natural possibility to have a *notitia intuitiva rei non existentis*.<sup>5</sup>

He clearly accepted the theory of *multiplicatio specierum*. But we could wonder what is according to him the nature of multiplied species, that is whether they share the semiotic status of the intelligible and sensible species. To answer this question, it is important what Rimini says in a *quaestio* which is kept only by the Venetian print of 1522 (*In 2 Sent.* d. 7, q. 3).<sup>6</sup> There he declares that, in the proper sense, species is a form "quae est similitudo seu imago rei cognitae, manens naturaliter in anima... apta nata ducere animam in notitiam rei cuius ipsa est imago et similitudo" (*ibid.*, pp. 104, 33 - 105, 2) and firmly states that "in potentia sensitiva exteriori non sunt species" (*ibid.*, p. 105, 11-2). The multiplied species, which are impressed in sense organs, therefore have no

<sup>3</sup> *In 1 Sent.* d. 3, q. 3, art. 1, vol. I, pp. 389, 34 - 390, 2. The adverb *formaliter*, as Rimini immediately after explains, distinguishes abstractive cognition from the knowledge of principles, in which is *virtualiter* included that of the conclusion.

<sup>4</sup> He refers at least to Witelo in *In 1 Sent.* d. 3, q. 1, art. 2, vol. I, p. 328, 20-6. On the *perspectivi* and, in general, on the problem of vision in medieval philosophy see: Federici Vescovini 1965; Lindberg 1976; Tachau 1981 and 1982.

<sup>5</sup> Rimini quotes from Aureol, *Scriptum*, I, prooem., s. 2, art. 3, vol. I, pp. 198-200, where five experiences are listed, and does not refer to d. 3, s. 14, vol. II, pp. 696-7, where are the eight famous experiences against which Ockham, Chatton and Wodeham argued.

<sup>6</sup> Venicius Markolino pointed out the importance of this edition in his introduction to the first volume of the critical edition (1981, p. LXIX).

representative value: they are not iconic signs of the objects, since, probably, they *are* just the objects themselves or their forms. They are species in the widest sense<sup>7</sup> and they are the forms received and kept by the sense organs in perception (see *In 1 Sent.* d. 3, q. 1, a. 2, vol. I, p. 340). Only in this way, intuitive cognition can be said to be a *direct* knowledge of outside objects. Species with representative force are yielded by the first intuition of a thing (*In 2 Sent.* d. 7, q. 3 add., vol. V, p. 116, 17-8).

It is in the context of the rejection of Aureol's hypothesis of the possibility of a natural knowledge of non-existent things that Rimini points out a further noticeable difference between his definition of intuitive cognition, as compared to Ockham's one. Even if he admits the possibility that God could produce or keep the perception of an absent or non-existent object, he states precisely that God can keep the thing or quality which is the *notitia intuitiva* without its object, but He can not keep it as a *notitia*, that is, as a real knowledge. His argument reminds us of Rodington's and Holcot's ones: just as they pivoted upon the definition of *visio* as a connotative term, Rimini stresses the strict parallelism that holds between the relation of fatherhood and the term *notitia*: "quamvis patrem deus facere possit sine filio et conservare, non tamen potest conservare patrem sine filio et quod pater sit pater non habens filium".<sup>8</sup> In other words, God can create a male without sons, but not as father, since He would yield a contradictory state of affairs: *quod pater sit pater non habens filium*. In the case of a supernatural intervention in the sphere of cognition, the *visio* produced by God would not be actual, but only potential, just as a male is a possible father. In my opinion, this argument can better explain the reason why Rimini holds that, in case of supernatural intervention, no judgement can be elicited. The quality which God can produce in sense organs is not sufficient to assent or to dissent on a contingent proposition. A sort of unintentional 'epoché', therefore, accompanies the possible God's interference in human cognition.<sup>9</sup>

<sup>7</sup> *Ibid.*, p. 104, 24-6: "Uno modo, communissime [accipitur species] pro omni forma ad notitiam habendam concurrente. Et secundum hunc modum etiam forma corporis, quod cognoscitur, dicitur species."

<sup>8</sup> On Rodington and Holcot, see Tachau 1981, pp. 232, n. 8 and 296, n. 8.

<sup>9</sup> See *ibid.*, p. 334, 14-9. Here, Rimini agrees partially with Ockham, in denying the possibility of a supernatural affirmative existential judgement, and with his fictitious



2. *Rimini's reflections on signs and their place in late medieval semiotics*

I will not repeat what Francesco Corvino already said in 1978 about Rimini's notion of intelligible species or about his particular interest in explaining in detail the process of concepts' formation. What I want to point out is Rimini's conception of signs, as he sketches it along his treatment of received and constructed species. Both of them are images, but they differ in the fact that while we don't have naturally a received species of a thing that we didn't perceive immediately in itself (*ibid.*, p. 359, 29-30), we can construct a species of a thing we never saw, just as we imagine a likeness of Christ's face, even if we never saw him (*ibid.*, p. 360, 1-5). But also in this case, we need some received species to construct the final one (*ibid.*, p. 360, 5-7).<sup>10</sup> Whatever species we have in mind, it is necessary to know previously something similar to them in order that they can play their cognitive role. Rimini clarifies that "ad hoc quod per species receptas cognoscamus sensibilia necesse est nos habere habituales notitias illorum, per quas cognoscamus hanc esse speciem huius et hanc illius, et sic de singulis" (*ibid.*, p. 360, 9-11). And also in the case of species of things we never saw, we have to perceive previously something similar to them (*ibid.*, p. 360, 13-5).

Rimini explains in the same question (d. 3, q. 1) that a species in mind is both *res secundum se* and *imago vel similitudo alterius rei*. Therefore, there are two different kinds of cognition of a species: one which takes it as a thing and one which regards it as an image of another thing. The last cognition - as Rimini says - includes perception of the image and memory of the thing represented by the image (*ibid.*, p. 342, 23-6). Rimini clearly repeats here a common teaching on how images function in human knowledge, which goes back at least to Ockham. As it is well known, Ockham employed these explanations to rebut the theory of cognitive species: since they are images or likenesses of the things, they require a previous knowledge (intuitive cognition), therefore they are not useful as cognitive tools. At the outset of his *Summa logicae*, Ockham

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opponent, in rebutting the opposite possibility (see Ockham, *Ord.*, Prol., q. 1, vol. I, pp. 56 and 70-1). It seems to me that, in the quoted addition 13, he could have developed his position shadowing his partial agreement with Ockham.

<sup>10</sup> He refers here to Augustine, *De trinitate* XI, 8, 14, Corpus Christ., Series Latina, L, vol. I, p. 351.

sets against representative signs, such as images and footsteps, a radically different kind of sign: "Propter tamen protervos est sciendum quod signum dupliciter accipitur. Uno modo pro omni illo quod apprehensum aliquid aliud facit in cognitionem venire, quamvis non faciat mentem venire in primam cognitionem eius, sicut alibi est ostensum [*Ord.* d. 3, q. 9, vol. II, pp. 544-545; *Rep.* II, qq. 12-13, p. 274], sed in actualem post habituales" (*Summa logicae* I, 1, 53-6, pp. 8-9).<sup>11</sup> This is Ockham's reformulation of the traditional Augustinian definition of sign (*De doctr. christ.* I, ii, 2). It shows at least two changes in comparison to the previous ones. First of all, it omits any reference to the sensible nature of signs. But this is not a novelty, if we remember Roger Bacon's definition in his *De signis*.<sup>12</sup> Secondly, as a consequence of his theory of relations, Ockham depreciates every kind of knowledge *mediated by signs*. It is interesting to note how Ockham's conception of mediated knowledge was far different from previous common teaching. According to Bacon, for example, there is no gap between species and things of which they are likenesses. The relations of conformity and likeness of the species in comparison with the thing is not discovered *a posteriori*, but is given: the species, like the real images, agree *a priori* with reality. In virtue of the real relation that holds between species and thing, we can immediately infer the latter from the former or, better, employ species, in cognition, instead of thing.<sup>13</sup> Bacon stresses also that signs must be better known for us than their meanings (*De signis* I, 5, p. 83), recalling a feature of the Stoic notion of sign, that Thomas also shared, at least in his theory of perception<sup>14</sup> and which Ockham put partially aside.

I say 'partially' since Ockham with his second meaning of sign recovers the priority of the knowledge through signs he seemed to have rebutted: "Aliter accipitur signum pro illo quod aliquid facit in cognitionem venire et natum est pro illo supponere vel tali addi in

<sup>11</sup> See, on this subject, Tabarroni 1984.

<sup>12</sup> I, 2, p. 82. On his semiotics, see Pinborg 1981, Maloney 1983, Eco et al. 1984, pp. 16-9 and Tabarroni 1984, pp. 65-7.

<sup>13</sup> *De signis* I, 5, p. 83: "Secundus modus signi naturalis est quando non propter illationem aliquam significatur aliquid, se propter conformitatem et configurationem unius rei ad aliud in partibus et proprietatibus, ut imagines et picturae et similitudines et similia et species colorum et saporum et sonorum et omnium rerum tam substantiarum quam accidentium, quoniam omnia haec sunt configurata et conformata aliis." Bacon points out this feature again in his *Tractatus de multiplicatione specierum*, p. 421, and in his *Perspectiva* I, d. 1, 4, pp. 7-9.

<sup>14</sup> See, for example, *Sent. lib. De an.* II, 12, p. 115; 24, p. 169.

propositione" (*SL* I, 59-64, p. 9).<sup>15</sup> These natural signs are the concepts which are then completely different in nature from all other signs: they are, in fact, a sort of spontaneous reaction of the intellect confronted with things.<sup>16</sup>

Coming back to our author, we are now able to better appraise Rimini's position on signs. From that which has been stated above it should be clear that Rimini doesn't distinguish concepts from other iconic signs: like these, concepts also are images and likenesses of the thing, even if they are constructed (*ficti*) by our mind. What is important, in my opinion, is the fact that Rimini extends his reflections on species to every kind of signs: "hoc est generale omnibus signis ut per nullum res aliqua possit cognosci, nisi ipsa cognoscantur esse signa illius, ipsum quoque esse alicuius rei cognosci non potest illa re penitus ignorata" (*In 1 Sent.* d. 3, q. 1, art. 2, vol. I, p. 360, 20-32).<sup>17</sup> This implies that to have a concept of something doesn't mean to know it: "Unde qui fingit formam elephantis et numquam vidit elephantem, per illam non plus elephantem cognoscit quam dormiens vel phreneticus cognoscit per phantasmata, quae sibi occurrunt" (*ibid.*, p. 360, 23-5). As he again stresses, in order to know something through a species or a concept, we have to keep in mind a *notitia habitualis* of it or of something else similar to it.

### Conclusions

To conclude I would say that Rimini's opinions on the complexity of these subject matters constitute a real novelty and, at the same time, a recovery of the past. As for the species, Francesco Corvino already noted the development of the notion of 'intelligible species' from Duns Scotus to Rimini, but, as from many places of his *Commentary on the Sentences* can be seen, his theory of multiplied and impressed species appears to be a revival of Bacon's and Witelo's theories. As for intuitive cognition, Rimini shows himself quite independent of the English

<sup>15</sup> For a critical approach to the notion of 'natural signification', see McCord Adams 1978. On his conception of the mental sign, see also Tabarroni 1984, pp. 79-81.

<sup>16</sup> Ockham compares them to the relation which holds between the *gemitus infirmorum* and the pain they suffer. See on this topic, De Andrés 1969, pp. 99-100, among others.

<sup>17</sup> Here, he refers to Augustine, *De trinitate* X, 1, 2, Corpus Christ., Series Latina, I, vol. I, p. 312.

discussions after Ockham, particularly of Adam Wodeham's positions, which, often in contemporary criticism, throw Rimini's originality into the shade. As well as his notion of intuitive cognition, his semiotics, though it is radically divergent from Ockham's one, appears to be deeply indebted to Augustine's theory of knowledge. Anyway, much work has to be done in order to achieve a better understanding of his thought and of his relationship to his contemporaries and to his authorities.

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MIKLOS MAROTH

*Taşawwur and taşdıq*

*Taşawwur* and *taşdıq* are the two basic concepts in the center of the traditional Arabic logic, "but the origin of these two Arabic terms has baffled modern scholarship for over a century", as H.A. Wolfson writes.<sup>1</sup> They are mentioned first by al-Fārābī,<sup>2</sup> but even Alī Sāmī al-Naṣṣār's discussion of logical methodology, written as late as in 1947, has been centered round them.<sup>3</sup>

Our knowledge, as al-Fārābī says, can be divided into *taşawwur* (e.g. sun, moon, intellect, soul) and *taşdıq* (e.g. "the heaven consists of spheres" or "the world is compound and every compound thing is created, consequently, the world is created".<sup>4</sup>). As his examples show *taşawwur* refers to *concept* and *taşdıq* refers to a phrase or group of phrases. *Assent*, the traditional translation of *taşdıq*, comprises both "phrase" and "group of phrases".

*Concept* and *assent* are mentioned in al-Fārābī's works, which from the logical point of view are not of primary importance. In this respect the situation has been completely changed with Ibn Sīnā. We can see these terms discussed in the first chapters of his logical works, showing that they became the guiding principles of his logic. "Every knowledge consists of concept and assent" - as he wrote in his *Kitāb al-naḡāt*. "Concept is a knowledge comprised in a definition or similar things,

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<sup>1</sup> H.A. Wolfson: "The Terms *Taşawwur* and *Taşdıq* in Arabic Philosophy and their Greek, Latin and Hebrew equivalents." *The Muslim World* 33(1943), p. 114.

<sup>2</sup> al-Fārābī: *Uyūn al-masā'il*, p. 56. Ed. in: *Alfārābī's philosophische Abhandlungen*. F. Dieterici. Leiden 1890.

<sup>3</sup> Alī Sāmī Naṣṣār: *Manāhiḡ al-baḡt 'inda mufakkiri al-islām*. Cairo 1947, p. 25 and p. 46.

<sup>4</sup> al-Fārābī: *loc. cit.*

assent is a syllogism or a similar thing. Definition and syllogism are the two instruments to acquire new knowledge."<sup>5</sup>

Ibn Sīnā's pupil Behmanayar ibn Marzban gives an even more explicit account of the same views. He says that every knowledge consists of concept and assent. Concept is contained in a definition or a description (*hypographé, rasm*), assent is a syllogism or an induction. Definition, syllogism and similar mental operations are comprised in the terms *taşawwur* and *taşđıq*, and these are the two instruments to gather new information.<sup>6</sup>

In his large philosophical encyclopaedia Ibn Sīnā asserts that *the only aim* of logic is to supply the human intellect with concepts and assents.<sup>7</sup> We can state in brief that *taşawwur* and *taşđıq* constitute the two axes of the Arabic logic.

This structure of Arabic logic differs from that of the Greek. It is the reason why the question was raised: what was the origin of the Arabic system. There are two answers given.

Modern scholarship seeks to identify these two terms with  $\varphi\alpha\nu\tau\alpha\sigma\iota\alpha$  and  $\sigma\upsilon\gamma\kappa\alpha\tau\acute{\alpha}\theta\epsilon\sigma\iota\varsigma$ .<sup>8</sup> These expressions - especially the second one - have been well known in Stoic epistemology, it means, they are to be explained in terms of Stoic logic.

This opinion seems to be based on an accidental coincidence of words.  $\Phi\alpha\nu\tau\alpha\sigma\iota\alpha$  and  $\sigma\upsilon\gamma\kappa\alpha\tau\acute{\alpha}\theta\epsilon\sigma\iota\varsigma$  are really terms of Stoic epistemology, but not that of the logic, to begin with. Furthermore, in Stoic epistemology the four words, *phantasia*, *synkatathesis*, *katalépsis*,

<sup>5</sup> Ibn Sīnā: *Kitāb al-nağāt*. Cairo 1938, p. 3. See also: I. Madkour: *L'organon d'Aristote dans le monde Arabe*. Paris 1969, 53-56.

<sup>6</sup> Behmanayar ibn Marzban: *al-Taḥşıl*. Ed. Murtada Mutahhari. Tehran 1970, p. 4. Kullu ʿilm<sup>in</sup> fa immā taşawwur<sup>un</sup> wa immā taşđıq<sup>un</sup>. Wa 'l-taşawwuru huwa al-ʿilmu 'l-awwalu wa yuktasabu bi-'l-ḥaddi wa mā yağrı magrahū ka-'l-rasmi...wa 'l-taşđıqu innamā yuktasabu bi-'l-qiyāsi wa mā yağrı magrahū ka-'l-miṭāli wa 'l-istiqrā'i.

<sup>7</sup> Ibn Sīnā: *al-Shifa'. La logique. I. L'isagoge*. Ed. I. Madkour. Cairo 1952, p. 18: Fa ġāyatu ʿilmi 'l-mantiqi 'an yufida 'l-đihna maʿrifata ḥādāini 'l-şay'aini faqat.

<sup>8</sup> Wolfson: *op. cit.* P. Kraus: *Revue des études islamiques*. 1935 N<sup>o</sup> 4, p. 220. Simon van den Bergh: *Averroes' Tahafut al-Tahafut*. Vol. II. London 1954, p.l. A.S. Naşsar: *op. cit.* p. 23. etc.

and *phantasia kataléptiké* form a system together,<sup>9</sup> where each one of them can be regarded as a more and more perfect and clear form or a higher grade of the same improving knowledge. Since the Stoic philosophy did not admit the universals, this knowledge referred to individuals, whereas in Arabic logic *concept* was always universal. In Stoic epistemology *synkatathesis* is to assent to a *phantasia* evoked in our soul by an individual being, whereas *taşdıq* means connection of *phantasiai*, i.e. "sentence" or "syllogism".<sup>10</sup> If we attach ourselves to the *communis opinio*, then we should find an explanation of these structural differences between the Stoic and Arabic systems.

According to my knowledge there has been no effort to reconcile them, so it seems to me that the Stoic line is to be rejected, as it has been done by F. Jadaane. He pointed out that *taşawwur* was based on a definition, which consists of *genus proximum* and *differentia specifica*, so it had to have an Aristotelian origin. And this is the second answer.<sup>11</sup>

In connection with *taşawwur* he tried to show the peripatetic origin of the term *taşdıq* as well, but because of his poor argumentation his conclusion is not convincing. But even if he were right, his result would not give a satisfactory account of the Arabic system. As it is well known the theory of concepts and that of sentences have been treated in the first two books of Aristotle's *Organon*, in the *Categoriae* and the *De interpretatione*, which have an introductory character and do not constitute the core of the Aristotelian logic, as opposed to the more important *Prior Analytics* or to *Posterior Analytics* that was the most important part of the *Organon* in the Neoplatonic tradition. To furnish an illustration I refer to Philoponus's Commentary on *Posterior Analytics*. The first sentences run as follows:

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<sup>9</sup> A.A. Long: *Hellenistic Philosophy*. Berkeley and Los Angeles 1986, p. 126. G. Reale: *A History of Ancient Philosophy*. III. *The Systems of the Hellenistic Age*. Albany 1985, p. 222. Cicero: *Academica priora* II, p. 145.

<sup>10</sup> A. Graeser: "The Stoic Categories", in: *Les Stoïciens et leur Logique. Actes du colloque de Chantilly 18-22 septembre 1976*. Paris 1978, p. 201: "Sextus reports that a 'true presentation is one of which it is possible to make a true affirmatio (katégorian)." The passage shows the difference between our terminology and that of the Stoics.

<sup>11</sup> F. Jadaane: *L'influence du stoïcisme sur la pensée musulmane*. Beyrouth 1968, p. 106-113.

The theory of demonstration is the aim of logical sciences. Aristotle gave his other books on logic to us only for the sake of demonstration. Here one can refer to the teaching on simple words in the *Categoriae*, on sentences in the *De interpretatione* and syllogisms in *Prior Analytics*.<sup>12</sup>

Ibn Sīnā holds the same view in his commentary on Aristotle's *Posterior Analytics*. He says that the highest reason of every previous book - including *Prior Analytics* - is to attain to the method of acquiring the real and evident truth. This purpose is pursued by the science of demonstration and without the contribution of the other branches of logic.<sup>13</sup>

If *Posterior Analytics* is the most important book of the *Organon* and demonstration is the core of logic, then Ibn Sīnā's words in the first chapter of *Kitāb al-burhān* are of special interest. The passage quoted reads as follows:

After having mentioned the purpose of the book - that is to show the way to the true assent and right concept - the benefit of the book has already been evident: it is the attainment of evidently true sciences and true concepts which are useful for us.<sup>14</sup>

Ibn Sīnā refers here to the first sentence of his book. There, too, he speaks of assents and concepts explicitly.<sup>15</sup>

Examining the structure of Ibn Sīnā's *Kitāb al-burhān* we find it to be in accordance with the words just quoted. The first three parts of

<sup>12</sup> Ioannis Philoponi in Arist. An. Post. Commentaria. Ed. M. Wallies. Berolini 1909, p. 1, 5-10. τοῦτο τέλος ἐστὶ τῆς λογικῆς πραγματείας, φημί δὴ ὁ λόγος ὁ περὶ ἀποδείξεως; τὰ γὰρ ἄλλα λογικὰ συγγράμματα διὰ τὴν ἀπόδειξιν ἡμῶν παρέδωκεν ὁ Ἀριστοτέλης, λέγω δὴ τὴν τέ, περὶ τῶν ἀπλῶν φωνῶν διδασκαλίαν ἐν Κατηγορίαις καὶ τὴν περὶ τῶν προτάσεων ἐν τῷ Περὶ ἔρμηνείας καὶ τὴν περὶ τῶν συλλογισμῶν ἐν τοῖς Πρωτέροις ἀναλυτικοῖς, ἵν' οὕτω δι' ἐκείνων ὁδῶ καὶ ἐπὶ ταύτην ὡς τέλος τῶν ἄλλων βαδίσωμεν.

<sup>13</sup> Ibn Sīnā: *De Demonstratione ex libro "Alchifa"*. <sup>2</sup>Ed. A. Badawi. Cahirae 1966, p. 7. li-'anna 'l-ğaraða ...huwa 'l-tawaşşulu ilā kasbi 'l-ħaqqi 'l-yaqīni. Wa ħaða 'l-ğaraðu yu-fīduhu ħaða 'l-fannu duna sa'iri 'l-funūni.

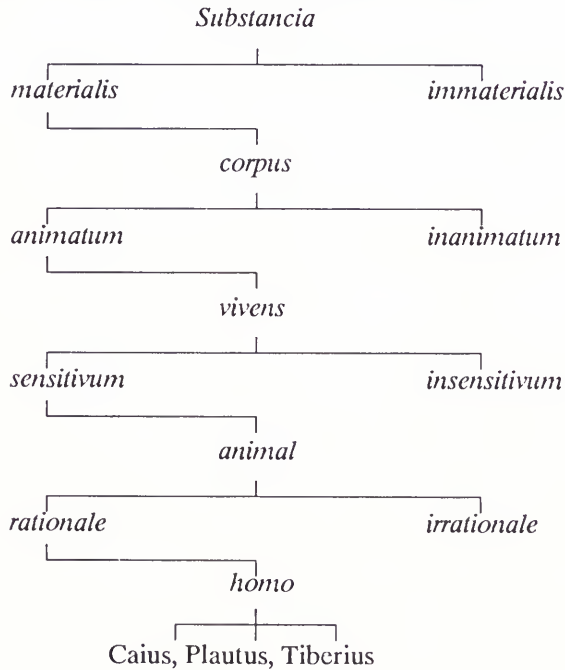
<sup>14</sup> *Op. cit.* p. 6. Fa idā ġakarnā ġaraða 'l-kitābi - wa huwa ifādatu 'l-turuqi 'l-mū-qi'ati li-'l-taşđiqi 'l-yaqīni wa 'l-taşawwuri 'l-ħaqiqi. Fa manta'atu 'l-kitābi zahirat<sup>un</sup> wa hiya 'l-tawaşşulu ilā 'l-<sup>u</sup>ulūmi 'l-yaqīniyyati wa 'l-taşawwurati 'l-ħaqiqiyyati 'l-nā-fi'ati lana.

<sup>15</sup> *Op. cit.* p. 3.

the book are devoted to the theory of demonstrative syllogisms (that is to *assent*), while the fourth part gives a treatment of definitions (i.e. *concept*).<sup>16</sup> All this means that this structure, which is different from that of Aristotle's *Posterior Analytics*, is the realization of the programme marked by the duality of assent and concept. If so, then we should try to throw light on the meaning of *taṣawwur* and *taṣdīq* taking Ibn Sīnā's theory of demonstration as a basis for our examination.

I have investigated Ibn Sīnā's *Kitāb al-burhān* in my treatise to be published later.<sup>17</sup> Before continuing this paper my results must be summarized as follows.

A demonstration is always based on a Tabula Porphyriana. By way of illustration I refer to a scholastic textbook of logic.



<sup>16</sup> On pp. 3-192 and 193-258.

<sup>17</sup> The book has the title *Greek questions in Arabic sciences*.



On the basis of this Tabula one can compose the following demonstration:

Every material being is substance  
every body is material

---

every body is substance

Every animated being is body  
every living being is animated

---

every living being is body

Every sensitive being is living being  
every animal is sensitive

---

every animal is living being

Every rational being is animal  
every man is rational

---

every man is animal.

This scheme has been abstracted from Greek works, but it holds true in respect to Arabic logic as well. Here I will prove my statement with some quotations only.

Ibn Sīnā says describing his theory of demonstration that the genera in the middle make the *highest genus* to be in the lowest species.<sup>18</sup> In another passage we read as follows:

As for the species in the middle, each one of them is reason for being its genus in the species below it and in the individual below that.<sup>19</sup>

The Arabic expressions *al-ḡins al-mutawassiṭ*, *al-ḡins al-a<sup>c</sup>lā*, *al-naw<sup>c</sup> al-akhīr*, *al-anwā<sup>c</sup> al-mutawassiṭa* etc. have no meaning, except in terms of Tabula Porphyriana.<sup>20</sup>

<sup>18</sup> See the Tabula in J. Donat: *Logica*. Oeniponte 1914, p. 45. Ibn Sīnā: *al-Burhan*, p. 195-196: Fa inna 'l-ḡinsa 'l-mutawassiṭa yūḡibu wuḡuda 'l-ḡinsi 'l-a<sup>c</sup>lā fī 'l-naw<sup>c</sup>i 'l-akhīr.

<sup>19</sup> *Op. cit.* p. 248-249: Fa inna 'l-anwā<sup>c</sup>a 'l-mutawassiṭata kullu nau<sup>c</sup>in minhā sabab<sup>un</sup> li-wuḡudi ḡinsihi fī 'l-naw<sup>c</sup>i 'llaqī dūnahū wa fī 'l-aḡḡāsi taḡtahū.

<sup>20</sup> W. Dubislav: *Die Definition*. Leipzig 1931, *passim*. Maróth M.: *A görög logika Keleten*. Budapest 1980, p. 54-59 and 59-64. *Porphyrii Isagoge*. Ed. A. Busse. Berolini 1887, p. 1-22.

The short summary of the Arabic theory of demonstration is to be found in the following passage of al-Suhrawardī:

If you take the lowest consequence, then you arrive at the highest cause in the end ... and if you begin with going down, you find the highest cause first. It is so with the *genus generalissimum* and *species specialissima* and with the others. The demonstration ... is based on this chain.<sup>21</sup>

After having seen these unambiguous words of the passage quoted now, we must recall what we know about definition. It is the common teaching of Arabic logic that definition consists of *genus proximum* and *differentia specifica*.<sup>22</sup> These terms too are to be understood on the basis of Tabula Porphyriana.

So we have to say that definition and syllogism, i.e. concept and assent are based equally on a Tabula Porphyriana, which contains potentially a hierarchic order of definitions (e.g. man is a rational animal, animal is a sensitive living being, living being is an animated body, body is a material substance) and a hierarchic series of syllogisms.

These definitions and syllogisms are convertible, they imply one another mutually. Let us see only one example: "Man is rational animal" vs. "Every rational being is animal, man is rational being, consequently, every man is animal". The same items are to be found in both the definition and the syllogism. According to this theory of demonstration, which is based on the Neoplatonic Tabula Porphyriana, sciences are transformed into a hierarchic system of definitions and a hierarchic system of syllogisms running parallel to one another.

The elements of this system appeared already in the second book of Aristotle's *Posterior Analytics*, as J. le Blond has pointed out.<sup>23</sup> This Aristotelian line reached its most advanced and systematic form in the

21 al-Suhrawardī: *Kiṭāb al-maṣārīf wa 'l-mu'ārahāt*. In: *Shihaboddin Yahya Sohravardi. Oeuvres philosophiques et mystiques*. Tome I. Ed. H. Corbin. Paris-Teheran 1976, p. 302-303. *Hākādā* fī ḡnsi 'l-agnasi wa nau<sup>c</sup>i 'l- anwā<sup>c</sup>i wa ḡayrihā, wa 'alā hādihī 'l- salāsili yubtanā burhānu 'l-nihāyati<sup>c</sup> inda iḡtimā<sup>c</sup>i āhādihā.

22 E.g. al-Ġazzālī: *Mi'yar al-ilm*. Ed. Suleymān Dunyā. Cairo 1961, p. 269.

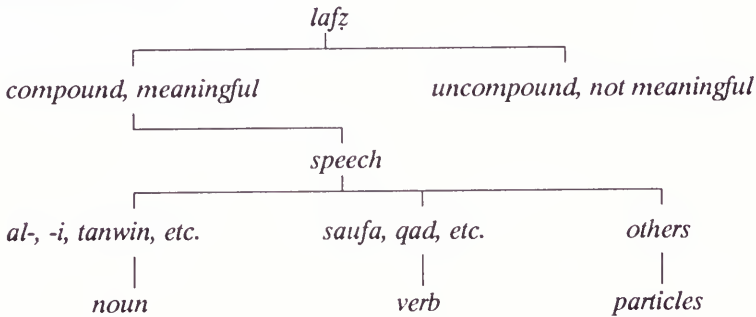
23 J.M. le Blond: *Logique et méthode chez Aristote*. Paris 1939, p. 167. "Nous avons dit qu'une telle conception du raisonnement scientifique tend à transformer la science en une hiérarchie de définitions: Aristote semble ici le réaliser dans une certaine mesure..."

Neoplatonic and Arabic theory of demonstration under discussion. As definitions and syllogisms, i.e. concepts and "assents", serve with their common source, the Tabula Porphyriana, for theoretical background of demonstrations, we can understand their new and emphasized role in Ibn Sīnā's and his successors logic. This is the explanation why *taṣawwur* and *taṣdīq* are the two axes of the Arabic logical *Organon*.

After having seen the theory, let us turn to a practical example. The text of the well known grammar written by Ibn Ḥurrūm begins with the following sentences:

"Speech is a meaningful complex of sounds." This is a definition. "Speech" is the defined species, "meaningful" is *differentia specifica*, "complex of sounds" is *genus proximum*. Speech can be divided into three parts: nouns, verbs and particles. Noun is marked by *i* of genitive, *al-* " etc. "Verb is marked by *qad*, *saufa*, ..." etc.<sup>24</sup>

These are descriptions, which substitute the definitions. The text suggests the following Tabula:



This Tabula, which is suggested by the definitions and descriptions of the text, implies the following order of syllogisms:

All meaningful complex entities are sounds  
 every speech is compound and meaningful

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every speech is a complex of sounds

*al-*, *-i*, etc. are characterizing speech  
 noun is characterized by *al-*, *-i*, etc.

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noun is speech

<sup>24</sup> *Kūāb al-Ājurrūmiyya*. In: Brünnow-Fischer: *Arabische Chrestomathie*. Leipzig 1964, p. 171.

Speech characterized by *al-*, *-i*, etc. is noun  
 "al-*Āgurrūmiyyati*" is characterized by *al-* and *-i*

"al-*Āgurrūmiyyati*" is a noun.

*Kitābu 'l-Āgurrūmiyyati* is an introductory textbook of grammar. Its arrangement is typical of all similar introductions into other sciences like logic, mathematics, etc., so it is suitable to show in general what was the Arabic practice in arranging sciences.

But there is a difficulty left. The terms *phantasia* and *synkatathesis* do not occur in Neoplatonic logical texts.

It seems a solution to the problem, if we turn to the Greek commentaries on Aristotle's *De anima*. Alexander of Aphrodisias says in his commentary written before Neoplatonic times that the sensitive faculty of the human soul has the duty of *phantasiousthai* and *synkatatithesthai*.<sup>25</sup> *Phantasia* is followed by *synkatathesis*, which on its turn is followed by *hormé*, movement of body. In the case of the theoretical sciences there is no movement, since *phantasia* is followed only by *synkatathesis*.<sup>26</sup> They are different terms, because *phantasia* is simple and *synkatathesis* is compound.<sup>27</sup> There is a harmony between these passages and between that of Simplicios who says that *synkatathesis* is the way of reasoning (*logou diexodos*) through definitions (*horous*). Assent is a connection of concepts already defined.<sup>28</sup> Thus logical definition is parallel to a psychological *phantasia*, as well as a logical syllogism is parallel to a psychological *synkatathesis*.

The same picture is given by Ibn Sīnā. According to him we get our concepts and assents with the aid of our bodily organs.<sup>29</sup> Our sense perception abstracts the universals from the individual beings (i.e. sense perception is the source of our *taşawwurāt*). This is one cognitive activity

<sup>25</sup> *Alexandri De anima liber cum mantissa*. Ed. I. Bruns. Berolini 1887, p. 119, 12-13.

<sup>26</sup> *Op. cit.* 73 from line 12.

<sup>27</sup> Simplicios describes the two ways of thinking: *ὀριστικῶς* and *ἀποδεικτικῶς*. *Simplikios de Anima*. Ed. M. Hayduck. Berolini 1882, p. 46.

<sup>28</sup> Simplicios: *op. cit.* p. 204, 25.

<sup>29</sup> Ibn Sīnā: *Al-Ṣifa'*. *Al-Tabi'yyāt* 6. *Al-nafs*. Ed. G. Anawati and Sa'īd Zayed. Cairo 1974, p. 197: Fa 'l-nafsu 'l-insāniyyatu tasta<sup>c</sup>inu bi-'l-badani li-taḥṣīli hādīhi 'l-mabādi'a li-l-taşawwuri wa 'l-taşdıqi.

of the human soul. Then our soul brings the universals (*taṣawwurāt*) into *connection*, and we get acquainted with true propositions from *experience* and *tradition*. These are the three ways to obtain *taṣḍīqāt*.<sup>30</sup> This is the second cognitive activity of the human soul.

*Taṣawwur* and *taṣḍīq*, as our quotations show, are not only central concepts of logic. They are two basic notions of Greek and Arabic psychology as well. So, we can summarize as follows: in the late Greek and Arabic philosophy there is a tripartite structure of the soul with hierarchically ordered faculties. The sensitive part of soul abstracts elementary *taṣawwurāt* and *taṣḍīqāt* through sense perception from the outside world. The theoretical part is supplied with evidently true *taṣawwurāt* and *taṣḍīqāt* by the divine intellect. *Taṣawwurāt* and *taṣḍīqāt* acquired from sense perception and divine intellect through induction and deduction are arranged in *Tabulas*, which constitute the basis for sciences.

The Neoplatonic concept of logic together with late Greek and Arabic psychology can give a clearer and system bound account for the difficulties connected with the terms *taṣawwur* and *taṣḍīq*.

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<sup>30</sup> Ibn Sīnā: *loc. cit.*



JOHN H. NEWELL Jr.

**Grammaticus et Ethicus:  
William of Conches' Search for Order**

William of Conches was a twelfth-century grammarian and natural philosopher of the school of Chartres. In addition to glosses on Plato's *Timaeus*, Boethius' *Consolatio philosophiae*, and Macrobius' commentary on the *Somnium Scipionis*, William composed the *Philosophia mundi* and the *Dragnaticon*, encyclopedic compendia of all the scientific knowledge of his day.<sup>1</sup> Throughout these works, William strives to establish an orderly system and to follow that system to its logical conclusions and implications. Thus for example, in his grammatical studies, he perceives the ancient myths of pagan Rome as of continuing value and not at all incompatible with Christian doctrine; consequently, in the most salacious tales of the adulteries of the gods, he finds the matter for moral or cosmological truths.<sup>2</sup> In his discussion of moral philosophy, he sees the essence of human nature residing in man's freedom of choice; and, therefore, he rigorously expunges from his system of ethics any factors which might interfere with the individual's moral autonomy. Similarly in his explorations of natural philosophy, William posits an orderly and benign universe operating according to certain set natural laws comprehensible to human reason. In explaining the creation and adorning of the universe, he strives to make these natural laws as autonomous as possible and to limit severely any intrusions into the natural functioning of the universe.

Like many of his fellow Chartrians, William bases his natural philosophy on a kind of Christian Platonism. He insists that, in the

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<sup>1</sup> On William's life and works see especially Reginald Lane Poole, *Illustrations of the History of Medieval Thought and Learning*, 2nd rev.ed. (London, 1920), 106-112 and 294-314; J. M. Parent, *La doctrine de la création dans l'école de Chartres*, Publications de l'Institut d'études médiévales d'Ottawa, vol. 8 (Paris, 1938), esp. 11-25; Tullio Gregory, *Anima mundi: la filosofia di Guglielmo di Conches e la scuola di Chartres* (Florence, 1955); and Nikolaus M. Häring, "Chartres and Paris Revisited," in *Essays in Honor of Anton Charles Pegis*, ed. J. Reginald O'Donnell (Toronto, 1974), 294-95.

<sup>2</sup> See for example Peter Dronke, *Fabula: Explorations into the Uses of Myth in Medieval Platonism*, *Mittellateinische Studien und Texte*, Band 9 (Leyden, 1974), 13-78.

beginning, unity, i.e. God, existed by itself and from this unity came all the multiplicity of the universe. God had the forms of all things in his mind from eternity because he provided from eternity which form would agree with which thing. Some of these forms are of genera, some of species, and some of individuals.<sup>3</sup> Just as a carpenter visualizes something in his mind before he makes it, so God, before he created anything, had the idea or form of it in his mind.<sup>4</sup> The archetype of the world containing the forms of all things has existed as the unity of God from eternity and is the truest reality. From this true reality come the images and likenesses of reality, which constitute the universe - the sensible world.

Things in the sensible world can never equal the reality of the divine mind, for the things of the created world always remain imperfect copies, just like a circle made in the mud or water.<sup>5</sup> But although only a copy of reality, everything which exists does bear some resemblance to God. And the creation as a whole reflects the divine mind on which it is based.<sup>6</sup> Man can know only the images of the divine mind united with matter, not the archetype itself; but what is important for William is that the status of the world as a reflection of the divine mind makes the greater reality of the latter accessible to man through the investigation of the sensible world, man's only source of knowledge.

William naturally views the matter which is united with the reflections of the divine mind to make up the sensible world as created from nothing. As he says, "The Creator is prior to everything for

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<sup>3</sup> *Glosae super Macrobiium* (shorter redaction) 1.2.14., MS. Bamberg, Staatl. Bibl. Class 40, fol. 7vb, ed. Helen Rodnite Lemay, *The Doctrine of the Trinity in Guillaume de Conches' Glosses on Macrobius: Texts and Studies*, diss. Columbia Univ., 1973, 125-26: "Ideas vero omnium rerum deus in mente ab eterno habuit quia providit ab eterno que forma cui rei conveniret. Sed idearum quedam sunt generales, quedam speciales, quedam individuales." In the following references to William's works, I will provide the Latin only for references drawn from manuscripts or other unpublished sources.

<sup>4</sup> *Glosae super Platonem*, ed. Edouard Jeuneau (Paris, 1965), 99.

<sup>5</sup> *Glosae super Platonem*, 112-15.

<sup>6</sup> *Glosae super Macrobiium* (longer redaction) 1.6.8, Munich MS 14557, fols. 119v-120r: "... id est creaturarum que dicuntur sequi ipsum creatorem in hoc quod ab eo contrahunt existentiam et ei etiam in aliquo sunt consimiles. Nulla enim est creatura que cum ipso non obtineat similitudinem, sive maximam, sive minimam, sive inter utrumque. ... Cum autem ita omnia in aliquo convenient cum creatore, per unitatem tamen creator ab eis sequestratur, in hoc scilicet quod ipse solus vera est unitas." Cf. Lemay, *Doctrine of the Trinity*, 172-76. For a discussion of the importance of this theme in the Chartrians see Winthrop Wetherbee, *Platonism and Poetry in the Twelfth Century* (Princeton, 1972), 16-17, 31-32, and 172-73.

everything receives its existence from him and he from nothing."<sup>7</sup> William interprets Plato as agreeing with Christian doctrine on the creation of matter. According to his interpretation, Plato ascribes to God the creation of all matter from nothing. William argues that, when the ancients said that the world never began, they did not deny that the world began but only that it began in time. For Plato and for Aristotle, as much as for Augustine, the world began with time.<sup>8</sup> Believing firmly in the sacredness of both the Bible and Plato, William consistently interprets them as in agreement.

The prime matter, which God created from nothing, has no form and quality of its own but is able to receive the forms and qualities of all things. Everything is able to be composed from it because it becomes whatever form it has received.<sup>9</sup> From prime matter a thing is made to be, but from its form it is made to be what it is. William gives as an example that a statue is not called a statue of Achilles because it is made from copper but because it is imprinted in Achilles' form.<sup>10</sup> Prime matter is able to be understood by itself but it is not able to exist by itself. God simultaneously created both the prime matter and the elements which are composed from prime matter joined with form.<sup>11</sup>

William explains that the elements - pure earth, water, air and fire - are the simple and minimal particles of which all bodies are formed. Unlike prime matter, the elements have their own distinct forms and qualities, but like prime matter, they are unable to exist by themselves. Although they cannot exist by themselves, these elements, when mixed with one another, are present in the composition of all bodies. Visible earth, water, air, and fire, which are also commonly called elements, are each composed of a combination of these four simple elements and are named after the element which dominates in their make-up. William suggest that if we wanted to use a more precise terminology, we would call the simple particles elements (*elementa*) and the four bodies which

<sup>7</sup> *Philosophia*, ed. Gregor Maurach (Pretoria, 1980), 18. For discussion of William's and the other Chartrians' views on creation from nothing, see Parent, 40-43 and 95-107; Gregory, 189-97; and Heinrich Flatten, *Die Philosophie des Wilhelm von Conches* (Coblenz, 1929), 122-26.

<sup>8</sup> *Glosae super Platonem*, 104 and 180. Cf. 108 and 176-81.

<sup>9</sup> *Glosae super Platonem*, 168-69 and 258.

<sup>10</sup> *Glosae super Platonem*, 261.

<sup>11</sup> *Glosae super Platonem*, 259-60.

are seen, elemented things (*elementata*).<sup>12</sup> Since William describes the elements as existing only in the composition of elemented things, he apparently considers the elemented things to have been created by God simultaneously with the prime matter, the elements, and time.

Consistent with his constant emphasis on the orderliness of the creation as a reflection of the divine mind, William emphatically rejects the existence of chaos, a doctrine supported by ancient and Christian tradition: "We say that the opinion they propound is false, the reasoning they follow is inappropriate, and the authority they cite is not well understood."<sup>13</sup> William first explains that the idea of elements originally existing in chaos is ridiculous. From their original creation the elements, which are the matter of bodies, had to be in some space, since all bodies occupy some space. But if they were in some space, they were either where they are now or someplace else, but outside of the elements no place exists. The elements were, therefore, where they are now, even if not so disposed as they are now: some above, some below, and some in the middle. But, since the elements occupied all the space there was, they could not at the same time all arise or all descend; therefore, there was no chaos.<sup>14</sup> William then rejects the reason proposed for the existence of chaos, namely that God created chaos to show what confusion there would be if he had not ordered the world. He argues that, since the angels already knew the nature of things and men had not yet been created, there was no one to whom he could show it.<sup>15</sup> Next William attacks the proponents of chaos for misinterpreting their authorities. He concludes that Plato said that God led the elements to order from an unordered tossing about not because there ever was such a disordered confusion, but because without God's direction there could have been. For where is there a place for disorder when God disposes everything?<sup>16</sup> The creation is then for William the movement from a potential disorderly chaos to an actual, ordered *universitas*.

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<sup>12</sup> *Glosae super Platonem*, 129-30 and 278-80. For discussion of the significance of the term *elementatum* see "Elementatum: Its Appearance Among the Twelfth-Century Cosmogonists," *MS 16* (1954): 156-62; and Peter Dronke, "New Approaches to the School of Chartres," *Annuario de estudios medievales* 6 (1969): 129-31.

<sup>13</sup> *Philosophia*, ed. Maurach, 34.

<sup>14</sup> *Philosophia*, ed. Maurach, 34.

<sup>15</sup> *Philosophia*, ed. Maurach, 34-35.

<sup>16</sup> *Philosophia*, ed. Maurach, 35.



Having disposed of his opponents' view of chaos, William gives his own view of the original condition of the elements. All the elements were from the beginning where they are now and had the same substantial qualities, but not all their present accidental qualities. The earth was covered with water, and the other elements were thicker and darker than they are now, but there was never any disordered tossing about of the elements.<sup>17</sup> God created in the sensible world an ordered whole, a universe, which reflects the order in the divine mind and which man can rationally comprehend.

Following God's creation of the four elements from nothing comes the unfolding of the universe. The stars were formed from the water which was mixed in the air:

From what they were [by their fiery nature] they immediately began to be moved. And from their motion they began to warm the air underneath and, by the mediation of the air, the water. From the warmed water were created two kinds of animals: flying and aquatic .... But since those were made from water, the water was dried up in places and muddy earth appeared. In certain places it was thinner and there, warmed by the heat of the sun, the earth produced various kind of animals, namely reptiles and man.<sup>18</sup>

William supposes that what occurred after the original creation of the four elements was done, not directly by God, but by the laws of nature. While these natural laws owe their existence to God, they operate autonomously after their creation. William thus presents a rigorously rational explication of the origins of things, for he sees the universe basically as a closed system. God may choose to enter this closed system at times through miracles, but William seeks to limit the occurrence of such incursions to a minimum, such as the virgin birth.<sup>19</sup>

The creation of the human body, like the rest of the adorning of the universe, occurs within the closed system of nature. William explains that, following the creation of the other animals, the human body was made from a certain part of the earth where there was an equality among

<sup>17</sup> *Glosae super Platonem*, 119. Cf. *Philosophia*, 28-29.

<sup>18</sup> *Glosae super Boetium* 3. m. 9. 5, Leipzig MS 1253, fols. 60v-61r; Munich MS 4603, fol. 162v; Troyes MS 1101, fol. 7v; and Troyes MS 1381, fol. 52r: "Et ita facta sunt corpora stellarum que statim ex quo fuerunt moveri ceperunt, et ex motu suo subditum aerem calefacere et aere mediante aquam. Sed ex aqua calefacta creata sunt duo genera animalium: volatilia scilicet et aquatilia. ... Sed cum ita ex aqua fierent illa desiccata est per loca et apparuit terra limosa. In quibusdam locis tenuior fuerat, que calore solis calefacta diversa genera animalium produxit, scilicet reptilia et hominem."

<sup>19</sup> *Dragmaticon*, ed. Guilielmus Gratarolus, *Dialogus de substantiis physicis* (Strasbourg, 1567; rpt. Frankfurt, 1967) 120-32.



the four elements. This is the meaning of Genesis 2:8: "and God formed man from the mud of the earth."<sup>20</sup> For William, the account in Genesis does not mean that God directly created the human body, but that the forces of nature, which God had created, produced the human body, like the other land animals, from the mud of the earth. Having his body created by natural causes strengthens man's ties to nature. He is not distinct from the world, but rather part of it. William defends his naturalistic explanation of man's creation:

Again someone will say it detracts from divine power to say man was so created. We respond that on the contrary it confers to God both to have given such a nature to things and thus to have created the human body through the working of nature.<sup>21</sup>

By thus explaining the creation of man's body in terms of secondary cause, William further insists on the comprehensibility of the world and emphasizes that man himself is a part of nature.

William also endeavors to apply a naturalistic interpretation to Eve's creation:

But since what is nearest to equality is, even if less, nevertheless somewhat temperate, it is likely that the body of woman was created from nearby mud. And, therefore, woman is neither the same as man nor is she entirely different from man. Nor is she so temperate as man because the hottest woman is colder than the coldest man. And this is what the divine page says, "God made woman from the side of man." For it ought not to be believed literally that God tore a rib from the first man.<sup>22</sup>

In order to ascribe the creation of woman's body to natural causes, William interprets the biblical account of Eve's creation as a myth. Woman was not formed by God from the side of man, but by natural forces from mud which was near the mud where the first man was formed. Obviously he uses the same method in explaining the creation of man and the rest of the universe, but his account of the first woman's creation differs more blatantly from the Bible. Under attack from William of St. Thierry, William replaces his naturalistic account of Eve's creation with the biblical account in his *Dragmaticon*.<sup>23</sup> Nevertheless, except for the account of the creation of woman, William retains his explanation of the creation through secondary causes. His retraction, under criticism, of

<sup>20</sup> *Philosophia*, ed. Maurach, 38.

<sup>21</sup> *Philosophia*, ed. Maurach, 39.

<sup>22</sup> *Philosophia*, ed. Maurach, 38.

<sup>23</sup> *Dragmaticon*, 7.

the explanation of Eve's creation seems a withdrawal from a minor point rather than a real change in his thinking.

In William's view, the world, as a reflection of the divine mind, must be not only ordered but also good. Goodness was, of course, one of God's main attributes in all Christian tradition, and Augustine had frequently referred to the beauty and order of God reflected in the world.<sup>24</sup> William follows Augustine in identifying the final cause of the world with God's goodness.<sup>25</sup> Throughout the early middle ages, the monastic writers viewed the natural world as good and beautiful primarily as a consequence of the fact that the world symbolized the beauty and goodness of God.<sup>26</sup> Like the monastic writers, William finds the basis for the world's beauty in the world's relation to God, but William emphasizes that the world is good and beautiful because God created it in harmony and order. William says that while man cannot know all the causes of divine actions, he can know that all things disposed by God are directed to some good.<sup>27</sup>

William significantly extends his praise of the goodness of nature to include the postlapsarian world. The Fall of man was for monastic writers the central theme of any discussion of nature and man. The Fall corrupted, stupefied, and despoiled man so that, incapable of recovering himself, he has to be restored by God.<sup>28</sup> William naturally cites the Fall as the source of evil in the world, but the scarcity of references to the Fall in his works is striking. He insists that nature in the postlapsarian period, though it may lack perfection, remains essentially good.<sup>29</sup> William's differences with the monastic view of the natural world are especially prominent in his discussion of sexual relations. Many monastic writers describe all sexual desires and relations as sinful in themselves

<sup>24</sup> For examples of Augustine's statements on the beauty of the world, see *Enchiridion* 4.13-15, *Corpus christianorum*, series latina, vol. 29 (Turnhout, 1970), 233-34.

<sup>25</sup> *Glosae super Platonem*, pp. 60, 62, and 97-99.

<sup>26</sup> On the monastic attitude which found beauty in nature because of its symbolic connotations see Robert Bultot, *La doctrine du mépris du monde* (Louvain, 1963-64), 4.1:112-16.

<sup>27</sup> *Glosae super Platonem*, 176. On the theme of the goodness of the world in William, see Gregory, 98-106.

<sup>28</sup> See for example Anselm of Canterbury, *Cur deus homo*, 2.3, ed. F. S. Schmitt, *S. Anselmi opera omnia*, 6 vols. (Rome and Edinburgh, 1939-61) 2:5.

<sup>29</sup> *Glosae super Platonem*, 117-18. Cf. 213 and 219. These are the only three references to the Fall in William's *Glosae super Platonem*. His other works similarly deemphasize the theme.

because they are the means of propagating a sinful nature. Sexual pleasure is described as irrational and beastly, and Anselm of Canterbury, for example, argues that sexual relations should be accomplished without any desire.<sup>30</sup> But in the *Dragmaticon* when the Duke suggest that William discontinue his discussion of coitus because it is not respectable (*honesta*), William replies, "Nothing which is natural is ugly for it is the gift of creation."<sup>31</sup> For William, the world retains its value and goodness; it remains worthy of study because of its order, harmony, and goodness as a creation in the image of the divine mind.

Belief in the goodness of all creation includes a belief in God's providential ordering of the universe. William describes the universe as structured and functioning according to God's will.<sup>32</sup> Nature is the creation of God serving to unfold his will, and it is God's will that the universe be as good as possible. William explains that the motion of the planets is contrary to that of the firmament because if both moved in the same direction, the speed would be so great that nothing would be able to stand or live on the earth.<sup>33</sup> The sun moves obliquely around the earth because if it were always directly overhead there would be no change of seasons, and without the change of seasons the earth would never conceive, fruits would never mature, and so nothing would be able to live.<sup>34</sup> After giving a physical explanation for the absence of stars in the air, William continues:

But what is more important it was not the will of the creator for stars to be in the air. For since air is near the earth, if stars were in it, they would burn the earth by their nearness and nothing would be able to live on earth.<sup>35</sup>

The structure of the world is good because in creating the world God willed that it reflect his divine order and goodness.

Although the world is the result of God's will, it nevertheless remains subject to certain orderly and discernable rules. William limits the direct actions of God in the world to the original creation of the elements from nothing and rare miracles like the virgin birth, which

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<sup>30</sup> Anselm of Canterbury, *Cur Deus homo*, 2.16, *Opera*, 2:119.

<sup>31</sup> *Dragmaticon*, 244.

<sup>32</sup> *Philosophia*, ed. Maurach, 39.

<sup>33</sup> *Dragmaticon*, 116-17.

<sup>34</sup> *Philosophia*, ed. Maurach, 62-63.

<sup>35</sup> *Philosophia*, ed. Maurach, 37.

occur against the usual course of nature.<sup>36</sup> According to William, the adorning of the universe and its continuing operation are not the direct effects of God but the effects of God working through nature.<sup>37</sup> As Tullio Gregory has shown, this view of the work of nature bears certain similarities to Augustine's *rationes seminales* but with important differences. Both allow for God's instantaneous creation of souls and elements from nothing and for the further development through agents of God. But Augustine used the *rationes seminales* to reconcile the doctrine of the simultaneous creation of all things with the daily appearance of new birth, so that he could then deny the appearance of any truly new being. William of Conches, on the other hand, places his definition of nature as a presupposition of a scientific vision of the world which permits him to attribute a proper efficacy to secondary causes.<sup>38</sup> For William, nature has a true efficacy of its own and, though created in conformity to the will and mind of God, enjoys a relative autonomy. Since the rules of nature are unchangeable except for the rare interventions of God and since they are ordered reflections of the divine mind, they are in general comprehensible to human reason. Even in his *Dragmaticon*, where he retracts a number of his specific speculations such as his explanation of Eve's birth, William steadfastly retains his doctrines of the creation through secondary cause and of the autonomy of nature.

In asserting the efficacy of secondary causes, William clearly recognizes the autonomy he is ascribing to nature and the restrictions this autonomy places on God's power. In the *Dragmaticon*, William has the Philosopher explain that four elements were necessary in the construction of the universe. Earth and fire, the two elements necessary for the world to be seen and touched, had to be separated by some medium. Otherwise fire would burn up whatever was on the earth. A single medium would not have sufficed because air was more like fire and water more like earth; therefore, two media were necessary. At this point the Duke raises an objection:

It is obvious even to the bleary eyed and tonsured that these and other disagreeable things would follow if only one of these were placed in the middle. But I wish you would say whether God could not have created some body which would be equidistant from both extremes.

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<sup>36</sup> *Glosae super Platonem*, 104.

<sup>37</sup> *Dragmaticon*, 31-32.

<sup>38</sup> Gregory, *Anima*, 179-81.

Philosopher: I do not place a limit on divine power, but I will tell you that if he had done that there would be neither air ... nor water, whose use is necessary to man in many ways.

Duke: If God had wanted to make the world without man one medium between these extremes could have sufficed.

Philosopher: No, not if the nature of things remains.<sup>39</sup>

William specifically states that he is not placing limits on God's power, since God could have done whatever he willed. But in creating the nature of things as he has, God has given autonomy to secondary causes, and he has voluntarily limited himself.

William argues that such a view does not really detract from God's power because it confirms divine power granted such a nature to things and through nature created other things.<sup>40</sup> All the works of nature are ultimately the result of the will and power of God, and the autonomy of nature does not detract from God. Establishing the efficacy of secondary causes does, however, make an examination of the nature and causes of things a valid subject for human study, because they are governed by certain comprehensible and orderly rules willed by God at the beginning of the world and time.

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<sup>39</sup> *Dragmaticon*, 46.

<sup>40</sup> *Glosae super Boetium* 3. m. 9. 5. See above note 20.



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*Perspectiva e conoscenza scientifica nell'opera di Witelo*

Nell'Introduzione alla *Perspectiva*, Witelo afferma d'essere stato sollecitato da Guglielmo di Moerbeke che, annoiato dalla prolissità dei *perspectivi*, ma interessato dalla loro problematica, auspicava la nascita d'un trattato che, in base a quanto era stato precedentemente ipotizzato, potesse delucidare i problemi fondamentali di questa complessa scienza. La *perspectiva* medioevale infatti é la scienza della luce e dei corpi luminosi perciò, come sin dall'inizio del nostro secolo é stato puntualizzato da E. Panofsky, essa non ha nulla a che fare con la *perspectiva artificialis* o *pingendi* del Rinascimento: quest'ultima é la formulazione delle norme per la rappresentazione artistica della realtà, mentre la prima é un sapere che muove dai fatti forniti dall'occhio e che privilegia tra le sensazioni la vista.<sup>1</sup> In questo senso la *perspectiva* é una scienza più ampia e complessa dell'ottica geometrica euclidea e dell'anatomia ottica araba, vuoi perché le abbraccia entrambe, vuoi perché più di esse comporta la valutazione della sensazione e del sensibile. Da un lato infatti la *perspectiva* s'interroga sulla natura della luce e dei fenomeni ad essa connessi, chiamando in causa fisica e matematica; dall'altro implica l'analisi dell'origine, della trasmissione e dell'utilizzazione del dato sensoriale, nonché la valutazione delle facoltà che vi prendono parte, ed in questo caso presuppone gnoseologia, psicologia e medicina.

A determinare tale quadro concorsero in varia misura oltre all'ottica greca, da Euclide a Tolomeo e alle successive rielaborazioni in senso fisico ed empiristico dovute ad Alkindi e ad Alhazen, la visione metafisica e neoplatonica della conoscenza, elaborata da Avicenna; la medicina galenica, con la sua gnoseologia basata sulla circolazione degli spiriti animali; nonché le conoscenze biologiche ed anatomiche dell'occhio, divulgate dai medici arabi Hunain, Jesus Hali, Rasis ed in gran parte

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<sup>1</sup> E. Panofsky, "Die Perspective als 'Symbolische Form'", *Vorträge der Bibliothek Warburg* 1924-25, 258-330. Per un'interpretazione e un'ampia bibliografia dei principali problemi storico-filosofici di prospettiva medioevale: G. Federici Vescovini, *Studi sulla prospettiva medioevale*, Torino 1965.

tradotte in latino ad opera di Demetrio e di Costantino l'Africano; né vanno dimenticate l'interpretazione sostanzialistica della luce e la problematica relativa ai concetti di spazio, di continuo, di distanza.<sup>2</sup>

Per tali ragioni la *perspectiva* ha un posto ambiguo nel sapere: situata tra geometria e fisica da Aristotele, è assimilata alla metafisica da R. Grossatesta ed è ricondotta da Ruggero Bacone tra le scienze sperimentali, per poi essere avvicinata, alla fine del Medioevo, da Biagio Pelacani da Parma, alla matematica intesa come conoscenza delle quantità.

La *Perspectiva* di Witelo, diffusissima nel Medioevo, in tempi a noi più vicini fu definita fin troppo spesso una parafrasi del *De aspectibus* di Alhazen, per gli evidenti debiti nei confronti dell'opera araba; tuttavia di recente è stato sottolineato che Witelo introduce nel suo testo rettifiche, in apparenza marginali, ma tali da dare allo scritto caratteristiche ben diverse.<sup>3</sup> A cominciare dall'introduzione, Witelo precisa l'importanza della *perspectiva*: quale scienza della luce, che trasmette le influenze celesti sulla terra e che è forma delle cose, essa è la disciplina che meglio d'ogni altra può cogliere l'essenza e conoscere la verità. Invano cercheremmo in Alhazen una affermazione del genere che Witelo deve aver ripreso invece dal neoplatonismo arabo e dalla metafisica della luce, sostenuta dalla corrente francescana di Roberto Grossatesta.

A differenza del *De aspectibus* poi, la *Perspectiva* witeloniana ripropone nel I.I una serie di dimostrazioni geometriche tratte perlopiù dagli *Elementi* d'Euclide. Com'è stato giustamente notato, ciò non significa che Witelo sia un grande matematico, né che a tale scienza riconosca un ruolo predominante, ma semplicemente che il suo procedere è più sistematico di quello dei predecessori:<sup>4</sup> infatti, dovendo far frequente

<sup>2</sup> A. Lejeune, *Recherches sur la catoptrique grecque d'après les sources antiques et médiévales*, Bruxelles 1954; R.E. Siegel, *Galen's System of Physiology and Medicine*, Basilea New York 1968 e *Galen on Sense Perception*, ibid. 1970; D.C. Lindberg, "Lines of Influence in Thirteenth Century Optics: Bacon, Witelo, Pecham", *Speculum* 46 (1971), I, 66-83; J.J. Bono, "Medical Spirits and the Medical Language of Life", *Traditio* XL (1984), 91-130.

<sup>3</sup> G. Federici Vescovini, *Astrologia e scienza. La crisi dell'aristotelismo sul cadere del Trecento e Biagio Pelacani da Parma*, Firenze 1979, 155-177 che riporta anche un'essenziale bibliografia di Alhazen.

<sup>4</sup> S. Unguru, "Witelo and Thirteenth Century Mathematics: an Assessment of His Contributions", *Isis* 63 (1972), IV, 496-508, nonché l'introduzione all'ed. critica Vitelonis *Perspectivae liber I*, *Studia Copernicana* XV, Varsavia 1977 ed il commento alle prop. 22, 39, 66-72. I testi d'Alhazen e Witelo si trovano per intero in *Alhazeni Arabis Opticae Thesaurus I. VII, Vitellonis Thuringopoloni opticae I. X*, ed. F. Risnerus, Basileae 1572; una scelta di passi di Witelo fu edita da Cl. Baumker, *Philosophisch*

ricorso a nozioni geometriche per chiarire i problemi relativi alla diffusione della luce, prepone tali nozioni alla trattazione, perché il lettore possa averle presenti all'occorrenza. Ciò prova che la *perspectiva* di Witelo, a differenza di quella d'Alhazen, è più geometrica che fisica e la sua dottrina della conoscenza più razionalistica che empiristica; ma ciò indica pure che il ruolo della matematica è strumentale rispetto a quello della *perspectiva*. Tuttavia, poiché la posizione di Witelo s'arricchisce d'altri spunti, è indispensabile darne conto, seppur brevemente, prima di tentarne una classificazione e una valutazione.

L'organo capace di cogliere la luce è l'occhio, che Witelo ritiene formato da quattro tuniche e tre umori, il più interno dei quali, il cristallino o umor glaciale, è l'elemento fondamentale della visione. Tutte le tuniche sono attraversate dal foro della pupilla, per cui penetra il cono luminoso recante l'immagine viva al cristallino. La descrizione di Witelo segue Alhazen e rifiuta l'interpretazione di Jesus Hali che, nel *De oculis*, oltre a sostenere che nell'occhio vi sono sette tuniche, aveva attribuito primaria importanza alla retina, per la sua capacità di reagire a stimoli nervosi.

Alhazen invece privilegiò il cristallino, basandosi sulla sua consistenza umorosa, che lo rende simile all'acqua e al vetro; di conseguenza, la visione non è che il passaggio del cono visivo da un mezzo ad un altro di diversa densità, perciò è soggetta alle leggi della rifrazione studiate nell'ottica geometrica.<sup>5</sup> Accettando l'impostazione d'Alhazen, Witelo a sua volta ricollega la *perspectiva* all'ottica geometrica, indi apre una parentesi medica: qualsiasi parte dell'occhio sia malata o lesa impedisce o deforma temporaneamente la visione, ma è curabile purché non si tratti del cristallino, che è certo più protetto e meno esposto a malattie, ma che è incurabile perciò, qualsiasi malanno lo colpisca, provoca l'inguaribile perdita della vista.<sup>6</sup>

L'occhio sano al contrario non fallisce mai il suo compito che consiste nell'accogliere il cono luminoso recante l'immagine dell'oggetto

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*bedeutsame Abschnitte aus Witelo's "Perspectiva"*, Beiträge z. Geschichte d. Philosophie d. Mittelalters, Münster 1908, 127-179. Inoltre D.C. Lindberg, *Introduction to a Facsimile of Alhazen of the 3rd ed. (Risner) of Perspectivae of Alhazen and Witelo*, New York 1973; K. Hedwig, *Sphaera lucis. Studien zur Intelligibilität des Seienden im Kontext der mittelalterlichen Lichtspekulation*, Beiträge z. Geschichte d. Philosophie und Theologie d. Mittelalters, Neue Folge, 18, Aschendorff 1980, 218-222.

<sup>5</sup> Jesus Hali, *Tractatus de oculis*, Venetiis 1500, I,4 e 10, Alhazeni *Opticae*, I,16.

<sup>6</sup> Witelo, *Perspectiva*, III,4.

esterno, per poi trasmetterla al cervello. L'affermazione chiarisce tre punti chiave della concezione witeloniana: 1) al pari d'Alhazen e della maggioranza di *perspectivi* e medici, Witelo rifiuta la tesi di Jesus Hali - ripresa nel medioevo latino da Grossatesta - secondo la quale l'occhio emette anziché accogliere i raggi atti a formare l'immagine visiva. 2) A differenza d'Alhazen Witelo, quando asserisce che la visione inizia nell'occhio ma si conclude nel cervello, contrappone la sensazione visiva o *aspectus simplex*, che è ricezione del *sensibile per se*, alla comprensione o *intuitio diligens*, che coglie il *sensibile per accidens*. 3) Come Aristotele, Witelo ritiene che l'eventuale errore non nasca dall'organo che riceve la sensazione ma da quello che la valuta.

Witelo dunque segue Alhazen nella descrizione del meccanismo della visione, ma non ne accetta l'empirismo gnoseologico di matrice stoico-epicurea tanto che, preferendo rifarsi a fonti platonico-aristoteliche, pone una duplice distinzione: l'una sul piano ontologico, tra sensibile e intelligibile, l'altra sul piano gnoseologico tra sensazione e comprensione, cosicché il *sensibile per se*, oggetto dell'*aspectus*, è subordinato sia al *sensibile per accidens*, oggetto dell'*intuitio*, sia all'intelligibile oggetto della *cognitio*.

I termini *aspectus*, *intuitio*, *cognitio* sono già in Alhazen, ma con diverso significato perché per il filosofo arabo la sensazione visiva è già comprensione dell'oggetto sia che si verifichi come *aspectus*, in modo più confuso, sia che si presenti come *intuitio*, in modo più nitido, sia che si manifesti come *cognitio*, che prevede il paragonare, il distinguere, il misurare, etc. Le diverse denominazioni indicano non la subordinazione, ma il momentaneo prevalere d'una attività sulle altre perché la vista, essendo perfettamente idonea a cogliere la verità dell'oggetto esterno, non è uno strumento inferiore alla comprensione.<sup>7</sup>

Anche per Witelo la sensazione visiva non sbaglia, ma solo perché, pura ricezione della luce fisica e dell'immagine, non è conoscenza né comprensione della quiddità: essa infatti non è in grado di valutare l'esatta corrispondenza tra immagine visiva e oggetto veduto, né la reale esistenza di quest'ultimo. Tale valutazione è compito dell'*intuitio diligens* che certifica l'immagine della cosa vista attraverso la conoscenza di tutte le sue intenzioni particolari; mentre la *cognitio* è comprensione dell'universale, cui si giunge dopo molte *intuitiones* e attraverso il

<sup>7</sup> Alhazeni, *Opticae*, II, 64-65, 67, 69-70.



confronto tra la *forma quiescens* nella memoria e la forma dell'oggetto percepito.<sup>8</sup>

In tutte queste operazioni é possibile l'insorgere dell'errore, la cui causa remota é l'assenza d'una delle otto condizioni indispensabili alla retta visione:<sup>9</sup> la casistica di Witelo contempla un gran numero di problemi relativi all'insufficiente illuminazione, alle incerte condizioni atmosferiche, alla diversa densità dei mezzi e all'eccessiva distanza. In tutti questi casi si possono avere immagini visive imprecise e confuse che però la *virtus distinctiva* e la *cognitio*, con l'aiuto delle leggi della *perspectiva*, riescono agevolmente a spiegare. Ma talvolta l'oggetto esterno é percepito di misura assai diversa dal reale, cioè estremamente grande o piccolo. A correggere tali errori non é sufficiente la *cognitio*, con la sua capacità di distinguere e confrontare, sicché gli ignoranti credono che quelle immagini smisurate corrispondano realmente ad oggetti enormi e, incapaci di spiegarsi il fenomeno, lo attribuiscono all'inganno dei demoni. Benedetta sia la matematica, esclama quindi Witelo, perché tale scienza spiega la vera causa di questi errori e ci permette di valutarne la gravità attraverso il calcolo dell'angolo d'incidenza del cono visivo. La tesi che dall'angolo d'incidenza si potesse desumere il rapporto tra le dimensioni dell'immagine visiva e dell'oggetto, era a quei tempi assai comune, ma fu successivamente criticata e abbandonata, perché inesatta e di difficile applicazione.<sup>10</sup>

Più interessante é il richiamo alla matematica, vista più come disciplina che illumina le vere cause dei fenomeni che come scienza del calcolo, esaltata perciò come guida alla conoscenza della *quidditas*, più che per l'esattezza e l'obiettività dei suoi metodi. Witelo intuisce infatti l'importanza della matematica ma, legato ad un'idea di scienza di tipo aristotelico, da un lato le attribuisce un valore qualitativo, sostanzialistico

<sup>8</sup> Witelo, *Perspectiva*, III,51: "... aspectus simplex est solum receptio formae sensibilis in superficie visus ... intuitio certificat veritatem formarum comprehensarum ..." *Ibid.*, III,56: "Visus enim non comprehendit veram formam rei visae nisi per comprehensionem omnium intentionum particularium quae sunt in illa forma ... Visus numquam potest comprehendere veram formam rei visae in primo aspectu sed solum post diligentem intuitionem." *Ibid.*, III, 58-59, 61.

<sup>9</sup> *Ibid.*, IV,1: "... Lux, distantia, situs oppositio, magnitudo, soliditas, diaphanitas aëris, tempus, sanitas visus". Tutto il I.IV é dedicato all'esame dei diversi errori.

<sup>10</sup> L'analisi degli errori e delle loro cause é ripresa, brevemente ma con grande acume, nell'*Epistola de primaria causa poenitentiae in hominibus et de substantia et natura daemonum*, edita da noi in *Demoni e prodigi*, Torino 1978 e da J. Burchardt, *List Witelona do Ludwika we Lwowku Slaskim*, Studia Copernicana XIX, Varsavia 1979.



e non quantitativo (come faranno invece i *physici* del sec. XIV); dall'altro l'inserisce in un'enciclopedia del sapere di tipo gerarchico, che la subordina alla *perspectiva*, riconoscendo a quest'ultima la capacità d'individuare l'intelligibile sotto le apparenze sensibili e riservando alla matematica il ruolo strumentale di eliminare errori e superstizioni che impediscono la retta visione.

Altra fonte d'errore é la mancanza d'una perfetta salute e poiché Witelo accoglie la posizione aristotelica che l'errore nasce dall'organo di giudizio più che da quello di senso, non solo dovrà essere sano l'occhio, ma anche il cervello, nei cui ventricoli risiedono i cinque sensi interni.<sup>11</sup> A differenza dell'occhio, la cui funzione é simile a quella d'uno specchio che solo se incrinato deforma l'immagine, i sensi interni non possono assolvere il loro compito per diverse ragioni, le une più gravi e durature, quali malattie e lesioni del cervello, le altre più lievi e transitorie, dovute all'eccesso d'umore nell'organismo.

Com'è noto, Galeno aveva sostenuto che sano é solo chi ha l'"eucrasia", cioè il perfetto equilibrio dei quattro umori, poiché la prevalenza d'uno di essi é già sintomo di malattia. La teoria, per la sua eccessiva rigidità, fu ben presto modificata e si finì per ritenere sani non solo gli uomini dotati di eucrasia, ma anche flemmatici, melanconici, collericici e sanguigni, ossia coloro nei quali un umore si manifestasse lievemente prevalente sugli altri; in tali casi infatti la sovrabbondanza d'un umore determina una specifica caratterizzazione fisica e psicologica, nonché la propensione ad incorrere in una serie di malanni sintomatici, ma non uno stato patologico in atto.<sup>12</sup>

Indicando nell'eccesso d'un umore la causa di certi errori di giudizio Witelo ci pare seguire questa tesi e fonderla con le concezioni sulla

<sup>11</sup> Sulla conoscenza in Witelo: A. Birkenmajer, *Etudes d'histoire des sciences en Pologne*, Studia Copernicana IV, Wroclaw 1972, 97-434; J. Burchardt, *Witelo filosofo della natura del sec. XIII. Una biografia*, Accademia polacca delle scienze. Biblioteca e Centro di studi a Roma n.87, 1984 e *La psicopatologia nei concetti di Witelo filosofo della natura del XIII sec.*, Ibid., n.94, 1986 che in gran parte riprende quanto già detto nell'introduzione dell'ed. critica. Per una diversa interpretazione: J.A. Lohne, "Der eigenartige Einfluß Witelos auf die Entwicklung der Dioptrik", *Archives for History of Exact Sciences* 5 (1968), 414-426; A. Paravicini Bagliani, "Der Naturforscher und Philosoph Witelo, Domherr von Breslau 1275-77", *Archiv für schles. Kirchengeschichte* 34 (1976), 31 e seg.

<sup>12</sup> Su complessioni e umori R. Klubansky, E. Panofsky, F. Saxl, *Saturno e la Melanconia*, Torino 1983. Sull'interpretazione degli umori in Witelo ci sia concesso rinviare al nostro: "Alcune fonti mediche arabe dell'Epistola de natura daemonum di Witelo", *Orientalische Kultur und Europäisches Mittelalter*, Miscellanea Mediaevalia 17, 1985, 344-357.

circolazione degli spiriti animali, esposte da Qusta ben Luqa nel *De differentia spiritus et animae*. Quando una causa occasionale, quale la febbre, provoca un notevole aumento del calore corporeo in un individuo privo d'eucrasia, l'umore in eccesso tende a muoversi liberamente nell'organismo ed a salire prima verso lo stomaco, indi nell'ipocondrio e infine nel cervello. Se la massa umorale, o il fumo da essa sprigionato, invade uno o più ventricoli cerebrali, blocca l'attività dei sensi interni che vi risiedono e trasmette la sua colorazione alle immagini visive. In questi casi il paziente non riceverà i reali colori, ma solo immagini monocromatiche il cui colore é quello dell'umore in eccesso: sicché il flemmatico riceverà immagini bianche, il melanconico nere etc. Inoltre non potendo valutarle con il senso comune e il giudizio, né confrontarle con le forme quiescenti nella memoria, perché tali sensi interni sono, almeno parzialmente, impediti dall'umore eccessivo, dovrà giudicarle con la *phantasia* incorrendo così in ogni tipo d'errori.<sup>13</sup>

Mentre a proposito della matematica Witelo non dimostra grande autonomia, le sue osservazioni su questi problemi medici sono nuove, precise e denotano una capacità di anamnesi non comune a quei tempi, dovuta forse alla frequentazione di malati il cui stato patologico é diagnosticato, secondo le conoscenze dell'epoca, in modo assai nitido. Witelo possedeva quindi un ampio bagaglio di nozioni mediche, il gusto dell'osservazione puntuale e, cosa ancora più importante, la convinzione dell'utilità della medicina, intesa non come pratica terapeutica ma come disciplina teorica.

Proprio su questo punto ci sembra si possano cogliere al tempo stesso valore e limite della posizione di Witelo: infatti, sebbene le sue cognizioni risentano di osservazioni personali, alla diagnosi Witelo non fa seguire la prognosi, né si sofferma sulla possibile cura, perché ben più che lo stato del malato, lo interessa la razionalizzazione del male e delle sue cause. Così, a differenza di certi medici del tempo, accusati di trascurar la teoria per vedere solo l'applicazione pratica della loro arte, Witelo s'avvicina a quanti apprezzano nella medicina il solo aspetto

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<sup>13</sup> Costa ben Lucae, *De differentia animae et spiritus*, ed. C.S. Barach, Innsbruck 1878; L. Norpoth, *Der pseudo-augustinische Traktat De spiritu et anima*, Köln Bochum 1971; M. Putscher, *Pneuma, Spiritus, Geist*, Wiesbaden 1973, 46-48. Per gli errori che, secondo Witelo, alimentarono la credenza nei demoni ci permettiamo rinviare ai nostri: "Il 'De natura daemonum' di Witelo", *Atti dell'Accademia delle Scienze di Torino*, n.109, sez.II, 1975, 231-271 e "Witelo et Pietro d'Abano à propos des démons", *L'homme et son univers au Moyen Age*, Louvain-la-Neuve 1986, II, 675-682.

teorico, con il pericolo di farne un sapere astratto che perde di vista il malato con i suoi problemi. D'altro canto, sebbene Witelo riconosca validità scientifica alla medicina, che non é *ars mechanica* ma disciplina speculativa, capace di spiegare le cause naturali di certi fenomeni, tuttavia non sembra concederle più autonomia di quanta ne abbia concessa alla matematica: anche la medicina non é considerata per il suo valore intrinseco, ma per la sua funzione propedeutica e merita perciò un ruolo subordinato; le sue capacità conoscitive riguardano infatti le forme corporee e materiali, cioè un oggetto ontologicamente imperfetto, essa quindi, utile ma incapace d'attingere i più alti livelli di conoscenza, non può eguagliare in nobiltà la *perspectiva*.

La subordinazione di matematica e medicina alla *perspectiva* ci pare indichi nel pensiero di Witelo il persistere di schemi aristotelici: infatti nonostante l'interesse per le discipline fisico-matematiche e la sostituzione, nell'enciclopedia del sapere, della metafisica con la *perspectiva*, quest'ultima non assume il suo ruolo privilegiato perché muove dalla sensazione e dall'esperienza, ma perché può conoscere la forma; questo fatto, unito all'abbandono dell'empirismo gnoseologico d'Alhazen, ci pare dimostrare che la *perspectiva* di Witelo non é una scienza quantitativa e sperimentale ma qualitativa e sostanzialistica. Ma ciò non diminuisce il valore dell'opera di Witelo che, per la sua sistematicità, per la rielaborazione di nozioni matematiche e mediche, per la costante ricerca delle cause dell'errore e per il suo coerente razionalismo, favorì la conoscenza e la diffusione di problemi fisici, biologici, medici contribuendo a creare le premesse culturali indispensabili alla nascita delle nuove scienze fisiche.

Torino

OLAF PLUTA

**Das natürliche Verlangen nach Unsterblichkeit**  
Aufstieg und Fall eines Arguments der metaphysischen  
Psychologie in der Philosophie des Mittelalters

"Nec sibi enim quisquam tunc se vitamque requirit,  
cum pariter mens et corpus sopita quiescunt;  
nam licet aeternum per nos sic esse soporem,  
nec desiderium nostri nos adficit ullum."

(Titus Lucretius Carus: *De rerum natura*, III, 919-22)

Das "Land der *Wahrheit*" ist - nach einer bekannten Metapher Kants - "umgeben von einem weiten und stürmischen Ozeane, dem eigentlichen Sitze des Scheins, wo manche Nebelbank, und manches bald weg-schmelzende Eis neue Länder lügt, und ... den auf Entdeckungen herumschwärmenden Seefahrer unaufhörlich mit leeren Hoffnungen täuscht".<sup>1</sup> Eine der natürlichen und unvermeidlichen, wenn auch nicht unauflöslichen Illusionen<sup>2</sup> dieses 'weiten und stürmischen Ozeans' ist nach Kant die metaphysische Psychologie.

Die Destruktion der metaphysischen Psychologie beginnt aber nicht erst in der Aufklärung mit Humes *Essay On the Immortality of the Soul* und Kants *Kritik der reinen Vernunft*. Bereits im späten Mittelalter gab es eine Tradition methodologisch streng philosophischer Kritik an den Unsterblichkeitsbeweisen.<sup>3</sup> Die mittelalterliche Geschichte der metaphysischen Psychologie und ihrer Kritik soll hier exemplarisch am Beispiel eines ihrer zentralen Argumente - dem Argument aus dem natürlichen Verlangen (*desiderium naturale*) - dargestellt werden.

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<sup>1</sup> Kant: *Kritik der reinen Vernunft*, A235f, B295.

<sup>2</sup> Vgl. KrV A298.

<sup>3</sup> Vgl. Olaf Pluta: *Kritiker der Unsterblichkeitsdoktrin in Mittelalter und Renaissance*, Amsterdam 1986 (Bochumer Studien zur Philosophie, 7).

Das Argument aus dem natürlichen Verlangen hat eine lange Tradition.<sup>4</sup> Der Grundgedanke dieses Arguments findet sich bei Aristoteles und Augustinus, Averroes und Avicenna. Dominicus Gundissalinus hat es in seiner Abhandlung *De immortalitate animae* weiter ausgearbeitet.<sup>5</sup> Durch Wilhelm von Paris (Auvergne) wird es weiter verbreitet.<sup>6</sup>

Überraschend häufig findet sich das *desiderium-naturale*-Argument bei Thomas von Aquino.<sup>7</sup>

In der *Summa contra gentiles* (1259-64) führt Thomas es in der folgenden Form an: Ein natürliches Verlangen (*desiderium naturale*) kann nicht vergebens sein, da die Natur nichts umsonst tut,<sup>8</sup> aber jeder Mensch (*quilibet intelligens*) hat ein natürliches Verlangen nach individueller Unsterblichkeit,<sup>9</sup> folglich kann dieses Verlangen nicht unerfüllt bleiben. Zum Beweis des Untersatzes unterscheidet Thomas zunächst ein *bewußtes*

<sup>4</sup> Zur Geschichte des 'desiderium naturale'-Begriffs vgl. Paulus Engelhardt: Art. "Desiderium naturale", in: *Historisches Wörterbuch der Philosophie*, hrsg. von J. Ritter, Bd.2, Darmstadt 1972, Sp.118-130; ders.: Art. "Desiderium naturale", in: *Lexikon des Mittelalters*, Bd.3, München/Zürich 1986, Sp.723-724.

<sup>5</sup> Zum *desiderium-naturale*-Argument bei Gundissalinus vgl. Georg Bülow: *Des Dominicus Gundissalinus Schrift von der Unsterblichkeit der Seele*, herausgegeben und philosophiegeschichtlich untersucht. Nebst einem Anhang, enthaltend die Abhandlung des Wilhelm von Paris (Auvergne) *De immortalitate animae*, Münster 1897 (Beiträge zur Geschichte der Philosophie des Mittelalters, II,3), S.120-125; G. Verbeke: "Methode einer philosophischen Beweisführung: die Unsterblichkeit der Seele", in: Albert Zimmermann (Hrsg.): *Methoden in Wissenschaft und Kunst des Mittelalters*, Berlin 1970 (Miscellanea mediaevalia, 7), S.23-49, ebd. S.31f.

<sup>6</sup> Wilhelm von Auvergne: *De immortalitate animae*, hrsg. von Georg Bülow, a.a.O., Appendix, S.39-61.

<sup>7</sup> Vgl. Johannes Mundhenk: *Die Seele im System des Thomas von Aquin*. Ein Beitrag zur Klärung und Beurteilung der Grundbegriffe der thomistischen Psychologie, Hamburg 1980, S.121. Die Unsterblichkeit der Seele gehört für Thomas von Aquino zu den Glaubenswahrheiten, die mittels der Vernunft bewiesen werden können. Die Auferstehung des Leibes und das Jüngste Gericht hingegen gehören für Thomas - neben der Dreifaltigkeit, der Menschwerdung Christi und den Sakramenten - zu denjenigen Wahrheiten, die nur geglaubt werden können, weshalb er sie im vierten Buch der *Summa contra gentiles* erörtert, das diejenigen Wahrheiten behandelt, die außerhalb der Reichweite der menschlichen Vernunft liegen. Zur Literatur vgl. Engelhardt, a.a.O., Sp.127. Vgl. vor allem William O'Connor: *The eternal quest. The teaching of St. Thomas Aquinas on the natural desire for God*, New York 1947; ders.: *The natural desire for God*, Milwaukee, Wisconsin 1948 (Marquette University. The Aquinas Lecture, 1948).

<sup>8</sup> "Impossibile est naturale desiderium esse inane: natura enim nihil facit frustra." (*Summa contra gentiles*, lib.II, c.55; ed. Leonina, S.394b).

<sup>9</sup> "Sed quilibet intelligens naturaliter desiderat esse perpetuum: non solum ut perpetuetur esse secundum speciem, sed etiam individuum." (ebd.).



und ein *unbewußtes* natürliches Verlangen.<sup>10</sup> Bei denjenigen Wesen, die lediglich ein unbewußtes Verlangen nach dem Sein haben, gibt es solche (wie die Sterne), denen die Kraft innewohnt, ihr Sein als Einzelwesen - *secundum numerum* - zu erhalten, und solche (wie die Pflanzen), die vermittels ihres Fortpflanzungsvermögens nur als Art - *secundum speciem* - ihr Sein bewahren können.<sup>11</sup> Den gleichen Unterschied muß es, so folgert Thomas *per analogiam*, ebenso bei den Lebewesen geben, die auch ein bewußtes Verlangen nach dem Sein haben. Die Tiere, die nur das gegenwärtige Sein (*esse ut nunc*) erkennen, verlangen auch nur nach dem gegenwärtigen Sein und können ihr Sein nur *secundum speciem* bewahren, die Menschen (*substantiae intelligentes*) hingegen, die das immerwährende Sein (*esse perpetuum*) erkennen, verlangen nach ihm und können ihr Sein *secundum numerum* erhalten.<sup>12</sup>

Später faßt Thomas diesen Gedankengang kurz wie folgt zusammen: Ein natürliches Verlangen (*appetitus naturalis*) kann nicht vergeblich sein; aber der Mensch (*homo*) verlangt von Natur aus danach, fortdauernd zu sein (*perpetuo manere*). Zum Beweis des Untersatzes führt Thomas aus: Es ist das Sein, das von allen erstrebt wird (*esse est quod ab omnibus appetitur*). Der Mensch aber erfaßt durch seinen Intellekt das Sein nicht nur als gegenwärtiges (*ut nunc*) wie die Tiere, sondern schlechthin (*simpliciter*) und hinsichtlich jeder Zeit (*secundum omne tempus*).<sup>13</sup>

<sup>10</sup> "Quod sic patet. Naturalis enim appetitus quibusdam quidem inest ex apprehensione: sicut lupus naturaliter desiderat occisionem animalium ex quibus pascitur, et homo naturaliter desiderat felicitatem. Quibusdam vero absque apprehensione, ex sola inclinatione naturalium principiorum, quae naturalis appetitus in quibusdam dicitur: sicut grave appetit esse deorsum." (ebd., S.394b-395a).

<sup>11</sup> "Utroque autem modo inest rebus naturale desiderium essendi: cuius signum est quia et ea quae cognitione carent, resistunt corrumpentibus secundum virtutem suorum principiorum naturalium; et ea quae cognitionem habent, resistunt eisdem secundum modum suae cognitionis. Illa igitur cognitione carentia quorum principii inest virtus ad conservandum esse perpetuum ita quod maneat semper eadem secundum numerum, naturaliter appetunt esse perpetuum etiam secundum idem numero. Quorum autem principia non habent ad hoc virtutem, sed solum ad conservandum esse perpetuum secundum idem specie, etiam sic naturaliter appetunt perpetuitatem." (ebd., S.395a).

<sup>12</sup> "Hanc igitur differentiam oportet et in his inveniri quibus desiderium essendi cum cognitione inest: ut scilicet illa quae non cognoscunt esse nisi ut nunc, desiderant esse ut nunc; non autem semper, quia esse sempiternum non apprehendunt. Desiderant tamen esse perpetuum specie: tamen absque cognitione; quia virtus generativa, quae ad hoc deservit, praecambula est, et non subiacens cognitioni. Illa igitur quae ipsum esse perpetuum cognoscunt et apprehendunt, desiderant ipsum naturali desiderio. Hoc autem convenit omnibus substantiis intelligentibus." (ebd.).

<sup>13</sup> "Impossibile est appetitum naturalem esse frustra. Sed homo naturaliter appetit perpetuo manere. Quod patet ex hoc quod esse est quod ab omnibus appetitur: homo

Thomas hat den Gedankengang des *desiderium-naturale*-Arguments in weiteren Schriften in mehreren Hinsichten präzisiert.

Im ersten Teil der *Summa theologiae* (1266-68) begründet Thomas, inwiefern die Weise des Erkennens für das natürliche Verlangen richtungsweisend ist: Jedes Wesen verlangt auf seine Weise von Natur aus nach dem Sein. Bei den erkennenden Wesen aber folgt das Verlangen der Erkenntnis (*desiderium ... sequitur cognitionem*).<sup>14</sup>

In der *Quaestio disputata de anima* (1269) verdeutlicht Thomas, daß der Mensch nach dem Sein als solchem (*esse secundum se*) strebt.<sup>15</sup>

In der *Sententia libri Ethicorum* (1271) schließlich begründet Thomas eingehend, weshalb das natürliche Verlangen nach Unsterblichkeit nicht vergeblich und illusorisch (*inane et vacuum*) sein kann: dieses Verlangen ist nämlich nichts anderes als eine durch die von Gott gegebene Naturordnung den Dingen innewohnende Neigung.<sup>16</sup> Wäre dieses Verlangen nicht erfüllbar, dann müßte man annehmen, daß Gott den Menschen als ein Wesen geschaffen hat, dessen Verlangen niemals befriedigt werden kann, dessen Existenz mithin absurd ist. Das *desiderium-naturale*-Argument setzt also einen christlich-aristotelischen Naturbegriff voraus: Die Natur wird gedacht als ein wohlgeordnetes, hierarchisch gegliedertes Ganzes, erschaffen und erhalten von einem weisen und guten Gott.

autem per intellectum apprehendit esse non solum ut nunc, sicut bruta animalia, sed simpliciter. Consequitur ergo homo perpetuitatem secundum animam, qua esse simpliciter et secundum omne tempus apprehendit." (*Summa contra gentiles*, lib.II, c.79; ed. Leonina, S.498a).

<sup>14</sup> "unumquodque naturaliter suo modo esse desiderat. Desiderium autem in rebus cognoscentibus sequitur cognitionem. Sensus autem non cognoscit esse nisi sub hic et nunc; sed intellectus apprehendit esse absolute, et secundum omne tempus. Unde omne habens intellectum naturaliter desiderat esse semper. Naturale autem desiderium non potest esse inane. Omnis igitur intellectualis substantia est incorruptibilis." (*Summa theologiae*, I, q.75, a.7; ed. Marietti, S.356). Das natürliche Verlangen ist zwingend und unterliegt nicht dem freien Willen, frei ist der Mensch lediglich in der Wahl der kontingenten Mittel (vgl. *Summa theologiae*, I, q.83, a.1).

<sup>15</sup> "Signum autem huius ex duobus accipi potest. ... Secundo, ex naturali appetitu qui in nulla re frustrari potest. Videmus enim in hominibus appetitum esse perpetuitatis et hoc rationabiliter; quia cum ipsum esse secundum se sit appetibile, oportet quod ab intelligente qui apprehendit esse simpliciter, et non hic et nunc, appetatur naturaliter esse simpliciter et secundum omne tempus. Unde videtur quod iste appetitus non sit inanis; sed quod homo secundum animam intellectivam sit incorruptibilis." (*Quaestio disputata de anima*, a.14, ed. Marietti, 8.Aufl. Rom 1949, S.334b; *Quaestiones de anima*, q.14, ed J. H. Robb, Toronto 1968, S.202).

<sup>16</sup> "ergo seque(re)tur quod naturale desiderium sit inane et vacuum; sed hoc est impossibile, quia naturale desiderium nihil aliud est quam inclinatio inhaerens rebus ex ordinatione primi moventis, quae non potest esse supervacua" (*Sententia libri Ethicorum*, lib.I, com.2; ed. Leonina, S.8a).

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Bereits Johannes Duns Scotus weist in seinem *Sentenzenkommentar* (*Opus oxoniense*, 1300-01) nach, daß das *desiderium-naturale*-Argument unzulässige theologische Voraussetzungen macht; philosophisch ist dieses Argument nicht schlüssig.<sup>17</sup> Das Diktum des Averroes "Desiderium naturale non potest esse frustra."<sup>18</sup> gesteht Scotus den Vertretern des *desiderium-naturale*-Arguments zu. Seine Zweifel richten sich gegen den Obersatz dieses Arguments: Der Mensch hat ein natürliches Verlangen nach Unsterblichkeit. In bezug auf diesen Satz stellt er sich die Frage: Handelt es sich hier wirklich um ein natürliches Verlangen?

Scotus antwortet darauf wie folgt: Unabhängig davon, ob man den Begriff 'natürliches Verlangen' im eigentlichen Sinne (*proprie dictum*) als eine unbewußte natürliche Neigung oder im uneigentlichen Sinne (*minus proprie dictum*) als ein der natürlichen Neigung entsprechendes bewußtes Verlangen versteht, ist klar, daß man nicht beweisen kann, daß es sich hier um ein natürliches Verlangen handelt, wenn man nicht zuvor die Möglichkeit der Unsterblichkeit im Bereich der Natur nachweist; andernfalls würde man sich einer *petitio principii* schuldig machen.<sup>19</sup> Die Natürlichkeit des Verlangens setzt natürliche Erfüllbarkeit voraus. "Kurz gesagt", schließt er seine diesbezüglichen Ausführungen, "kein Beweis aus dem natürlichen Verlangen ist anscheinend schlüssig".<sup>20</sup>

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Mit dem Zerfall der mittelalterlichen Gesellschaft, die wirtschaftlich vom Großgrundbesitz, geistig von der Kirche bestimmt wird, zerfällt auch der christlich-aristotelische Naturbegriff. Kaisertum und Papsttum, die beiden einigenden Mächte dieser Gesellschaftsordnung, verlieren im späten

<sup>17</sup> Zur Literatur vgl. Engelhardt, a.a.O., Sp.128f. Vgl. vor allem A. Wolter: "Duns Scotus on the natural desire for the supernatural", in: *The New Scholasticism* 23 (1949), S.281-317.

<sup>18</sup> Averroes: *In Metaphys.*, II, com.1. Vgl. Johannes Duns Scotus: *In IV Sent. (Opus oxoniense)*, d.43, q.2; ed. Wolter, in: Duns Scotus, *Philosophical Writings*. A selection edited and translated by Allan Wolter, Edinburgh/London/Melbourne 1962, S.134.

<sup>19</sup> "planum est, quod non potest probari desiderium naturale ad aliquid, nisi primo probetur possibilitas in natura ad illud, et per consequens e converso arguendo est petitio principii" (ebd., S.158).

<sup>20</sup> "Breviter ergo omne medium ex desiderio naturali videtur esse inefficax" (ebd., S.159).

Mittelalter an Ansehen und Macht. Papst Bonifaz VIII. wird 1303 in Anagni gedemütigt, seine Nachfolger stehen von 1309 an unter dem Einfluß des französischen Königs. Kaiser Heinrich VII. unternimmt 1310-1313 einen letzten erfolglosen Italienfeldzug.

Die aus den gesellschaftlichen Umwälzungen sich ergebende Verunsicherung der Menschen läßt sie an den herkömmlichen Autoritäten zweifeln. Die Frage nach der Evidenz wird zu einem brennenden Problem. Die Annahme einer durchgängigen Finalität des Weltgeschehens wird angesichts des Niedergangs der mittelalterlichen Gesellschaftsordnung ungläubwürdig.

Wilhelm von Ockham zieht die philosophischen Konsequenzen.<sup>21</sup> Er hat - wie bereits die Gutachter der gegen ihn eingesetzten päpstlichen Kommission erkannten - die Grundlagen fast der gesamten damaligen Philosophie und Theologie zerstört.<sup>22</sup> Eine durchgängige Finalität der Natur ist nach Ockham nicht beweisbar. Noch weniger beweisbar ist die These - hierin stimmt er mit Scotus überein - , Gott sei das letzte Ziel (*finis ultimus*) alles Seienden. Damit ist dem Argument aus dem natürlichen Verlangen die Grundlage entzogen.

Im *Sentenzenkommentar* (1317-18) wendet er sich offen gegen die These, jeder Mensch habe ein natürliches Verlangen nach dem Sein: "Man kann wollen, nicht zu sein ... Die Annahme ist offenbar, weil viele vernünftige Menschen (*multi utentes ratione*) - sowohl Gläubige, die an ein zukünftiges Leben glauben, als auch Ungläubige, die an ein

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<sup>21</sup> Zur Diskussion des Problems der Finalität bei Wilhelm von Ockham vgl. Anneliese Maier: "Finalkausalität und Naturgesetz", in: dies.: *Metaphysische Hintergründe der spätscholastischen Naturphilosophie*, Rom 1955, S.271-335; Harry R. Klocker: "Ockham and Efficient Causality", in: *The Thomist* 23 (1960), S.106-123; ders.: "Ockham and Finality", in: *The Modern Schoolman* 43 (1965-66), S.233-247; Gordon Leff: *William of Ockham. The Metamorphosis of Scholastic Discourse*, Manchester 1975, S.543-547, 580-584; Klaus Bannach: *Die Lehre von der doppelten Macht Gottes bei Wilhelm von Ockham. Problemgeschichtliche Voraussetzungen und Bedeutung*, Theol. Diss. München 1974, Wiesbaden 1975 (Veröffentlichungen des Instituts für europäische Geschichte Mainz, 75), S.300-304; Gerhard Leibold: "Zum Problem der Finalität bei Wilhelm von Ockham", in: *Philosophisches Jahrbuch* 89 (1982), S.347-383.

<sup>22</sup> "Quod dicere et tenere per modum, quem iste tenet, esset subvertere fere totam doctrinam tam theologie quam philosophie." (Josef Koch: "Neue Aktenstücke zu dem gegen Wilhelm Ockham in Avignon geführten Prozess", in: *Recherches de théologie ancienne et médiévale* 7 (1935), S.350-380, 8 (1936), S.79-93, 168-197; wieder abgedruckt in: Josef Koch: *Kleine Schriften*, Bd. 2, Rom 1973 (Storia e letteratura, 128), S.275-365; ebd. S.344. Als häretisch verurteilt die Kommission auch den Satz "quod voluntas ... potest nolle beatitudinem sibi inesse" (ebd., S.321).



zukünftiges Leben nicht glauben - sich selbst umbringen."<sup>23</sup> Selbst wer an das ewige Leben glaubt, hat also nach Ockham kein natürliches Verlangen nach ewiger Glückseligkeit. Ebenso gut kann ein Mensch aber auch "glauben, daß eine (zukünftige) Glückseligkeit nicht möglich ist, denn er kann glauben, daß nur der (gegenwärtige) Zustand, den wir tatsächlich sehen, für ihn möglich ist; folglich kann er alles das, was mit dem Zustand, den wir sehen, unvereinbar ist, nicht wollen - und folglich kann er die (zukünftige) Glückseligkeit nicht wollen."<sup>24</sup> Die Zweckursache (*causa finalis*) ist nämlich nach Ockham nichts anderes als eine bestimmte Wirkursache (*causa efficiens*), nämlich die Vorstellung eines Gegenstandes im Hinblick auf seine Verwirklichung derart, daß diese Vorstellung die entsprechende Handlung bewirkt. Ein natürliches Verlangen des Menschen nach einem letzten Ziel gibt es also nicht.<sup>25</sup>

In den naturphilosophischen Schriften - *Summula philosophiae naturalis* (1319-21), *Brevis summa libri Physicorum* (1321-23), *Expositio in libros Physicorum Aristotelis* (1322-24) - findet sich bereits die Bemerkung, daß eine Naturfinalität nicht beweisbar ist: Ockham hebt nicht nur hervor, daß fast alle antiken Philosophen vor Aristoteles eine Natur-

<sup>23</sup> "aliquis potest efficaciter velle non esse, et potest sciri evidenter quod non esse beatum est consequens ad non esse; ergo potest velle non esse beatus, et per consequens nolle beatitudinem. Assumptum probatur, quia multi utentes ratione - tam fideles credentes vitam futuram quam infideles nullam vitam futuram credentes-interfecerunt se ipsos et exposuerunt se morti; ergo volebant non esse." (*In I Sent.* [Ordinatio], d.1, q.6; Opera theologica, I, S.504, 3-9).

<sup>24</sup> "sed intellectus potest credere nullam beatitudinem esse possibilem, quia potest credere tantum statum quem de facto videmus esse sibi possibilem; ergo potest nolle omne illud quod isti statui quem videmus repugnat, et per consequens potest nolle beatitudinem." (ebd., S.503, 12-17) Vgl. die entsprechenden Ausführungen in der Reportatio zum vierten Buch der Sentenzen: "Sed intellectus potest credere nullum esse finem ultimum nec beatitudinem, et per consequens potest dictare finem ultimum sive beatitudinem esse nolendam." (*In IV Sent.* [Reportatio], q.16; Opera theologica VII, S.350, 8-11). John Mair (Johannes Maior) hat Ockhams Gedanken im vierten Buch seines *Sentenzenkommentars* aufgegriffen: "voluntas viae potest non velle et nolle beatitudinem ... intellectus potest credere nullam beatitudinem esse possibilem, ut patet de multis infidelibus et haereticis, ergo voluntas potest beatitudinem nolle" (*In quartum Sententiarum*, d.49, q.6; Paris 1509, f.112ra).

<sup>25</sup> "Ad argumentum principale dico quod voluntas non naturaliter inclinatur in finem ultimum". (Ebd., S.507, 9-10). Ausdrücklich greift Ockham das *desiderium-naturale*-Argument in seiner Quaestio zur distinctio 43 des vierten Buches der Sentenzen (*In IV Sent.*, q.12: Utrum omnes homines resurgent incorruptibiles) auf. Einer der Zweifel bezüglich der Frage "Utrum resurrectio sit possibilis" ist, ob man die Auferstehung 'ratione naturali' beweisen könne. "Videtur quod sic, quia desiderium est naturale respectu beatitudinis. Sed non possumus perfecte beatificari nisi post resurrectionem, igitur etc." (Opera theologica VII, S.247, 18-20). Ockhams Antwort auf diesen Zweifel ist in der überlieferten Reportatio nicht enthalten.



finalität verneint haben,<sup>26</sup> sondern er weist - unter Berufung auf Averroes - darauf hin, daß die Argumente des Aristoteles keine Beweiskraft haben.<sup>27</sup> Betrachtet man die bisherigen Beweise zugunsten einer Naturfinalität, dann stellt man, so Ockham, fest, daß entweder das zu Beweisende selbst oder etwas ebenso Ungewisses vorausgesetzt wird.<sup>28</sup>

In den *Quodlibeta* (1322-25) führt Ockham in zwei Quaestionen detailliert aus, daß weder eine durchgängige Finalität der Natur beweisbar ist,<sup>29</sup> noch die These, Gott sei das Ziel alles Seienden.<sup>30</sup> Die Kritik am *desiderium-naturale*-Argument wird hier noch verschärft. Im Sentenzenkommentar hatte Ockham ausgeführt, der Mensch könne das ewige Leben nicht wollen - unabhängig davon, ob er an ein Weiterleben nach den Tode glaubt oder nicht. In den *Quodlibeta* weist er darauf hin, daß der Mensch auch nach etwas verlangen kann, das überhaupt nicht existiert.<sup>31</sup> Das Verlangen nach dem ewigen Leben - dessen Natürlichkeit Ockham

<sup>26</sup> "aliqui antiqui, immo fere omnes, reducebant omnes effectus, tam necessarios quam alios, in hanc causam, scilicet materialem, negando causam efficientem agentem propter finem." (*Expositio in libros Physicorum Aristotelis*, I.2, c.12; *Opera philosophica IV*, S.367, 17-20). "isti antiqui dixerunt quod illa quae fiunt naturaliter sine cognitione et deliberatione, non fiunt propter aliquem finem." (Ebd., S.371, 4-6).

<sup>27</sup> "notandum quod istae rationes quas adducit *Philosophus*, non sunt simpliciter demonstrativae, sed sunt magis persuasivae et convincentes adversarium ex propriis dictis. ... Quod autem ista conclusio non possit simpliciter demonstrari, scilicet quod omne agens naturale agit propter aliquid, dicit expresse *Commentator*" (Ebd., S.374, 55-57, 61-63). Vgl. die entsprechende Stelle in der *Brevis summa libri Physicorum*: "notandum, secundum *Commentatorem*, quod ista conclusio 'natura agit propter finem' demonstrari non potest, sed tantum persuaderi." (I.2, c.6; *Opera philosophica VI*, S.36f, 24-26).

<sup>28</sup> "Et ideo aliqui volentes istam conclusionem hic probare, vel in rationibus suis petunt quod deberent probare, vel accipiunt aequè ignotum conclusioni, sicut posset patere discurrendo per rationes eorum. Sed causa brevitatis pertranseo." (Ebd., S.375, 68-71).

<sup>29</sup> "non potest probari ex per se notis nec per experientiam quod quilibet effectus habet causam finalem nec distinctam nec indistinctam ab efficiente, quia non potest probari sufficienter quod quilibet effectus habet aliquam causam finalem." (*Quodl. IV*, q.1; *Opera theologica IX*, S.295, 53-56).

<sup>30</sup> "Et dico quod non potest probari sufficienter quod Deus sit causa finalis secundae intelligentiae in se ... Nec potest probari quod Deus sit causa finalis secundae intelligentiae in essendo ... Secundo dico quod non potest probari quod Deus sit causa finalis agentis naturalis sine cognitione" (Ebd., q.2; S.302f, 40-41, 51-52, 59-60).

<sup>31</sup> "finis potest amari et potest desiderari quamvis non sit; et ideo potest esse causa finalis licet non sit." (Ebd., q.2; S.294, 38-39). Bereits in der *Summula philosophiae naturalis* hat Ockham auf diese Möglichkeit hingewiesen: "sicut aliquid potest desiderari quando non est, ita potest esse causa finalis quando non est, quia nihil aliud est esse causam finalem nisi esse amatum vel desideratum propter quod agens agit." (I.2, c.4; *Opera philosophica VI*, S.223f, 82-85).

bestreitet - findet möglicherweise keine Erfüllung. Damit wird denkbar, daß der Glaube an ein ewiges Leben eine Illusion ist.

Ein der natürlichen Vernunft folgender Mensch (*homo sequens naturalem rationem*) würde nach Ockham annehmen, daß unser Denken Akt einer körperlichen und zerstörbaren Form ist. Wir erfahren unser Denken nicht als Tätigkeit einer immateriellen Substanz.<sup>32</sup> Für einen der natürlichen Vernunft folgenden Menschen ist also nicht nur ein Beweis für die Unsterblichkeit der Seele nicht mehr möglich, sondern darüber hinaus die Abhängigkeit der Denktätigkeit von der Materie und die Sterblichkeit der Seele gewiß.

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Nikolaus von Autrecourt hat das *desiderium-naturale*-Argument *ad absurdum* geführt. 1346 wurde er dafür verurteilt. Einer der originellsten Denker des Mittelalters verlor seine Magisterwürde; er mußte seine Lehren widerrufen und seine Bücher vor versammelter Universität verbrennen. Ein Artikel der päpstlichen Verurteilungsurkunde lautet: "Weiter hat er in einer Disputation gesagt: Weil ein *natürliches Verlangen* nicht vergeblich ist, werden wir alles das, wonach wir verlangen, irgendwann einmal erreichen. Daher wird jeder, der das Verlangen hat, zur Jungfrau Maria (*Nostra Domina, Notre Dame*) [in den Himmel] zu kommen, eines Tages zu ihr kommen."<sup>33</sup>

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<sup>32</sup> Vgl. *Quodl.I*, q.10: *Utrum possit demonstrari quod anima intellectiva sit forma corporis. "Quod sic: Quia experimur quod intellectio est in nobis; et intellectio est operatio hominis; igitur eius causa efficiens et subiectum recipiens est in nobis. Hoc non potest esse intelligentia separata, quia operationem talis substantiae non possumus experiri; nec esset talis operatio alicuius compositi; igitur receptivum illius operationis est aliquid hominis; non materia, igitur forma. ... Ad principale, concederet sequens naturalem rationem quod experimur intellectionem in nobis, quae est actus formae corporea et corruptibilis; et diceret consequenter quod talis forma recipitur in forma extensa. Non autem experimur illam intellectionem quae est operatio propria substantiae immaterialis; et ideo per intellectionem non concludimus illam substantiam incorruptibilem esse in nobis tamquam formam. Et forte si experiremur illam intellectionem esse in nobis, non possumus plus concludere nisi quod eius subiectum est in nobis sicut motor, non autem sicut forma." (Opera theologica IX, S.62, 4-10, ... S.65, 88-97).*

<sup>33</sup> "Item [dixit in quadam disputa]tione, quod quia *desiderium naturale* non est frustra ide[fo quicquid desidera]mus, aliquando adipiscimus. Unde quicumque appetit ire [ad Nostram Dominam] aliquando ibit." Denifle/Chatelain (Hrsg.): *Chartularium Universitatis Parisiensis*, Bd.2, Paris 1891, S.583.

Eine entsprechende Stelle findet sich in seinem - nur unvollständig in einer einzigen Handschrift erhaltenen - Traktat *Exigit ordo executionis*.

"Cum arguebatur quod *desiderium naturale* hominum quod est ad aeternitatem non est

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Pietro Pomponazzi und seine Abhandlung *De immortalitate animae*<sup>34</sup> (1516) bilden den Höhepunkt in der Auseinandersetzung um das Argument aus dem natürlichen Verlangen. Die Ansicht des Thomas von Aquino (Pomponazzi spricht vom "Divus Thomas Aquinas") über die Unsterblichkeit der Seele wird im Vorwort der Abhandlung als "wahr und in sich wohlbegründet"<sup>35</sup> bezeichnet, im achten Kapitel hingegen als unhaltbar erwiesen, nicht ohne daß Pomponazzi ironisch bemerkt, seine Ausführungen gegen Thomas dienten nicht dazu, einem so bedeutenden Philosophen zu widersprechen - "was vermag denn schon ein Floh gegen

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frustra ut videtur, arguitur contra primo quia videmus quod multa sunt frustra ut aliquis habet desiderium naturale essendi ad aliquem locum et tamen numquam erit ibi. Hoc non obstat, immo videtur confirmare magis propositum: illud desiderium naturale est res quae semper erit et licet non sequatur nunc itio ad talem rem, alias sequetur nec etiam est nunc frustra. Propter quod sciendum est quod in hac materia sic imaginor: quaelibet res est sub intentione naturae primo per se ipsam, ita quod quaelibet res habet quasi propriam deitatem et propriam bonitatem, et secundum hoc est sub intentione naturae primo, et secundario quantum ad intentionem secundariam reperitur connexio quodammodo inter entia, ita quod unum est propter aliud. Nunc igitur si ad rem numquam sequeretur illud propter quod est secundario, videretur inconueniens; sed si aliquo tempore non sequatur, non videtur inconueniens quia remanet ratio prima secundum quam erat sub intentione naturae, et ita diceretur hic. *Unde istud desiderium est aliqua res ad quam aliquando sequetur motus ad Nostram Dominam.*" (*Exigit ordo executionis*, ed. J. Reginald O'Donnell, in: *Mediaeval Studies* 1 (1939), S.179-267; ebd., S.193f).

Das *desiderium-naturale*-Argument hält Nikolaus von Autrecourt, wiewohl es strenggenommen keine Beweiskraft besitze, für überzeugend. Gäbe es kein Leben nach dem Tode, dann wären die Menschen voller Trauer und das Leben käme ihnen vor wie ein '*ludus baterellorum*' (= *ludus batellerorum*): "Illud quod appetit omnis homo naturaliter et quo non habito non quiescit, immo habet quasi quamdam displicentiam super suo esse, est; sed aeternitatem sui quilibet homo appetit; ergo etc. Major videtur nota quia *talis appetitus universalis in natura <non> videtur frustra*, aliter videretur ordinatio inconueniens universi quod sic esset universalis appetitus ad illud quod numquam inerat. Minor experitur in nobis. *Desiderat enim omnis homo aeternitatem sui et in eam naturaliter tendit*; unde circumscribere omnem legem positivam et proponere communitati hominum quod ipsi desinent esse ad modum equorum de quibus aestimant quod simpliciter desinent naturaliter, tristabuntur et videbitur eis quod non sit nisi *ludus baterellorum*, modo est modo non est, or i est, or n'i est une." (ebd., S.203).

<sup>34</sup> Bologna 1516; hrsg. von Christ. Godofr. Bardili, Tübingen 1791; hrsg. von Giovanni Gentile, Messina/Roma 1925 (*Opuscoli filosofici. Testi e documenti inediti o rari*, 1); hrsg. von Gianfranco Morra, Bologna 1954; englische Übersetzung von William Henry Hay II, bearbeitet von John Herman Randall und Paul Oskar Kristeller, in: *The Renaissance Philosophy of Man*. Selections in translation, hrsg. von Ernst Cassirer/Paul Oskar Kristeller/John Herman Randall, Chicago/London 1948, S.280-381; deutsche Übersetzung von Burkhard Mojsisch (Manuskript).

<sup>35</sup> "veram et in se firmissimam" (ed. Gentile, S.5; ed. Morra, S.36).

einen Elefanten?":<sup>36</sup> der Floh ist der kleine Peretto,<sup>37</sup> der Elefant ist der für seinen massigen Körperbau bekannte Thomas. Pomponazzi möchte seine Ausführungen gegen die Ansicht des Thomas auch nur machen "als einer, der zweifelt, nicht jedoch als einer, der Gewißheit für sich in Anspruch nimmt",<sup>38</sup> "und vielleicht", so hofft er verschmitzt, "wird mir von seinen höchst gelehrten Anhängern die Wahrheit entdeckt werden".<sup>39</sup> Daß die Dominikaner diese Zeilen richtig verstanden haben, beweist der Umstand, daß sie gleich nach Erscheinen des Buches lautstark nach dem Scheiterhaufen riefen: Alle erreichbaren Exemplare des Buches wurden in Venedig öffentlich verbrannt;<sup>40</sup> Pomponazzi selbst kam mit dem Leben davon, weil Pietro Bembo, Sekretär des Papstes und ein ehemaliger Schüler und guter Freund Pomponazzis, seine schützende Hand über ihn hielt.<sup>41</sup>

Im siebten Kapitel der genannten Abhandlung stellt Pomponazzi die Beweise des Thomas für die Unsterblichkeit der Seele vor, darunter auch das *desiderium-naturale*-Argument: "Dafür läßt sich auch ein einleuchtender Erfahrungsnachweis erbringen. Denn die Weise, etwas zu erstreben, folgt naturgemäß auf die Weise, etwas zu erkennen; der Intellekt aber erfaßt das Allgemeine, welches ewig ist; daher dürfte auch der Wille das Ewige ersehnen. Ein solches Ersehnen aber ist natürlich, da jeder Wille das Ewige erstrebt; natürliches Streben aber kann nicht zwecklos sein, da, so im ersten Buch der Schrift *Über den Himmel*, Gott und die Natur nichts ohne Zweck tun. Damit ist nachgewiesen, daß der Intellekt schlechthin unsterblich ist."<sup>42</sup> Im folgenden Kapitel werden die Beweise des Thomas für die Unsterblichkeit der Seele widerlegt. Mit ganz ähnlichen Gründen nämlich, so Pomponazzi, läßt sich das genaue Gegenteil

<sup>36</sup> "quid enim pulex contra elephantem?" (ed. Gentile, S.42; ed. Morra, S.102).

<sup>37</sup> Pomponazzi wurde wegen seiner kleinen Gestalt Peretto oder Pierino genannt.

<sup>38</sup> "per modum dubitantis et non asserentis" (ed. Gentile, S.30; ed. Morra, S.82).

<sup>39</sup> "fortassisque mihi ab eius doctissimis sectatoribus veritas aperietur" (ebd.).

<sup>40</sup> Vgl. Martin L. Pine: *Pietro Pomponazzi: Radical Philosopher of the Renaissance*, Padua 1986 (Saggi e testi, 21), S.47 und S.125f.

<sup>41</sup> Vgl. Pine, a.a.O., S.127.

<sup>42</sup> "A signo etiam hoc evidenter probatur. Nam modus appetendi naturaliter insequitur modum cognoscendi; intellectus autem universale apprehendit, quod est aeternum, quare et voluntas aeternum desiderabit. Tale autem desiderium naturale est, cum omnes voluntates hoc appetant; naturalis autem appetitus frustrari non potest, cum, primo *De caelo*, Deus et natura nihil agunt frustra. Quare convincitur intellectum esse simpliciter immortalem." (*De immortalitate animae*, VII, ed. Gentile, S.27f, ed. Morra, S.76).



- die Sterblichkeit der Seele - beweisen.<sup>43</sup> Zum Argument aus dem natürlichen Verlangen bemerkt er: "Mit gleichem Recht aber dürfte damit, daß es (ein Wesen wie der Mensch) als vegetative Seele auf stoffliche Weise wirkt, als wahrnehmende Seele nicht alle Formen aufnimmt, sich auch eines körperlichen Organs bedient und *nach Zeitlichem und Hinfälligem strebt*, bewiesen sein, daß es wahrhaft und schlechthin sterblich ist. ... Das eine Argument ist nämlich offensichtlich nicht beweiskräftiger als das andere."<sup>44</sup> Und weiter unten heißt es unter Berufung auf Aristoteles: "Was nun das Argument bezüglich der Erfahrung betrifft, bin ich besonders darüber verwundert, wie es der Hl. Thomas angeführt hat, bemerkt doch Aristoteles im dritten Buch der *Ethik*. 'Der Wille richtet sich auf Unmögliches, wie etwa beim Erstreben der Unsterblichkeit.' Von daher gilt: Wenn unser Wille nur in der Erkenntnisseele anzutreffen ist, und wenn er nach Aristoteles durch das Erstreben der Unsterblichkeit auf Unmögliches aus ist, dann kann die menschliche Seele nicht unsterblich sein."<sup>45</sup>

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Ein *vernünftiger* Glaube war im späten Mittelalter nicht mehr möglich, denn der Versuch, die *ratio fidei*, die Vernünftigkeit des Glaubens, nachzuweisen, war gescheitert. Pomponazzi stellte fest: "Wer die *Wahrheit* finden will, muß in der Philosophie ein Häretiker sein."<sup>46</sup> Möglich blieb ein *willentlicher* Glaube gegen die Vernunft. Luther sprach dies 1532 überdeutlich aus: "Wider solches alles, was die Vernunft eingibt oder ermessen und ausforschen will, ja, was alle Sinne fühlen und begreifen,

<sup>43</sup> "quoniam consimilibus rationibus quibus hanc probat, opposita probari potest." (Ebd., VIII, ed. Gentile, S.30, ed. Morra, S.82).

<sup>44</sup> "Sed pariter, cum ipsa materialiter operetur, ut vegetativa, non omnes formas recipit, ut sensitiva, et eadem organo corporeo utitur, *temporalia et caduca affectat*, probabitur quod ipsa veraciter et simpliciter sit mortalis. ... Non enim maior ratio de uno quam de altero esse videtur." (Ebd., VIII, ed. Gentile, S.30f, ed. Morra, S.82, 84).

<sup>45</sup> "Ad illud vero de experimento, in primis miror quomodo Divus Thomas illud adduxerit, cum Aristoteles, tertio *Ethicorum*, dicat *voluntatem esse impossibilem, veluti in appetendo immortalitatem*; unde, si voluntas nostra non est nisi in anima intellectiva, si appetendo immortalitatem per Aristotelem appetit impossibile, non ergo anima humana potest esse immortalis." (Ebd., X, ed. Gentile, S.67f, ed. Morra, S.146).

<sup>46</sup> "Oportet enim in philosophia haeticum esse, qui *veritatem* invenire cupit." (zitiert nach Cesare Oliva: "Note sull'insegnamento di Pietro Pomponazzi", in: *Giornale critico della filosofia italiana* 7 (1926), S.274. Vgl. Bruno Nardi: *Studi su Pietro Pomponazzi*, Florenz 1965, S.19f und Pine, a.a.O., S.18).



müssen wir lernen am Wort halten und schlecht nach demselben richten, ob wir wohl für Augen sehen, daß der Mensch unter die Erde gelegt wird, dazu, daß er soll und muß verwesen und den Würmern zu fressen gegeben und endlich gar zu Staub werden ... Die Schrift mehr ist denn aller Menschen Gedanken, Fühlen und Erfahren."<sup>47</sup> Der Glaube an ein Weiterleben nach dem Tode gründet sich nach Luther also allein auf die Schrift. Damit gerät er aber in einen *circulus vitiosus*: Die Auferstehung Christi ist wahr, da sie in der heiligen Schrift gelehrt wird, und die heilige Schrift ist wahr, weil die Auferstehung Christi dies bezeugt.

Das *desiderium-naturale*-Argument führt vor Augen, wie stark der Glaube an die Unsterblichkeit vom Wunsch nach Unsterblichkeit motiviert ist. "Mich wird niemand von der Unsterblichkeit abbringen" ("me nemo de immortalitate depellet"), sagt Cicero in den *Tusculanae disputationes*,<sup>48</sup> und deutlicher noch im *Cato Maior*: "Wenn ich aber in dem Glauben irren sollte, die Seelen der Menschen seien unsterblich, so will ich darin gern irren, und will es nicht haben, daß mir dieser Irrtum, an dem ich mich erfreue, entwunden werde, so lange ich lebe."<sup>49</sup> Ein Glaube aber, in dessen Motivierung sich die Wunscherfüllung vordrängt, ist - wie Freud gezeigt hat - eine Illusion.<sup>50</sup>

Angesichts dessen muß es wirklich überraschen, daß die Vertreter der Unsterblichkeitsdoktrin noch heute oft darauf hinweisen, daß der Mensch ein natürliches Verlangen nach Unsterblichkeit verspüre. Denn sofern dies zutrifft, spricht es nicht für, sondern gegen die Wahrheit des Unsterblichkeitsglaubens; gerade dieses Bedürfnis erklärt nämlich, weshalb die Überzeugung von einem Weiterleben nach dem Tode entsteht und bestehen bleibt, und weshalb sie auch dann noch hartnäckig verteidigt

47 "widder solchs alles, was die vernunft ein gibt odder ermesen und aus forschon wil, ja was alle sinne fuehlen und begreifen, müssen wir lernen am Wort halten und schlecht nach dem selben richten, Ob wir wol fur augen sehen, das der mensch unter die erden gelegt wird, dazu, das er sol und mus verwesen und den wuermen zufressen gegeben und endlich gar zu staub werden ... die Schriftt mehr ist denn aller menschen gedanken, fulen und erfaren." (*Das 15. Capitel der Ersten Epistel S. Pauli aw die Corinthen*. Predigt am 11. August 1532; WA Bd.36, S.494, 13-17 ... S.496, 33).

48 Cicero: *Tusculanae disputationes*, I, 77.

49 "quodsi in hoc erro, qui animos hominum immortales esse credam, libenter erro nec mihi hunc errorem quo delector, dum vivo, extorqueri volo" (Cicero: *Cato Maior de senectute*, 85).

50 Vgl. Sigmund Freud: *Die Zukunft einer Illusion*, VI, in: *Kulturtheoretische Schriften*, Frankfurt am Main 1986, S.165.

wird, wenn es keinen guten Grund mehr für die Annahme gibt, daß sie auch *wahr sei*.<sup>51</sup>

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<sup>51</sup> Dieses Argument hat John Leslie Mackie in anderem Zusammenhang vorgetragen in: *The Miracle of Theism. Arguments for and against the Existence of God*, Oxford 1982, S.198; Deutsch von Rudolf Ginters: *Das Wunder des Theismus. Argumente für und gegen die Existenz Gottes*, Stuttgart 1985, S.314. Es findet sich aber bereits in David Hume's *Essay Of the Immortality of the Soul*, wo dieser bemerkt: "Alle Lehren, die von unseren Neigungen begünstigt werden, sind verdächtig, und die Hoffnungen und Ängste, die diese Lehren verursachen, liegen offen auf der Hand." (David Hume: *Dialogues concerning Natural Religion and the Posthumous Essays of the Immortality of the Soul and of Suicide*, ed. Richard H. Popkin, Cambridge 1980, S.96. Deutsche Übersetzung: David Hume: *Die Naturgeschichte der Religion. Über Aberglaube und Schwärmerei. Über die Unsterblichkeit der Seele. Über Selbstmord. Übersetzt und herausgegeben von Lothar Kreimendahl, Hamburg 1984 S.86*). Vgl. zu diesem Essay: J.C.A. Gaskin: *Hume's Philosophy of Religion*, London 1978, Kap.6, S.85-102; Josef Buchegger: *David Hume's Argumente gegen das Christentum*, Frankfurt am Main/Bern/New York/Paris 1987 (Europäische Hochschulschriften, Reihe 20: Philosophie, 225), Kap.IV, S.42-53.

JOSEP PUIG

**Averroes and Aquinas on Physics VIII 1: A Search for the  
Roots of Dissent**

The beginning of the first chapter of Aristotle's *Physics VIII* seems to be very clear and best defining the aim of the book. The question is one of whether there always has been and always will be motion.<sup>1</sup> Therefore the Greek commentators of Aristotle, like Themistius (d.388) or the last, Simplicius (d. 533) focused their analysis on the arguments leading to a proof of this thesis. Themistius<sup>2</sup> reads Aristotle's passage of 251a10-b10 and points out the basic argument, which leans on the very definition of movement: ἐντελέχεια τοῦ κινητοῦ ἢ κινητόν.

According to it, before any movement or change occurs, there always must be something capable of it. If the things capable of motion have been in existence for ever, but their change started at a given moment, some antecedent change must have happened, which removed the hindrance to their motion. If the things capable of motion came into existence, it is evident that there must have been some prior movement granting them existence.

Of course, we may differentiate between the *πράγματα δυνάμενα κινεῖσθαι* and the *δυνάμεις* in themselves. The Neo-Platonist way of interpretation, like Themistius', will look basically at the *δυνάμεις* as active capacities. It is the same line that Simplicius will follow, although his painstaking commentaries give us much more detail. He tells us that Aristotle does not here mean any particular movement or change, but movement simply (*ἀπλῶς κίνησις*)<sup>3</sup> and that the physical search here ends and that the metaphysical one now starts and moves toward the First Principle.<sup>4</sup> That suggests that the "capacities" cannot

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<sup>1</sup> *Physics VIII*,1 250b11-13. Cf. D. Ross, *Aristotle*, Oxford 1949, pp. 93-94.

<sup>2</sup> *In Aristotelis Physica Paraphrasis*, C.A.G. V. Ed. A. Schenkl, Berlin, 1900, p. 210,2-211,20.

<sup>3</sup> *In Physicorum IV posteriores Commentaria*, C.A.G. X. Ed. H. Diels, Berlin, 1895, p. 1126,21.

<sup>4</sup> *Ibidem*, 1126,1.

become active without a prior change, and therefore another argument for the eternity of movement.

We need not refer to Simplicius' commentary to the passage and need not mention his polemic with the Christian thinker John Philoponus or John the Grammarian (d. 580-), author also of a commentary of Aristotle's *Physics*. The polemic against Philoponus covers quite a large number of pages (ibidem, 1157,2-1169,8) and it refers mainly to the lost *Contra Aristotelem*<sup>5</sup> and to the *De Aeternitate Mundi contra Proclum* (d. 485)<sup>6</sup>.

Seldom in the history of philosophy has so short a passage (251a28-b10) supplied so many works with the subject and has enkindled so many discussions. Simplicius accuses him of writing a lot of "rubbish" but he does not lose his temper when refuting Philoponus' 4 thesis (ἐπιχειρήματα). For our purpose, I want to underline two questions: If we take the definition of motion and assume the specific function of potentiality, we have to agree that the potency of any movement is temporally anterior to it.<sup>7</sup>

Philoponus however did not accept this priority in all kinds of change or movement. According to the old theory of the four natural elements, earth, water, air and fire, these have "natural" changes of place, for instance fire goes upwards by nature. Philoponus maintained that here potentiality exists simultaneously with movement. To be fire and to ascend belong together.<sup>8</sup> On the other hand, we cannot place the potentiality of this movement upward in the wood, which burns and generates fire, because a contradiction occurs: Two contraries (ἐναντία) are found in the same object.

Denying the necessity of a potentiality prior to any movement means to deny the eternity of the movement. Simplicius was therefore very keen to show that there is no contradiction in the fact that wood is heavy and falls down, but as it becomes fire, moves upwards: bodies

<sup>5</sup> Simplicius' Commentary remains our basic source of information about its contents. The Arabs however knew the book; Ibn an-Nadīm (*Fihrist*, p. 254), al-Qiftī (*Ta'riḥ al-Ḥukamā'*, p. 356) and Ibn Abī Uṣāibi' (*ʿUyūn al-Anbā'*, I, p. 105) witness its existence.

<sup>6</sup> Ed. H. Raabe, Leipzig, 1899; R. Hildesheim, 1963. For Philoponus' commentary, v. *In Aristotelis Physicorum libros ...*, C.A.G. XVI-XVII. Ed. H. Vitelli, Berlin, 1887-88.

<sup>7</sup> *Simplicii In Physicorum* VIII,1 1126,29 & *passim*. For the general polemic, v. W. Wieland, "Die Ewigkeit der Welt. Der Streit zwischen Philoponos und Simplicius", *Festschrift H.G. Gadamer*, (Tübingen, 1960) pp. 291-316.

<sup>8</sup> *Ibidem*, 1133,16-1135,27.

can have one quality in act and its contrary in potentiality,<sup>9</sup> i.e. to be warm actually and cold potentially. The main point lies in proving that the movement of the 4 elements is posterior to its real possibility and not simultaneous with their coming to be:

Fire as soon as it has come into existence moves upwards, but during the passage, let us say as long as it is being generated in the air, that what is in potency acts foregoing that what is in actuality and that what is found potentially in the fuel foregoes that what is actual.<sup>10</sup>

Simplicius' position was later taken up by the *Falsafa* and especially by al-Fārābī (d.950). We can see his influence in the discussion about Aristotle's *De Caelo*, since al-Fārābī wrote a refutation, *Ar-Radd ʿalā Yaḥyā an-Naḥwī* and the text is extant.<sup>11</sup> The parallel writing to *Physics VIII* is not unfortunately, but we know its title, *Kitāb al-mauḡūdāt al-mutaḡayyira*, "Treatise on the mutable beings" as well as some things about its content. M. Steinschneider<sup>12</sup> was the first to collect references made in Averroes and Maimonides. We can add to them more references made in Avempace and in other works of Averroes.<sup>13</sup> As far as we can see from these references, al-Fārābī was very aware of the link between the Aristotelian definition of movement and its eternity, which appeared very clear in the case of the circular movement but dubious in that of the animal after rest and in that of the 4 elements.

I would say that his answer is not different from that of Ibn Bāḡḡa (d.1138). In his commentary to the *Physics*<sup>14</sup> he quotes al-Fārābī and looks for an explanation of the problem presented by the wood fire, which now becomes an oil fire. Avempace tries to solve it by stating a

<sup>9</sup> Cf. 1138,6-11.

<sup>10</sup> *Ibidem*, 1139,31-1140,2.

<sup>11</sup> M. Mahdi, "The Arabic Text of Alfarabi's 'Against John the Grammarian'" in *Medieval and Middle Eastern Studies in Honor of Aziz S. Atiya*, Leiden, 1972, pp. 268-284. English tr.: M. Mahdi, "Alfarabi against Philoponus", *J of NESt.* 36(1967) 233-260.

<sup>12</sup> *Al-Farabi (Alpharabius) des arabischen Philosophen Leben und Schriften*. St. Petersburg, 1869, pp. 119-123.

<sup>13</sup> Ibn Bāḡḡa, *Ṣarḥ as-Samāʿ at-Ṭabīʿī* (Abbrev. *Ṣarḥ*). Ed. M. Fakhry. Beirut, 1973, pp. 134, 144-145, 153; *Rasāʾil Falsafīya*, ed. Ḡ. al-ʿAlawī, Beirut, 1983, p. 110.

Ibn Ruṣd, *Tafsīr mā baʿd at-Ṭabīʿa*. Ed. M. Bouyges. B.A.S, VI, Beirut, 1942 (R 1964) pp. 884-886. *Talḥīṣ mā baʿd at-Ṭabīʿa*. Ed. U. Amīn, Cairo, 1958, p. 125. *Epitome in Physicorum Libros* (V. Arabica) (Abbrev. *Epit. Phys.*). Madrid, 1983, pp. 134-135. *Al-Masāʾil al-Falsafīya (Masāʾil)*. Ed. Ḡ. al-ʿAlawī, Casablanca, 1985, pp. 231-233 (v. also English tr.: H.T. Goldstein, *Averroes: Quaestiones in Physica*. Harvard-Radcliffe, [Thesis], 1956, pp. 49-52).

<sup>14</sup> *Ṣarḥ*, pp. 144-145.



homonymy in the use of "potentiality" (*q̄wa*) and a ranking or order (*tarīb*) among them:

The potentialities of the [movement] upward, of the heat and of the lightening all exist in the oil by nature but in a ranking. This is what John the Grammarian did not heed or feigned not to heed.<sup>15</sup>

As it concerns the homonymy of *q̄wa*, he gives us as an instance: The potentiality of the fire exists in the oil in a kind very different from that of the heat in the fire.<sup>16</sup> Starting from the Neo-Platonic tradition, the *Falsafa* has coined its own value of "potentiality" (*q̄wa*) clearly distinguished from that of "possibility" (*imkān*) placed between a pure metaphysical one and the concrete things, where it is now to be found.

This is the point of view which Averroes (d.1198) has inherited when he writes in 1159 about his first commentary (short) to the *Physics*<sup>17</sup> or later his long commentary (*tafsīr*)<sup>18</sup>. He follows Avempace's steps: In the movement of the natural elements, the potentiality was existent in the body, from which the movable (the element) is generated. The potentiality of moving upward was found in wood, from which fire arose, but

related to the potentiality of being fire. There the potentiality of its movement exists, although in a ranking. I mean, the potentiality of its motion exists only [in the wood] through the potentiality of being [fire].<sup>19</sup>

Averroes commentary fits therefore into the Neo-Platonist and *Falsafa* tradition. It aims at motion "in general" as it results from its definition and it counters Philoponus' thesis that this definition is not valid for some movements, i.e., the movements of the four Empedoclean elements. For this reason we are very surprised when we read in other places of Averroes himself a very different interpretation. In a second "editing" of his summary,<sup>20</sup> in his *Quaestiones*<sup>21</sup> or even in the same text of the long commentary, although in form of a "revisionary"

<sup>15</sup> *Ṣarḥ*, p. 145.

<sup>16</sup> *Ṣarḥ*, p. 144.

<sup>17</sup> *Epit. Phys.*, pp. 129-135, lower part. The date appears at the end of his summary of the *Metereologica* (v.g. Haidarabad print: *Rasā'il*, 1947, p. 104.

<sup>18</sup> *Aristotelis Opera Omnia cum Averois ... commentariis (Junctas)*. Ed. "apud Junctas", Venice, 1562-72. R Frankfurt 1962. Vol. IV, fol. 338r-342v.

<sup>19</sup> *Epit. Phys.*, p. 132, l. 15-17.

<sup>20</sup> *Epit. Phys.*, pp. 129-135.

<sup>21</sup> *Masā'il*, ed. al-<sup>c</sup>Alawī, pp. 231-235.

observation,<sup>22</sup> he tells us that Aristotle's aim at the beginning of the VIII Book is to prove that heavenly movement is eternal. Such a change of mind involves, of course a change in the argument which moves away from the Aristotelian line. Averroes now mentions the definition of movement only in order to show that it needs an eternal mover as well as an everlasting movable object.

We need not doubt the import of his words. He insists: Aristotle's purpose here is not to demonstrate that motion does not pass away as genus (*bi-l-ğins*) as opposed to numerical identity, because he investigates now "the whole universe"<sup>23</sup> and not a part of it, where movements are following one after the other. Averroes himself acknowledges that before he adhered to the "traditional" opinion, but he was *aliquantulum in errore*.<sup>24</sup> Since when he has recognized the true meaning of Aristotle's words.<sup>25</sup>

Aquinas was reading Averroes' long commentary while writing his *expositio* to Aristotle's *Physics*.<sup>26</sup> At that point of the commentary he could not say about this interpretation other than it is *omnino falsum*. With his usual wit and sharpness he enumerates several reasons for his refusal. Laubenthal's dissertation<sup>27</sup> treated them again and I would like to point out the main one, in my view:

Aristoteles inferius (lect. xiii) inquirere intendens de sempiternitate primi motus, utitur eo quod hic demonstratur, quasi principio: quod nullo modo faceret, si hic probasset primum motum esse aeternum.<sup>28</sup>

Therefore, Aquinas has no doubt that Aristotle intends here to search for *motu in communi* and his concern is one of reconciling the possibility of an eternal movement with the faith and the doctrine of Creation: this is the matter of his *Lectio II*.

<sup>22</sup> *Junctas*, fol. 339r. It is obviously inlaid later by Averroes himself. M. Alonso ("La cronología en las obras de Averroes", *Miscelánea Comillas*, 1943; vol. I, pp. 443-460) considers that the *tafsir* was written in 1186. I dare to say that this was the year of the first editing.

<sup>23</sup> *Epit. Phys.*, p. 133, l. 7. *Junctas*, fol. 339r, #D.

<sup>24</sup> *Junctas*, fol. 339r #C.

<sup>25</sup> *Epit. Phys.*, p. 135, l. 9-10. V. Note 22.

<sup>26</sup> S. Thomae Aquinatis: *In Octo Libros Physicorum Aristotelis Expositio (Expositio)*. Ed. P.M. Maggiolo, Torino-Rome, 1965.

<sup>27</sup> R. Laubenthal: *Das Verhältnis des Hlg. Thomas von Aquin zu den Arabern in seinem Physikkommentar*. Kallmuenz, 1934. Pp. 79-82.

<sup>28</sup> *Expositio*, VIII, *lectio I*, 966 (p.500).

But we want to know why Ibn Ruṣd interpreted the passage in this manner. We find a textual explanation following the lines where he informs us of his change of mind. Apart from the "first motions" no generated (*ḥādīṭ*) movement precedes another movement essentially. It happens only accidentally and this is the mistake made by "Plato, the *Kalām* people of both religions" but obviously also by al-Fārābī and himself.<sup>29</sup>

How did Averroes come to hold this view? Let us look at his polemics with al-Ġazālī (d.1111): in his *Tahāfut at-Tahāfut* we find three passages<sup>30</sup> where he defends this theory of a double causality. Let us look at the second one: Al-Ġazālī argues that the philosophers have to acknowledge that there are new events happening in the world and that they have causes. These events cannot lead one to another without limit. If there is a limit, this must be eternal and consequently, temporal beings can proceed from an eternal being. The last sentence is asserted by the *mutakallimūn*, but denied by the *falāsifa*. Al-Ġazālī attacks a weak point of the Aristotelian system, but Averroes provides an answer:

The philosophers permit the existence of a temporal being *ad infinitum* in an accidental way, when this is repeated in a finite matter.<sup>31</sup>

This existence of something *ad infinitum* among the generated beings is the way how they share something of the eternity of the First Mover. This participation happens by means of His direct activity:

Every movement depends therefore on this [First] Mover and its setting in motion essentially, not accidentally.<sup>32</sup>

It is not difficult to understand that this Averroistic theory rebounds negatively upon the argument for the everlasting nature of motion or change which is based on the definition itself. May be it more fully explains how God acts upon His beings; no doubt, it depicts a "mechanically" well run universe. However, it also affects causality in so far as primary substances lose their capacity to act as essential causes.

<sup>29</sup> *Junctas*, fol. 339r, 341r. *Epit. Phys.*, p. 134. *Masā'il*, p. 231.

<sup>30</sup> *Tahāfut al-Tahāfut*. Ed. M. Bouyges, B.A.S. VIII. Beirut, 1930. Passages in pp. 20-22; 56-60; 265-269. For the translation, S. van den Bergh: *Averroes' Tahāfut al-Tahāfut*, London 1954, R 1969, 2v., pp. 10-12; 32-34; 157-159.

<sup>31</sup> *Ibidem*, p. 56; tr. p. 33.

<sup>32</sup> *Ibidem*, p. 59; tr. p. 34.

It is not a denial of causality, of course, and in any case we stay before a Metaphysics with a physical, natural orientation.

Definitely, Aristotle had not thought of such a distinction and Aquinas saw this. On his side, he was not very prone to resort to it: he stays in this case closer to al-Ġazālī. As is well known,<sup>33</sup> Aquinas does not think that reason can decide between the arguments for or against the eternity of motion. He has a respectful but critical attitude towards Aristotle, and the Patristic tradition to which he somehow belongs offers him an issue through its conception of faith.<sup>34</sup>

We may finally ask ourselves why Averroes' solution, i.e. the Divinity as the essential - and direct - cause of all changes in the world, was not attractive to Aquinas. I would say that it was a physical solution and not an ontological one and Thomas, since his earlier works like *De Ente et Essentia*, went the way of the ontology of being, which emphasizes just the dependency for being on the Creator. This ontology enables him to express the radical dependency of each individual in the *esse* it receives permanently from the First *Esse*: A dependency that both - Averroes and Aquinas - want to underline.

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<sup>33</sup> V.g., in the *Summa contra Gentiles*, II, 38, ed. Leon. (Rome, 1934).

<sup>34</sup> Cf., on his relation with Averroes: G.M. Manser, *Das Verhältnis von Glaube und Wissen bei Averroes*. Paderborn, 1911.

JEANNINE QUILLET

Nicole Oresme et la science nouvelle  
dans le *Livre du Ciel et du Monde*

"Ecce librum celi...Nam naturalis liber unquam philosophie Pulcior aut potior nullus in orbe fuit", écrit Nicole Oresme à la fin de sa "translation" du *Peri ouranou* d'Aristote, que l'évêque de Lisieux n'a connu qu'à travers la *nova translatio* du grec en latin, commencée vers 1250 par Robert Grosseteste, corrigée et complétée par Guillaume de Moerbeke vers 1265<sup>1</sup>. Et il ajoute: "... je ose dire et me fais fort qu'il n'est homme mortel qui onques veist plus bel ne meilleur livre de philosophie naturelle que est cestui, ne en ebreu, ne en grec ou arabe ne en latin, ne en françois", ce qui n'est pas un mince éloge qu'adresse Oresme à l'oeuvre d'Aristote, bien que son caractère ambigu puisse laisser croire à une louange *ad hominem*.

Quoiqu'il en soit, l'admiration exprimée envers l'oeuvre du Stagirite n'empêche pas son commentateur du XIV<sup>e</sup> siècle de nier l'une des thèses les plus fondamentales de la physique aristotélicienne, à savoir que le monde est un grand vivant. Le réalisme archaïque de cette cosmologie (malgré le caractère révolutionnaire de l'idée d'un monde éternel, sans création originaire ni catastrophe finale) tient à la survivance de l'idée du cosmos comme grand animal vivant. Conception impie du point de vue judéo-chrétien, mais qui s'est conservée longtemps, soit sous la forme simplement naïve d'une *figura mundi*, avec haut et bas, droite et gauche, soit à travers des imaginations pseudo-hermétiques où joue le triangle *Theos-Cosmos-Anthropos* avec les multiples analogies entre macrocosme et microcosme. Faut-il voir dans cette négation l'émergence d'une "science nouvelle", ou, du moins, sa condition de possibilité, liée à la spéculation sur la puissance absolue de Dieu, qui a constitué, notamment depuis la condamnation de 1277, un instrument d'analyse puissant en matière de philosophie naturelle? On a déjà souligné l'importance des articles 34 et 49 de la condamnation, à savoir, que Dieu peut faire plusieurs mondes,

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<sup>1</sup> Nicole Oresme, *Le Livre du Ciel et du Monde*, éd. A.D. Menut et J. Denomy, trad. et Intr. A.D. Menut, Madison, Milwaukee and London, 1968, Introduction, p. 10-11.



d'une part, et que, d'autre part, il peut mouvoir le ciel, ou le monde, en ligne droite, même s'il faut admettre que, dans ce cas, il y ait du vide<sup>2</sup>. Certes, Dieu n'a pu créer *actuellement* d'autres mondes, mais il n'est pas interdit de formuler des arguments cherchant à les rendre possibles, au moins au plan de l'intelligibilité.

Dans cette perspective, les gloses d'Oresme au *De Coelo* d'Aristote sont particulièrement éclairantes. Qu'il se prévaille de l'argument *de potentia Dei absoluta* est très clair: ainsi, à propos de l'existence de plusieurs mondes, l'évêque de Lisieux, après avoir commenté la position d'Aristote, renvoie à la considération "selon vérité ce que l'en puet dire en ceste matière sanz regarder à autorité de homme, mais *seulement à pure rayson*". La référence, ici, à la raison est connexe d'une intervention de l'imagination: on peut imaginer que plusieurs mondes soient en trois manières, nous dit le glossateur infidèle d'Aristote. Après avoir évoqué la doctrine stoïcienne de l'*ekpurosis*, inspirée, comme on sait, de Platon et d'Empédocle, qu'Aristote critique<sup>3</sup>, notre auteur la considère comme impossible *naturellement*, mais il ajoute: "...combien que Dieu pourroit faire, et peust avoir fait tellement de sa toute puissance ou du tout annichilier ce monde et apres creer un autre". Mais cette hypothèse lui paraît beaucoup moins intéressante que celle qu'il développe aussitôt après, toujours au plan de l'imagination, c'est-à-dire "par esbatement et pour exercitation de engin"; à la différence de la première, cette hypothèse ne lui paraît pas impossible "par rayson", en d'autres termes, il n'est pas nécessaire ici de faire appel à la *potentia Dei absoluta* pour en rendre compte, et pour conclure que si elle n'est pas recevable au plan de la nature, elle est vraisemblable. Il s'agit, là, de la considération de plusieurs mondes emboîtés les uns dans les autres. La troisième "imagination" fait intervenir l'argument de l'existence du vide, et, corrélativement, Oresme invoque la puissance divine qu'il oppose aux raisons aristotéliennes de la rejeter. En effet, Dieu pourrait par sa toute puissance créer du néant une nouvelle matière et faire un autre monde<sup>4</sup>. Le recours à la *potentia Dei absoluta* est encore plus explicite dans l'argumentation, puisque l'évêque de Lisieux considère que le vide

<sup>2</sup> E. Grant, *The Condemnation of 1277, God's absolute power, and Physical Thought in the Late Middle Ages*, dans Viator, *Medieval and Renaissance Studies*, vol. 10 (1979), Berkeley, Los Angeles, London, p. 211-244.

<sup>3</sup> Aristote, *De Coelo*, I, 10 279 b et *Livre du Ciel*, éd. cit. p. 166 sq, f° 35d.

<sup>4</sup> *Livre du Ciel*, p. 174 38 c-d.

peut exister, non, certes, au plan de la nature, mais "toutfoys est ce chose ymaginable sans contradiction et que Dieu pourroit faire". Il s'agit là d'une chose imaginable sans contradiction "et symplement possible, ja soit ce que ne pourroit estre fait par vertu purement naturelle..."<sup>5</sup>. Certes, la connaissance de notre entendement dépend de nos sens, qui sont corporels, si bien que nous ne saurions comprendre, ni concevoir un "espace incorporel qui est hors le ciel", et toutefois, raison et vérité nous font connaître qu'il existe. Et Oresme de terminer la discussion: "Je conclu donques que Dieu puet et pourroit faire par sa toute puissance un autre monde que cestuy ou plusieurs semblables ou dessemblables, et Aristote ne autre ne prouva onques souffisamment le contraire; mais onques de fait ne fu et ja ne sera fors que un seul monde corporel, si comme il est dit devant"<sup>6</sup>. On le voit, Oresme n'affirme pas l'existence d'un espace vide et infini, mais la possibilité de le concevoir par la raison humaine, eu égard à la puissance infinie de Dieu.

Comme nous l'avons montré dans un article récent<sup>7</sup>, les trois dimensions du monde sensible, ligne, surface, volume, de même que les directions haut-bas, dessus-dessous, droite-gauche ne sauraient être autrement qu'elles ne sont dans la hiérarchie naturelle des êtres doués de mouvement; cependant, dans l'absolu, peut-on les maintenir? Ont-elles encore un sens? La réponse est négative, car ces distinctions ne sont valables que par rapport à nous. Pour Aristote, tout corps parfait, celui du ciel, par exemple, comporte les trois dimensions et leurs contraires, ce qu'Oresme ne saurait admettre, car cela voudrait dire que le ciel est un vivant, et, pour notre glossateur, cela ne peut s'entendre que de manière figurée. Droite et gauche, pour ne prendre que ces deux directions, ne peuvent être dites du ciel, car, s'il est vrai qu'on peut appliquer ces qualités à des vivants, on ne peut le faire pour les choses "qui n'ont vie fors par similitude ou en relation"<sup>8</sup>, comme c'est le cas du ciel, ce qu'Oresme va montrer. Sans entrer dans le détail de ses gloses, mentionnons que si le géant Atlas mouvait le ciel d'Est en Ouest, c'est-à-dire de droite à gauche comme le dit Aristote, sa droite serait à l'Est et sa gauche à l'Ouest; mais s'il meut le ciel continuellement, alors sa droite

<sup>5</sup> Ibid. p. 176 39 a-b.

<sup>6</sup> Ibid. p. 176-178 39 b-c.

<sup>7</sup> Jeannine Quillet, *La droite et la gauche du ciel selon Nicole Oresme*, dans *Economies et Sociétés*, n° 1 (1987), Paris, p. 119-127.

<sup>8</sup> *Livre du Ciel*, p. 314, 77 c.

sera le soir en ouest et sa gauche à l'est; on aura ainsi totalement retourné Atlas, devant-derrrière. Donc, on ne saurait dire que l'Est est à droite et l'Ouest à gauche, ni même que l'Est ou l'Ouest soient à droite ni à gauche; ou alors il faudrait admettre qu'Atlas est immobile, ce qui est contradictoire.

Certes, Oresme ne met pas en question l'espace euclidien comme tel, au nom de l'*omnipotentia* divine. Dieu pourrait faire mouvoir le monde circulaire en ligne droite, malgré les impossibilités tirées de la physique aristotélicienne, mais ce mouvement de translation se ferait, en toute hypothèse, dans un espace galiléen (ou newtonien), sans haut ni bas, droite ou gauche comme réalités absolues, mais dans le cadre des trois dimensions euclidiennes. C'est, du reste, dans cet espace que se situe la nouvelle mécanique, commune au sublunaire et au supra-lunaire. Pour Oresme, le monde est une chose inanimée et créée, non un dieu ou un fils de dieu. Cela dit, il continue à croire que "droit est plus noble que gauche", et lorsqu'il imagine le cosmos comme un homme la tête en bas (faisant écho à la thèse d'Aristote selon laquelle le pôle nord du monde est l'antarctique terrestre, non l'arctique), il pose comme "naturel" le mouvement inverse de celui des aiguilles d'une horloge. Et il continue à parler de la sphéricité du ciel comme oeuvre convenable de Dieu en raison du caractère "parfait" de cette figure.

On le voit, d'une manière générale, au niveau de la philosophie naturelle, Oresme ne récuse pas pour l'essentiel le cosmos aristotélicien: il reste le cadre de sa réflexion. Cependant, l'argumentation de *potentia Dei absoluta* le conduit à considérer les preuves strictement démonstratives comme inadéquates. S'il s'agit d'une stratégie, comme on l'a dit<sup>9</sup>, qui consisterait à rendre également plausibles les solutions alternatives aux questions physiques, alors l'horizon théologique, et notamment les considérations sur la puissance absolue de Dieu, en seraient le fondement. Ne dit-il pas lui-même dans le *Livre du Ciel* que c'est pour "sauver les apparences des mouvements du ciel" que nous leur attribuons une régularité nécessaire; en vérité, le ciel "depend de Dieu le créateur qui le conserve et le garde en estre tant comme il Lui plaira"<sup>10</sup>. Dieu, dans sa puissance infinie, peut faire que les choses soient autrement qu'elles

<sup>9</sup> E. Grant, Nicole Oresme, dans *The Encyclopedia of Philosophy*, New York 1967 p. 547-549.

<sup>10</sup> *Livre du Ciel*, p. 298, 73 b.

ne sont<sup>11</sup>. Et, comme nous l'avons vu, l'homme peut imaginer hors du monde un espace infini et immobile, dans lequel le monde serait mû par un mouvement rectiligne. Et, ajoute Oresme, "dire le contraire est un article condamné à Paris", comme le note l'article 49 de la condamnation de 1277<sup>12</sup>. De la même manière, le mouvement du ciel et celui de la terre sont également plausibles; qu'il y ait un seul monde ou une pluralité l'est également comme nous l'avons mentionné plus haut.

Peut-on, dans ces conditions, se demander si l'irruption de la foi dans le domaine du savoir, dans les limites, toutefois, de la science aristotélicienne a permis au savoir l'élargissement de son champ d'investigation par l'exercice, notamment, des puissances de l'imagination spéculative et de la raison? C'est à ce niveau que l'analyse du rôle et des fonctions de l'imagination dans la pensée d'Oresme est liée à l'argumentation *per potentiam Dei absolutam*, et à la considération du possible comme tel. Ainsi, la *phusis* aristotélicienne est un modèle possible parmi d'autres, car possible se dit de ce qui peut être imaginé, même si cela n'existe pas au niveau de la nature, sans pour autant que nous entrions dans le domaine de la fiction pure et simple, puisque l'usage d'imagination est quasiment équivalent à celui de raison, selon les termes même de notre glossateur. Le *Livre du Ciel* est explicite sur ce point: impossible renvoie, non pas seulement à ce qui implique contradiction dans l'absolu, mais aussi à ce "qui ne peut être naturellement", à savoir, dans la réalité de notre monde. En revanche, possible se dit "de tout ce qui est possible en quelque manière, soit nécessaire ou contingent, comme que ce soit". Secondement "possible est dit de ce qui pourrait être selon l'imagination sanz contradiction, combien que ce ne puisse être mis en être naturellement"<sup>13</sup>. On le voit, le respect du principe de contradiction est à l'horizon de l'imagination spéculative, et nous garantit que nous ne sommes pas dans la fiction pure, dans le chimérique lié à la fantaisie, dans le pur arbitraire, mais aussi que peut s'ouvrir largement l'argumentation *de potentia Dei absoluta*, étant entendu que la puissance ordonnée divine a, à la Création, établi un ordre naturel qui correspond, en gros et paradoxalement, au cadre aristotélicien. "Et ainsi est possible que un autre monde soit, et que un lieu soit du tout vieu, ou

<sup>11</sup> Ibid. p. 294, 72 c.

<sup>12</sup> Ibid. p. 368, 93 c et R. Hissette, *Enquête sur les 219 articles condamnés à Paris le 7 Mars 1277*, Louvain-Paris 1977, notamment p. 118-120.

<sup>13</sup> *Livre du Ciel*, p. 208 sq, 48 b sq.



que le ciel repouse ou que la terre soit meue hors de son lieu ou que elle soit perciee et que l'en voie de l'autre part et de telles choses". Tel est le lien entre le possible et le réel, dont la charnière est la puissance divine absolue.

Une telle attitude n'est pas seulement d'ordre épistémologique; mais remet-elle en cause, au plan ontologique, un possible ordre des choses? Si la *phusis* aristotélicienne peut être mise à la question, en est-il de même pour les mathématiques, dont Oresme remettrait en cause la valeur absolue?

Sur cette *vexata quaestio*, les opinions sont partagées: un passage du *Tractatus de configurationibus qualitatum et motuum* autorise son éditeur, M. Clagett, à considérer qu'Oresme tient les objets mathématiques comme de pures fictions: "Etsi nichil sunt puncta indivisibilia aut linee, tamem oportet mathematice fingere pro rerum mensuris et earum proportionibus cognoscendis"<sup>14</sup>. Sans entrer dans le détail de la discussion doctrinale qui l'a opposé aux analyses d'A.L. Maier<sup>15</sup>, qui conteste que les *configurationes* ne soient que des représentations graphiques et les tient pour des "formes spatiales véritables et très réelles des qualités", on doit noter qu'il s'agit là d'un usage des mathématiques appliquées à la réalité physique, et non des mathématiques elles-même, comme discipline scientifique pure. En tout état de cause, seule une analyse exhaustive de l'usage et de la signification de l'imagination dans l'oeuvre d'Oresme pourrait contribuer à éclairer le débat; on peut dire d'ores et déjà que, dans sa dimension spéculative, cette fonction de la pensée et son exercice permettent de mesurer la distance entre une lecture de la Nature et une réflexion sur ses fondements ontologiques. La distinction entre réalité naturelle et le possible sans contradiction s'oppose aux perspectives aristotéliciennes, pour lesquelles réalité, nécessité et intelligibilité sont identifiables au plan d'une science de la *phusis*.

A cet usage de l'imagination correspond la référence à la *subtilitas*, que l'on peut, comme on l'a dit<sup>16</sup>, considérer comme une catégorie

<sup>14</sup> M. Clagett, *Nicole Oresme and the Medieval Geometry of Qualities and Motions: A Treatise on the Uniformity and Difformity of Intensities known as "Tractatus de configurationibus qualitatum et motuum"*, Madison, 1968 p. 164.

<sup>15</sup> A.L. Maier, *Ausgehendes Mittelalter: Gesammelte Aufsätze zur Geistesgeschichte des 14. Jahrhunderts*, vol. 1, p. 342-43, Rome 1967, et M. Clagett, éd. cit. p. 451.

<sup>16</sup> F. Bottin, *La scienza degli Occamisti*, Rimini 1982, p. 344 et Jeannine Quillet, L'imagination selon Nicole Oresme, dans *Archives de Philosophie*, tome 50, cahier 2 (1987) p. 219-227.



essentielle de la pensée du Moyen Age tardif, c'est-à-dire comme la capacité d'expliquer de manière cohérente et rationnelle, mais aussi nouvelle, tous les aspects du réel, mais aussi du possible. S'il est vrai qu'alors la valeur scientifique d'une explication se mesure à la subtilité avec laquelle on pose un problème, qui, lui, n'est pas nouveau, alors, on comprend de quelle manière intime se noue le rapport de l'imagination et de la subtilité. Cette dernière fait fonctionner l'imagination pour repérer toutes les situations logiquement possibles dans l'univers. Dans la plupart des cas, le problème posé est "fictif", en ce premier sens qu'il est préférable, pour cause d'orthodoxie, de le situer dans un univers imaginaire, mais aussi parce qu'il concerne des situations impossibles à vérifier ou à observer au niveau de l'expérience. S'agit-il pour autant de simples "expériences de pensée", d'évocation de *casus*, sinon purement arbitraires, du moins sans rapport à la réalité naturelle? Pour ce qui concerne la pensée d'Oresme, ce n'est guère plausible, dans la mesure où l'évêque de Lisieux manifeste un souci de "sauver les apparences", c'est-à-dire de ne pas contredire les doctrines aristotéliennes lorsqu'elles sont en accord avec la foi, comme, par exemple, pour l'hypothèse d'une possible rotation de la terre. Après en avoir montré la possibilité, Oresme qualifie son argumentation de "persuasions qui ne concluent pas évidemment"<sup>17</sup>. A la subtilité de l'imagination correspond le degré de certitude, non l'évidence de la vérité. Par souci de préserver l'orthodoxie de la foi, Oresme libère l'imagination spéculative des contraintes de la nature des choses: observer, expérimenter, certes, mais aussi calculer, envisager les cas, faire des hypothèses, recourir à la quantification et à la mesure, c'est à un autre univers mental que s'ouvre l'esprit de la physique dite "nouvelle", vouée à l'exploration de l'imaginaire et du possible, cette pensée du possible dont la puissance absolue de Dieu reste le chiffre indélébile.

La critique de l'astrologie, l'introduction de l'irrationnel à propos des corps célestes, sont autant d'exemples de la conviction de l'évêque de Lisieux, qu'on ne saurait limiter notre connaissance de l'oeuvre de Dieu à la philosophie naturelle d'Aristote, mais, qu'au contraire, il s'agit de mobiliser toutes les puissances de l'âme, et singulièrement l'imagination, liée à l'exercice de la *subtilitas*, pour parvenir, sinon à la vérité, du

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<sup>17</sup> *Livre du Ciel*, p. 355-7; 364; 536; 89 d-90 b; 92 a-b; 143 d sq.

moins à une certitude probable; en tous cas, s'efforcer de percer "les secrets de la philosophie".

En d'autres termes, du rationnel au raisonnable, la conséquence n'est pas toujours bonne.

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Plurality of Worlds: Fourteenth-Century Theological Debates\*

Just as many other themes in modern philosophy, the idea of a plurality or an infinity of possible worlds can be retraced in the scholastic debates of the late Middle Ages. It is widely accepted that the rejection of Aristotle's strong defence of the unicity of the universe should be connected to the well-known condemnation issued by the Archbishop of Paris in 1277.<sup>1</sup> This condemnation, it is argued, pushed the theologians to place more emphasis upon the possibilities open to God's absolute power:

inquiry could thus go beyond the confines of Aristotelian natural philosophy with its particular set of physical and metaphysical doctrines into a broader area in which Aristotelian laws might be

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\* I am very grateful to Miss Nathalie Rochon, who kindly revised the English text.

<sup>1</sup> It is the well-known opinion of Pierre Duhem: "Le décret du 1277 marque donc un renversement complet dans l'opinion des maîtres parisiens touchant la pluralité des mondes. Avant ce décret, ils accumulent les raisons tirées de la Physique péripatéticienne afin d'établir que l'existence de plusieurs mondes est une impossibilité... Après ce même décret, tous les théologiens tiennent pour certain que Dieu pourrait, s'il le voulait, créer des mondes multiples; ils s'appliquent soit à ruiner les raisons de Physique qu'on avait opposées à cette proposition, soit à les interpréter de telle manière qu'elles ne soient plus des objections" (P. Duhem, *Le système du monde, Histoire des doctrines cosmologiques de Platon à Copernic*, Paris: Hermann, 10 vols., 1913-59, 9, p. 380. See the english translation by Roger Ariew in P. Duhem, *Medieval Cosmology. Theories of Infinity, Place, Time, Void, and the Plurality of Worlds*, Chicago: University Press, 1985). Defending Duhem's thesis by the harsh Koyré's attacks, Edward Grant observed: "Despite the exaggerated and indefensible character of Pierre Duhem's claim that the Condemnation of 1277 was "the birth of modern science", he was right to emphasize the special significance of two articles, 34, which made it mandatory to concede that God could make more than one world, and 49, which compelled assent to the claim that God could move the heavens, or world, with a rectilinear motion even though such motion might leave behind a vacuum. Since these two articles struck at fundamental ideas in Aristotelian natural philosophy..." (E. Grant, "The Condemnation of 1277, God's Absolute Power and Physical Thought in the Late Middle Ages", *Viator* 10 (1979), pp. 211-244; cfr. E. Grant, *Much Ado About Nothing. Theories of Space and Vacuum from the Middle Ages to the Scientific Revolution*, Cambridge (Mass.): University Press, 1981, p. 103. See also, by the same author, *Physical Science in the Middle Ages*, Cambridge: University Press, 1971; "Cosmology", in D. Lindberg (ed.), *Science in the Middle Ages*, pp. 265-302, now also in E. Grant, *Studies in Medieval Science and Natural Philosophy*, London: Variorum Reprints, 1981, II).

violated. The result was that Aristotle's arguments and conceptions were put through an unprecedented process of logical testing.<sup>2</sup>

The increasing presence of philosophical subjects and arguments in theological works such as the Sentences Commentaries should then be viewed as part of the campaign against aristotelianism led by theology.

To check the accuracy of this well-known picture, it would be necessary to examine the development of the problem among the theologians, at the Arts Faculties and in the scientific works, and to clarify if and how theology had any influence on the thought and writings of the natural philosophers. At present, I will limit myself to some general remarks based on the Sentences Commentaries, and approach more closely the treatment of the problem by a dominican of the early XIVth century, Bernard Lombardi,<sup>3</sup> who is among the theologians who admit that God *de potentia absoluta* could have created more than one world. It goes without saying that the present contribution has a very limited purpose, that is to present a sketch intended to puzzle a current interpretation as far as fourteenth-century theologians are concerned.

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<sup>2</sup> J.E. Murdoch, E.D. Sylla, "The Science of Motion", in D. Lindberg (ed.), *Science in the Middle Ages*, Chicago: Chicago University Press, 1978, pp. 206-64, p. 218. See also J.E. Murdoch, "From social into intellectual factors: an aspect of the unitary character of late medieval learning", in J. Murdoch, E.D. Sylla (eds.), *The Cultural Context of Medieval Learning. Proceedings of the 1st International Colloquium on Philosophy, Science and Theology in the Middle Ages, sept.1973*, Dordrecht-Boston: Reidel, 1975, pp. 271-339 (discussion, pp. 339-348).

<sup>3</sup> Bernard Lombardi has been studied by Grabmann (M. Grabmann, *Mittelalterliche Geistesleben*, München: Hüber, 3 vols., 1926-61, 1, pp. 330, 416; 3, pp. 372, 385; Id., "La scuola tomistica italiana", *Rivista di Filosofia Neoscolastica* 15 (1932), pp. 143-153), Koch (J. Koch, *Durandus de S.Porciano OP. Forschungen zum Streit um Thomas von Aquin zu Beginn des 14. Jahrhunderts*, Münster: Aschendorff, BGPMA 26.1, 1927, esp. pp. 314-39), and more recently by Porebski, who edited a question from his Sentences Commentary (S.A. Porebski, "La question de Bernard Lombardi concernant la différence réelle entre l'essence et l'existence", *Mediaevalia Philosophica Polonorum* 17 (1973), pp. 157-86). See also P. Fournier, "Bernard Lombardi", *Histoire Littéraire de la France* 37 (1938), p. 517-22; Th. Kaeppli, *Scriptores Ordinis Praedicatorum Medii Aevi*, I (A-F), Romae: Ad S.Sabinae, 1970, pp. 227-9. Bernard read in Paris on 1327-28, and there he became master in theology (probably on 1331-32). He is depicted as an independent thomist, whose purpose was to defend Aquinas from the attack of Durandus; in fact - it is Koch's judgement - he stands between them, autonomously searching his own way. In the Sentences-Commentary, Bernard discusses recent authors like Ghent, Scotus, Aureolus, and his confrères Peter de la Palu, Hervaeus, John of Naples. In his later Quodlibet, he shows familiarity to english authors like Ockham and Chatton, to Bertrand de Alemania, and to Francis of Meyronnes.

1. As far as it can be judged from the Sentences Commentaries, theological interest in the problem of the plurality of worlds didn't grow significantly after 1277.

As has often been noticed, the place to look for the cosmological problem in the Sentences Commentaries is in the section of the first book devoted to God's omnipotence, that is distinctions 42 to 44. Then, a first, general indication about the relevance of the problem comes from the frequency, in this section of the Commentaries, of questions devoted to the study of the possible existence of another universe. A preliminary test, performed on the list of questions<sup>4</sup> of some 50 Sentences Commentaries composed between 1230 and 1345, suggests the following remarks:

- a. there is a general trend of reduction of the number of questions.<sup>5</sup>
- b. A slight but constant increase in the incidence of the number of questions concerned can be noticed. These, however, constitute a very little part of all the questions devoted to God's power.
- c. In some cases the problem has been treated under a different and/or less specific label; most likely, in connection to the problem of the possibility of a better world.<sup>6</sup> At all events, the questions concerning the possibility of the creation of a better world, which are more frequent than questions on plurality, decrease considerably from the late XIIIth century.

Furthermore, it might be interesting to observe that

- d. the problem of the plurality of worlds almost disappears from the English commentaries of the fourteenth century, while it is treated by a number of continental authors, usually ranked among the

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<sup>4</sup> See J. Pinborg and A. Kenny, "Medieval Philosophical Literature", in N. Kretzmann, A. Kenny, J. Pinborg, E. Stump (eds.), *The Cambridge History of Late Medieval Philosophy*, Cambridge: University Press, 1982, pp. 21-42, p. 30.

<sup>5</sup> On the general tendency to reduce the number of questions see P. Glorieux, "Sentences (Commentaires sur les)", *Dictionnaire de Théologie Catholique* 14-2 (1941), cols. 1860-84, esp. 1871-78; "Jean de Falisca. La formation d'un maître en théologie au XIV siècle", *Archives d'Histoire Doctrinale et Littéraire du Moyen Age* 33 (1966), pp. 23-104, p. 74; "L'enseignement au Moyen Age", *Archives d'Histoire Doctrinale et Littéraire du Moyen Age* 35 (1968), pp. 65-186, p. 115.

<sup>6</sup> It is e.g. the case for William Ockham, *Sent.* I, d.44, q.un. (*Opera Theologica* 4, eds. G.I. Etzkorn, F.E. Kelley, St.Bonaventure: The Franciscan Institute, 1979, pp. 650-61); on this text see A. Maurer, "Ockham on the Possibility of a Better World", *Mediaeval Studies* 38 (1976), pp. 291-312; A. Ghisalberti, "Onnipotenza divina e contingenza del mondo in Guglielmo di Ockham", in M.T. Beonio-Brocchieri (ed.), *Sopra la volta del mondo. Onnipotenza e potenza assoluta di Dio fra Medioevo ed Età Moderna*, Bergamo: Lubrina, pp. 33-56.



traditional theologians: the augustinians Augustin of Ancona and Thomas of Strasbourg, or the dominicans Jean Quidort and our Bernard Lombardi.<sup>7</sup>

2. The possibility of a plurality of worlds was admitted before 1277.

Before and around 1277, Aristotle's defence of the unicity of the world was critically accepted. One of his main arguments, exposed in *De caelo* I, chs. 8 and 9, and in *Physica* VIII, chs. 7 and 9, was that the world includes all possible matter - another world would be impossible because no other raw materials exist. This position was challenged by a number of theologians who appealed to God's omnipotence. Yet, some of these still maintained that it is possible to demonstrate the unicity of the world: Albert the Great, Aquinas, Roger Bacon, Godfrey of Fontaines.<sup>8</sup> Peter of Tarantasia, the pope Innocent V, writing around 1258, doesn't limit himself to claim the absolute freedom and power of God, but also technically discusses the famous arguments against the plurality of the world based on the theory of the natural places: the earth of a second world, Aristotle argued, couldn't avoid moving towards the center of the first world, this being its natural place.<sup>9</sup> This would involve a contradiction, since the second earth would at the same time move towards its own center and towards the center of the other earth, that is, inward and outward at the same time. Peter presents this argument, and refuses it, claiming that God could produce infinite worlds of the same or of another species. In such a case, each earth would move

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<sup>7</sup> A *specific* question or article concerning the plurality of worlds *does* appear in the commentaries (bk. I, dd. 43 or 44) of Peter Tarantasia, William de la Mare, Richard Middletown, Peter de la Palu, Augustine of Ancona, John of Paris, Alexander of Alexandria, Hugh of Novocastro, Bernard Lombardi, William of Rubione, Thomas of Strasbourg; *do not* appear (even if the problem is in some cases treated under a different heading) in the commentaries by Albert the Great, Eudes Rigaud, Bonaventure, Hannibaldus, Walter of Bruges, Richard Rufus of Cornwall, Giles of Rome, Matthew of Aquasparta, Scotus, John of Sterngassen, Humbert of Prully, William Peter Godin, James of Metz, William of Ware, Robert Cowton, Hervaeus Natalis, John of Bassoles, Durandus, James of Lausanne, the anonymous of Paris BN lat. 14570, Antonius Andreae, Aureol, Landulphus Caraccioli, Ockham, Francis of Marchia, Peter of Atarrabia, Francis Meyronnes, Anfredus Gonteri, John Baconthorp, Peter Thomae, Gerard of Odo, Gerard of Siena, Fitzralph, Peter of Aquila, Gregory of Rimini, Alphonsus Vargas, Buckingham, Mirecourt, Michael of Bologna, Conrad of Soltau, Conrad of Ebrach, Marsile of Inghen - nor in the so-called "question-commentaries", like Wodeham's, Holkot's, Chatton's, Halifax's, and so on.

<sup>8</sup> See P. Duhem, *Le système du monde*, 9, pp. 375-80.

<sup>9</sup> See e.g. Aristotle, *De caelo*, I, 8, 276b4-20.

towards its own center, identical to every other center *in specie*, but individually distinct:

potest etiam cum isto aliud facere universum, id est aliud mundum, et infinitos mundos sive ex rebus eiusdem generis sive alterius... Si tamen fieret ex rebus eiusdem generis, non sequeretur quod moverentur partes terrae alterius ad idem centrum numero, sed ad idem specie et natura; nunc vero omnes moventur ad idem numero, quia non est nisi unum.<sup>10</sup>

In the case of Peter of Tarantasia, as is the case for many subsequent authors, we are simply dealing with a few lines of physical speculation placed in a much longer theological context. We should keep this in mind, to avoid overemphasizing the scientific contribution of this kind of work. Tarantasia, however, testifies for the existence of a somehow elaborated criticism of Aristotle's positions before 1277. We need further evidence to confirm that this was a common or widespread position in the fifties. However, we do know that it existed.

3. To admit to the possibility of a plurality of worlds doesn't entail a rejection of Aristotle's physical principles: the other way around, it is usually conceived as a refinement of his arguments.

Bernard Lombardi shares the theological statement that God is able to produce more than one world; nevertheless he offers an 'aristotelian' solution to the hypotheses of a creation composed by a plurality of universes:

Eadem proportio vel connaturalitas mobilis pertinet respectu alicuius loci divisibilis distinctarum situ, sicut si essent distincte loco et subiecto. Quod autem moveantur ad unam partem respectu illarum partium et non ad aliam, hoc est per accidens, scilicet quia una est propinquior alia et alia remotior, dato quod naturaliter ad utramque possit moveri ad utramque partem; et idem iudicium est de quiete, quia idem naturaliter potest quiescere in diversis partibus situ distinctis, sed quod quiescat modo hic modo ibi hoc est per accidens, quia illud est sibi magis propinquum. Verbi gratia constat quod grave naturaliter appetit centrum et ibi quiescit; centrum autem est divisibile in partes situ distinctas, et ideo lapis ita naturaliter quiesceret in ista parte centri sicut in illa. Sed quare hic quiescit, hoc est per accidens, quia ista pars centri est sibi propinquior et alia remotior.<sup>11</sup>

Bernard's position is neither original nor rare at the end of the twenties: before him, it was maintained by a number of theologians,

<sup>10</sup> Peter of Tarantasia, *Sent.* I, d.44, q.un., a.5 (*Innocentii PP. V in IV libros Sententiarum Commentaria*, Tolosae, Colomerio, 1652, repr. Ridgewood: Gregg, 1964, pp. 366a resp.; 366b ad 5).

<sup>11</sup> Bernard Lombardi, *Sent.* I, d.44, q.un. (ms. Napoli Bibl. Naz. VII.G.98 f.53vb).

among whom (besides the above mentioned Peter of Tarantasia) Middletown, Peter de la Palu (one of Bernard's sources), Augustine of Ancona, Alexander of Alexandria, John Bassoles, Hugh of Newcastle, Ockham.<sup>12</sup> This position is obviously interesting, inasmuch as it seems to introduce some quantitative determinations in a framework (the aristotelian one) which is essentially qualitative. Namely, he admittedly refuses the averroistic interpretation according to which distance doesn't have influence on motion.<sup>13</sup> In this case, Bernard clearly claims that the position of a body with respect to a center of gravity determines its movement. It is important to observe that the admission of a possible plurality of worlds is not intended to dismiss the aristotelian theory of motion, but on the contrary, is seen as a refinement of it. Two different worlds, closed to each other, would still - according to Bernard, and to most of the authors conceiving such a hypothesis - work according to, and be ruled, by the aristotelian laws. Within this, the actual world, *ut nunc*, the validity of the scientific arguments remains unchallenged.

<sup>12</sup> See Peter de la Palu, *Sent.* I, d.42, q.1 (ms. Basel Univ. B.II.21, f.234ra): "sic se habet mobile ad unum locum divisibilem et ad diversas partes eiusdem loci divisibili... ut si ponatur duo centra movebitur naturaliter ad illud centrum quod est sibi propinquius"; and, among others, Alexander of Alexandria, *Scriptum super I Sententiarum* (revised edition, post 1307, of the first redaction of 1303), d.44, q.2 (ms. Paris B.N. f.lat. 15859, f.172rb): "Posset enim dicere aliquis quod Deus potest facere alium mundum in quo non est terra; vel si facit cum terra potest dici quod movetur a centro proprii mundi. Que enim sub una connexionione sunt, moventur ad centrum proprie connexionis; duo autem mundi haberent due connexiones et duo centra, sicut etiam duo homines habent duo corda et duo cerebra"; but see a very similar argument in the augustinians Augustin Triumphus (*Lectura super I Sententiarum*, completed 1303, d.44, a.2, q.1, ms. Troyes 269, f.202vb: Ad III. dicendum quod posset facere ex rebus eiusdem generis et ex rebus alterius generis, sicut sibi placeret, nec esset inconveniens quod partes terre illius universi moverentur a centro et ad centrum; non tam respectu eiusdem centri in numero, sed respectu eiusdem in specie) and Thomas of Strasbourg, *Sent.* I, d.44, q.un., a.4 (*Thomae de Argentina, Commentaria in IIII libros Sententiarum*, Venetiis: Zelettus, 1564, repr. Ridgewood: Gregg, 1965, f.118ra ll.40-45). Cf. the famous argument by Richard Middletown, *Sent.* I, d.44, a.1, q.2 (*Richardus de Mediavilla... Super IVor libros Sententiarum Quaestiones subtilissimae ... Quolibeta quaestiones LXXX continentis*, 2 vols., Brixiae: Gonzaga, 1591, repr. Frankfurt a.M.: Minerva, 1963, 1, p. 392b) and William Ockham, *Ord.* I, d.44, q.un. (*OTh* 4, pp. 657-8) concerning the two fires burning in Paris and in Oxford: they share the same natural place, but each one is directed towards a different part of the heaven. Middletown's and Ockham's texts are discussed by Grant, "The Condemnation of 1277", and Maurer, "Ockham on the Possibility of a Better World", respectively.

<sup>13</sup> Based on Aristotle's *De caelo* I, 8, 276b23-27, 276b29-277a13; Duhem, *Le système du monde*, 9, pp. 363-74, 8, pp. 231-319.

4. The idea of *potentia absoluta*, 'traditionally' conceived, could be used to confirm the actual validity of Aristotle's cosmology.

Bernard's text is also interesting because he introduces into his discussion the notion of God's absolute power. Moreover, the whole question is conceived as the testing of a hypothesis *de potentia absoluta*. At the very beginning, Bernard defines God's absolute power as follows:

In ista questione est communis opinio philosophorum et theologorum quod de facto non est nisi unus mundus; sed cum questio querat de possibili, est difficultas. Ubi sciendum quod potentia Dei quedam est absoluta, quedam ordinata; vocatur autem potentia absoluta illa que non includit repugnantiam terminorum et ista respicit omnia possibilia que erunt et que non erunt. Ordinata autem respicit solum que erunt. Et de ista similiter est communis opinio, scilicet quod de potentia Dei ordinata non potest facere plures mundos; sed questio nostra querit de potentia absoluta utrum possit.<sup>14</sup>

Bernard uses the *potentia absoluta* in a rather traditional way - e.g. the way used, in both Aquinas and Peter of Tarantasia's mainstream ideas. Bernard clearly stresses the hypothetical character of any reasoning *de potentia absoluta*: the absolute power of God covers the whole set of possibilities, including those which will never be realized. It is a definition very close to the one Ockham presented in his sixth *Quodlibet*, in the *Summa Logice*, and later in some of his political works.<sup>15</sup> But it is also very close to the meaning attributed to the distinction by the franciscan Geraldus Odonis, lecturing in Paris in the same year as Bernard; which is, in short, a common and 'traditional' view.<sup>16</sup> Namely, it

<sup>14</sup> Bernard Lombardi, *Sent.* I, d.44, q.un. (ms. Napoli Bibl. Naz. VII.G.98, f.53va). Cf. Peter de la Palu, *Sent.* I, d.42, q.1 (ms. Basel Univ. B.II.21, f.232vb): "omnes sancti et moderni philosophi consentiunt quod non sit nisi unus mundus nec esse possit de potentia ordinata, sed de potentia absoluta inter modernos sunt tres opiniones...".

<sup>15</sup> See *Quodlibeta septem*, VI, q.1 (*Opera theologica* 9, ed. J.C. Wey, St.Bonaventure: The Franciscan Institute, 1980, pp. 585-6); *Summa logicae*, III, 4, ch.6 (*Opera philosophica* 1, eds. Ph. Boehner, G. Gál, S. Brown, St.Bonaventure: The Franciscan Institute, 1974, pp. 779-88); *Opus nonaginta dierum*, ch. 95 (*Opera politica*, eds. H.S. Offler, J. Sikes, Manchester: University Press, 3 vols., 1956-1974, 2, pp. 715-19, 724-26), *Epistula ad fratres minores* (*Opera politica*, 3, p. 14), *Contra Ioannem*, ch.22 (*Opera politica* 3, p. 88), *Contra Benedictum*, III ch.3, VI ch.2 (*Opera politica* 3, pp. 230-34, 273). For a discussion of those passages see E. Randi, *Il Sovrano e l'Orologiaio. Due immagini di Dio nel dibattito sulla potentia absoluta fra XIII e XIV secolo*, Firenze: La Nuova Italia, 1987, esp. pp. 65-76, 85-88, and "Il rasoio contro Ockham? Un sermone inedito di Giovanni XXII", *Medioevo* 9 (1983), pp. 179-98.

<sup>16</sup> Geraldus Odonis, *Lectura super I Sententiarum*, d.44, q.1 (ms. Napoli Bibl. Naz. VII.B.25, f.258vb-259ra): "utrum omnipotentia dei sit potentia ordinata vel absoluta, vel neutrum... Pro solutione questionis pono tres conclusiones: prima quod omnipotentia dei ut exsequens est adequate ordinata; secunda quod omnipotentia dei ut potens et secundum esse potentie est absoluta; tertia conclusio, quod omnipotentia simultanee et



is clear that, according to Bernard, God always acts *de potentia ordinata*. The distinction does not oppose the common course of nature to the extraordinary power of the intervention of God, but distinguishes between the world as it really is and the world as it could have been if God would have decided differently, had God chosen to actualize a different set of possible events.

##### 5. Conclusions: the new theological aristotelianism.

The case of Bernard Lombardi is a case in which all the critical elements are present: the 'hypothetical' discussion of the aristotelian doctrine, God's absolute power, and even the recall of the condemnation of 1277.<sup>17</sup> Yet, Bernard's position can't be defined as "antiaristotelianism":

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distincte est potentia ordinata et absoluta, simpliciter et indivisa. Prima conclusio probatur sic. Omnis potentia in quantum sequitur iudicium rationis et prohensim voluntatis est ordinata. Sed omnipotentia ut exsequens sequitur <iudicium> (individuum ms.) rationis et prohensim voluntatis, ergo ut exsequens est ordinata... Secunda conclusio probatur, quia omnis potentia prior iudicio rationis et prohensim voluntatis est absoluta ab omni ordine rationis et voluntatis. Sed omnipotentia, ut potens est, est prior iudicio rationis et prohensim voluntatis, ergo est absoluta ab omni ordine rationis et voluntatis. Maior probatur, quia omne prius absolutum a posteriori in quantum prius. Minor patet quia omne indeterminatum est prius sua determinatione, in quantum si omnipotentia est determinata et determinatione eius sunt iudicii rationis et prohensim voluntatis. Tertia conclusio probatur, quia eadem illa (?) potentia exsequens et potens; sed potentia ordinata est exsequens, potentia absoluta est potens; ergo est eadem potentia numero. (259ra) Cum ergo omnipotentia sit hec et illa, ergo simultanee et indistincte est potentia absoluta et ordinata. Modo dicendum est ad rationes in oppositum. Cum <primo> arguitur quod omnipotentia non sit potentia ordinata, quia impossibile esset deum aliquid facere quod non facit: dico quod non sequitur, sed bene sequitur quod deus nihil posset facere nisi quod faceret, quia deus nihil facit nisi preordinatum; et tunc si faceret aliter, esset preordinatum et tunc non esset nisi ordinata, et ita non posset facere nisi quod faceret...". On the history of the distinction between *potentia absoluta* and *potentia ordinata*, see W.J. Courtenay, *Covenant and Causality in Medieval Thought*, London: Variorum Reprints, 1984; E. Randi, *Il Sovrano e l'Orologiaio*. See also F. Oakley, *Omnipotence, Covenant and Order. An Excursion in the History of Ideas from Abaelard to Leibniz*, New York-London: Cornell Un. Press, 1984.

<sup>17</sup> In opposing the theory of the 'hypothetical' impossibility of a plurality of worlds, Bernard also refers to an article condemned in 1277. The article quoted doesn't directly concern the plurality of worlds. Bernard never quotes the famous article 34, which forbids the acceptance "that the first cause couldn't produce more than one world". He appeals instead to the articles "42. Quod Deus non potest multiplicare individua sub una specie sine materia. 43. Quod quia intelligentiae non habent materiam, Deus non potest facere plures eiusdem speciei" (see R. Hissette, *Enquête sur les 219 articles condamnés à Paris le 7 mars 1277*, Louvain: Inst. d'Etudes Médiévales, 1979, pp. 82-87) to dismiss an *opinio communis* according to which every angel is an independent species, and therefore there couldn't be angels of the same species in the two hypothetical worlds. A second universe would lead, according to this opinion, to an unacceptable *vacuum specierum*. Bernard Lombardi, *Sent.* I, d.44, q.un. (ms. Napoli Bibl. Naz. VII.G.98, ff.



he tries to solve, by aristotelian principles, a fictional situation which the Philosopher didn't admit to, and which Bernard himself considers *de facto* unreal. The whole discussion takes place aiming at a theological, not a physical or philosophical result. Therefore, we can extend to Bernard the evaluation Maurer proposes about Ockham:

Ockham's treatment of the possibility of a better world is a good illustration of his complex relationship to Aristotelianism. He has no quarrel with Aristotle as far as the actual constitution of the world is concerned. He does not suggest that the world is different from Aristotle's or that in fact there are other worlds besides the one described by him. What interests Ockham is not so much the scientific question of the actual structure of the world as the theological issue of what worlds are possible given the absolute power of God.<sup>18</sup>

In most cases, the arguments developed, in the theological context here considered, to demonstrate that the existence of another world would be physically conceivable, are not aiming at attacking Aristotle. Generally speaking, given the theological assumption that God could have built a different universe, these kind of arguments seek to explain in aristotelian terms what would have happened in that case, and which could have been the laws of that different world.

The notion of God's *potentia absoluta*, 'traditionally' conceived, paved the way to investigations which, by their very character, didn't concern the actual structure of the universe. While contesting the absolute necessity of the aristotelian natural laws, it could at the same time confirm their validity within the actually created world.

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53vb-54ra): "Quinto de angelis, quia saltem secundum opinionem communem non possunt esse plures infra unam speciem; et sic hic et ibi non possent esse eiusdem rationis... <Contra> probat de angelis propter articulum parisiensem, qui dicit quod dicere quod in eadem specie non possunt fieri plures angeli, error est... Et de ali<o> de angelis, dicendum est quod nihil concludit. Per istam enim rationem probro tibi quod Deus non posset facere tres asinos eiusdem speciei. Suppono quod angelus fiat, postea quod adnihiletur, postea quod creetur; tunc arguo: quantum distant productiones, tantum distant obiecta vel terminum in productione; sed iste non distant: non secundum numerum, quia ad idem numero termina<n>tur; ergo "non possunt terminari ad aliud numero" non sequitur. Et ideo dicendum quod sunt diverse productiones numero, ideo possunt terminari ad diversa numero". Cf. again Peter de la Palu, *Sent.* I, d.42, q.1 (ms. Basel Univ. B.II.21, f.234vb): "si quis vellet sustinere quod Deus posset facere duos angelos eiusdem speciei propter articulum, posset dici quod pari ratione posset concludi quod Deus non posset creare duos asinos...".

<sup>18</sup> Maurer, "Ockham on the Possibility of a Better World", p. 309.

ITALO RONCA

Reason and Faith in the *Dragmaticon*: The Problematic Relation  
between *philosophica ratio* and *diuina pagina*

1. An alleged lack of originality in the *Dragmaticon* has been detrimental to an adequate appreciation of this work: despite the forceful attempt by T. Gregory to redress the balance, modern criticism has for more than a century been biased in favour of the youthful *Philosophia* by the romantic prejudice that this is William's "first and most important systematic work"<sup>1</sup>, and that the *Dragmaticon* is little more than "a mere reprint", or "a second edition", of the *Philosophia*.<sup>2</sup> A close comparison of the two systematic treatises seems, therefore, to be the only means by which we may remedy the undeserved neglect the *Dragmaticon* has suffered. Such a comparison will have to involve both philosophical contents and literary form. Leaving the scientific contents to the historians of science, I will attempt to illustrate some formal aspects of the dialogue which can produce fresh evidence for a still undiscovered originality of the *Dragmaticon*.

2. When he set out to write the *Dragmaticon* in the mid Forties of the 12th century, William of Conches was in odour of heresy. In his *Philosophia* he had dared to explain in a rationalistic way close to Abelard even the supernatural mystery of the Trinity: his theological errors had been scornfully exposed by William of St Thierry in the pamphlet *De erroribus Guillelmi de Conchis*: addressing himself to Bernard of Clairvaux, the Cistercian monk had strongly advocated William's condemnation, unless he retracted. Shortly thereafter the Council of Sens (1141) condemned Abelard for his rationalistic (Sabellian) theses; the famous theologian had obligingly retracted. These events were determinant

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<sup>1</sup> So still B. Wilson, the editor of the *Glosae in Iuuenalem* (Paris 1980, p.78), following Manitius (1931, p.216), Flatten (1929, p.11), Duhem (1915, p.95), Charma (1857, p.16).

<sup>2</sup> So, unfortunately, the authoritative M. Manitius, *Geschichte der lateinischen Literatur des Mittelalters*, vol.3, 1931, p.216.

for the remarkably new form of what might have been a mere 'Secunda Philosophia' and became in fact the *Dragmaticon*.

3. Essentially, the Cistercian monk had found fault with William's overrating of human reason at the expense of the authority of Scripture. He had demanded that in matters bearing on dogmatic theology (if I may use an anachronism), reason should be subordinate to, and guided by, either the 'reason of faith' or the evidence of some scriptural *auctoritas*: the typical fideistic position of monastic theology, requiring the total subordination of reason to faith.<sup>3</sup>

The different attitude of William of Conches is aptly illustrated by the notorious tirade against certain theologians: "They deliberately keep people in the darkness of ignorance because they ignore themselves the laws of nature. We, however, declare that in everything a rational explanation must be first sought, if it can be found. But if someone should miss what Scripture affirms, this ought to be entrusted to the Holy Spirit and Faith": i.e. when Scripture is not accessible to any reasonable interpretation, then rational understanding should yield to belief.<sup>4</sup>

4. In re-writing the *Philosophia* William had to reconcile conflicting positions, for instance:

- to accommodate a considerable amount of new material which had broadened his knowledge in the course of nearly a quarter of a century; at the same time to avoid becoming a didactic bore;
- to stand firm on questions of principle; at the same time to be extremely tactful in approaching philosophical or physical questions bearing on theology;
- to air his bitter anticlericalism, without exposing himself to serious risk; at the same time to appeal to his religious readers, if not with tangible signs of a conversion to fideism, at least with some formal guarantee that orthodoxy was fully restored.

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<sup>3</sup> *De erroribus Guillelmi de Conchis*, PL 180, p.334C: "Periculosum enim nimis est audere in talibus, nisi ubi vel evidens tuetur auctoritas, vel manifesta ducit ratio fidei. Ratio autem fidei est omnem rationem humanam fidei postponere, vel in obsequium fidei captivatam redigere".

<sup>4</sup> *Phil.* I,44, p. 39 Maurach: "Quoniam ipsi nesciunt vires naturae, ut ignorantiae suae omnes socios habeant, nolunt aliquem eas inquirere, sed ut rusticos nos credere nec rationem quaerere. Nos autem dicimus in omnibus rationem esse quaerendam, si potest inveniri. Si autem alicui deficiat quod divina pagina affirmat, Sancto Spiritui et fidei esse mandandum".

He succeeded in the complex undertaking by choosing a new literary form: the 'dra(g)matic' dialogue proved to be an ideal vehicle for exploring numerous variations of *captatio benevolentiae* and exploiting them shrewdly as subtle devices for *apologetic* purposes. It would be worthwhile to examine each and everyone of such apologetic devices: the most remarkable for the present purpose is a variation of William's original concept of *integumentum*, as it is applied to his restructured material.<sup>5</sup>

5. It can hardly be by chance that the material contained in the four *particulae* of the *Philosophia* is arranged roughly to correspond to the disposition of the Platonic four *elementa mundi* and their *ornatus*; the material of the *Dragmaticon*, though approximately double that size, is re-arranged to cover only six, and not, as one would expect, *eight* one-day dialogues.<sup>6</sup> I am inclined to see the re-arrangement in six books as a cryptic allusion to the biblical account of the *six* days of Creation (on which Thierry of Chartres had just written an influential little treatise): i.e. William uses the *integumentum* as a device to suggest that he intends to remould the Platonic (pagan) material of his earlier treatise into a biblical (Christian) form. Such a reshaping reflects the Chartrian ideal of harmonising Platonic naturalism - the *philosophica ratio* par excellence - with Scripture, the undisputed authority in Christian faith.<sup>7</sup> On the other

<sup>5</sup> The term *integumentum* and its synonym *involutum* are often used in the exegetical and philosophical literature of the 12th century to indicate the 'covering', as it were, in which is 'wrapped' a hidden meaning, especially moral and cosmological. The concept, related to *imago*, *similitudo*, *fabula*, *allegoria*, seems to derive from Cicero, *De or.* 1,35,161 and has been studied in connection with William of Conches' various works by E. Jeuneau, "L'usage de la notion d'*integumentum* à travers les Gloses de Guillaume de Conches", *Arch. d'hist. doctrinale et littéraire du Moyen Age*, t. xxiv (1957), p.35-100 (repr. in *Lectio Philosophorum*, Amsterdam 1973, p.127-179). The most comprehensive discussion now in P. Dronke, *Fabula. Explorations into the uses of myth in medieval Platonism*. Leiden/Köln 1985, esp. p.23-67.

<sup>6</sup> The striking fact about the re-arrangement is that each of the first two books of the *Philosophia* has been rewritten in exactly two books of the *Dragmaticon* (Phil.I = Drag.I+II; Phil.II = Drag.III+IV); however, Phil.III = Drag.V and Phil.IV = Drag.VI (a disproportionately long book).

<sup>7</sup> That in William's time the mere subdivision of a work of literature into a certain number of books could itself be seen as an *integumentum/involutum*, 'covering' a hidden (moral) meaning, is strongly supported by Bernard Silvestris' analogous allegoric transposition of the six first books of the *Aeneid* - taken to represent the 'six ages of man' - and John of Salisbury's explicit statement: "Hoc ipsum divina prudentia in Eneide sua sub involuero ficticii commentii innuisse visus est Maro, dum sex etatum gradus sex librorum distinctionibus prudenter expressit" (*Polycraticus* 8,24, ed. Webb, II,



hand, I suspect that the true model for the 'dragmatic' dialogue was Adelard of Bath's rationalistic *Quaestiones naturales*.

6. The *double role* assigned to each interlocutor is the most exploited of the apologetic devices:

- The *questioner* occasionally plays the role of what he really is: the mighty Count of Anjou and Duke of Normandy, who i.a. promises to protect the Philosopher against his (clerical) enemies.<sup>8</sup> Shielded from his enemies by such a protector, whom he has closely associated to himself, William can give vent to his anger in his relentless invective against unnamed "enemies of Philosophy", read: ignorant religious and corrupt prelates. More often the Duke ostensibly plays the role of *defensor fidei*, now as a preventive censor, now as an *advocatus diaboli*. As such, he is exceptionally well conversant with biblical and patristic texts, which he readily quotes whenever a *philosophica* or *physica ratio* might be deemed contrary to the *diuina pagina*.<sup>9</sup>

The apologetic intention is transparent: within the dialogic fiction, in all the inevitable questions bearing on theology and faith, William's powerful protector has to appear as *the* authoritative and irreproachable guarantor of orthodoxy.

- The Philosopher, too, often throws off his role mask to appear as the frank master from Conches himself, with all his outbursts of anger; still more often the personage pretends to be what the real Philosopher would have liked to appear in the eyes, if not of William of St Thierry, then of his religious readers: a very humble man, reluctant to be called a *magister* or to play the teacher's role.

If recognised as an apologetic device, the double role can help to detect the author's true intention behind ambiguous statements, or to uncover cryptic allusions. For instance, the self-imposed and self-effacing title "philosophus sine nomine", taken at face value, would qualify William as a humble man; it becomes subtly ironical, if taken as a reply to the

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415). Cf. M.D. Chénu, *La théologie au douzième siècle*, Paris 1976, p.165, n.2.

<sup>8</sup> This is especially evident in the vehemently anticlerical prologues.

<sup>9</sup> E.g. *Dragm.* I,17: Plato's opinion, that angels are *animalia* and therefore must have bodies, "uehementer a diuina pagina discordat". "(Note that here and in the following the text of the *Dragmaticon*, although quoted according to the Gratarolus edition, is actually emended according to my forthcoming critical edition: William of Conches, '*Dragmaticon Philisophiae*'. *A Critical edition of the Latin text, with an english translation and essential notes* by I. Ronca, Pretoria [1990].)"



gratuitous insult received from William of St Thierry, who had described him as someone "obscuri quidem nominis et nullius auctoritatis".<sup>10</sup>

The *retractatio errorum* and the *confessio fidei* are further applications of the double role device: the *retractatio* produces the impression that the self-effacing Philosopher might after all be talking tongue-in-cheek. For, though replying to William of St Thierry's personal attacks, he avoids paying back his antagonist in similar coin, and is sober, detached, ostensibly free from resentment (the irascible anticlericalist of the Prologues is hardly recognisable). But, when it comes to the point, he attributes all his shortcomings to juvenile imperfection (read: inexperience); he does retract, but only the most blatant of his errors, and then only reluctantly. The *confessio fidei* is also ambiguously used as a device for *captatio benevolentiae*, as well as a means to subtly reassert the philosopher's unchanged rationalism: William's Profession of Faith replaces the rationalistic discourse about the Trinity; it is an exercise in *oxymoron*, a showpiece of paradoxical contrasts of the *credo-quia-absurdum* type, as dogmatically orthodox as evidently *contra rationem*.

Again, the reader acquainted with William's notion of *integumentum* would easily recognise the real thing beneath the 'veil': the *confessio*, which is a strictly imposed soliloquy and therefore not a part of the dialogue, represents dogmatic Faith; the dialogue proper represents dialectic Reason. The message is: in the rational universe of William's natural philosophy there is no other place for Faith but a limbo or vestibule. Faith is effectively excluded from reasoning inquiry in the *Dragmaticon*.

7. Significant referential shifts in the usage of keywords, such as *auctoritas*, *physicus/philosophus*, *ratio*, *diuina pagina*, also reveal William's apologetic intention. At the same time the evidence points to more than shrewd ad hoc manipulations: William must have realised, at the latest through the *De erroribus*, that many charges brought against him by the theologians were due to his ambiguous vagueness in basic questions of

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<sup>10</sup> So at the beginning of the *De erroribus*, PL 180,333A. The monk of Signy would have certainly recognised both the device and the allusion; not so several generations of readers of the *Dragmaticon*, its first editor included, to whom the dialogue was to remain anonymous and with uncertain title: the work of a "philosophus sine nomine".

conceptual definition and methodology. So his case had to be underpinned by a thorough, if not systematic, re-thinking of those very questions.

a) *auctoritas*. Apologetic intention is obvious in the shift of the referential usage of this term: in the *Philosophia* the word refers indiscriminately to the pagan Plato, to Constantinus Africanus, and the *diuina pagina*; in the *Dragmaticon* it only refers to sacred writings; Plato and the other pagans are no longer referred to as *auctoritates*, but their views are, as it were, downgraded to *sententiae* or even *opiniones*. What is more, the *diuina pagina*, with its ostensibly restored authority, plays a major role in the dialogue, the Philosophus being at pains to prove that there cannot be real disagreement between Plato and Scripture, and the Duke overzealously invoking sacred *auctoritates*, from Moses to Bede.

b) In the case of *physicus/physice vs. philosophus/philosophice* the opposition is re-considered and methodologically clarified: the *Philosophia* had distinguished the domain of the *physicus* (the "nature of bodies"; his method providing explanations of physical bodies with arguments "probable, though not necessary") from the domain of the *philosophus* (cosmology; his arguments being "necessary, though not probable"). William had claimed for himself the right to act as both: "ut *philosophi* enim necessarium, etsi non probabile, ponimus; ut *physici* vero probabile, etsi non necessarium, adiungimus" (p.26 Maurach). Not so in the *Dragmaticon*, where William takes great pains to avoid calling himself a *physicus*. And although natural laws of causation are invoked for most of his (physical!) explanations, he proclaims from the beginning that he is going "to deal with substances *philosophically*". This is all the more remarkable as Thierry of Chartres had treated the six-day-work of creation "secundum physicam".

There are significant links between William's idiosyncratic dissociation from a 'physical' approach in the *Dragmaticon* and certain bold statement in the *Philosophia*. In his early treatise he had defined *philosophia* as "eorum quae sunt et non videntur et eorum quae sunt et videntur uera comprehensio" (I,4, p.18 Maurach). The grandiloquent definition had prompted a stinging remark from William of St Thierry: "Summa philosophiae, ubi magni promissor hiatus promittens se docturum de omnibus..." (PL 180,333A). Consequently, in the *Dragmaticon* that definition was reconsidered and replaced, more realistically, by that of *substantia*. But the replacement is only partial, for the previous subject now becomes the method: "de substantiis *philosophice* tractabimus".

As for the relative interchangeability of the terms in the *Philosophia*, William of St Thierry had not missed the opportunity to expose the philosopher's explanation of the divine Persons and the creation of man as that of a disguised *physicus*.<sup>11</sup>

8. We can now sketch the complex relation between *philosophica ratio* and *auctoritas diuinae paginae* in the *Dragmaticon*:

a) *Theory*. The central role played by *ratio* in William's remarkable epistemology is well known; I shall recall only the main points: *ratio* is defined as the faculty of the soul to formulate "a true and firm judgment on a physical thing" (*Dragm.* VI, 307)<sup>12</sup>: 'rationem quaerere, reddere de rebus' is the task of the natural philosopher. His arguments ought to be as far as possible "necessary". But since the world is not always accessible to sensory perception (the basis of rational knowledge), the philosopher must often be content with probable arguments, as if he were a *physicus*. *Ratio* is further said to derive from *uera opinio*, a true but "fluctuating and uncertain judgment", when "it is confirmed either by the agreement of those who know or by necessary arguments" (si uel assensu sapientum uel argumentis necessariis confirmetur).

We can see that *auctoritas*, in its metonymical sense of 'something written by a sapiens', is connected with *uera opinio*: to be reliable, both must be "confirmed either *assensu sapientum* or *argumentis necessariis*". Consequently, *auctoritas* is theoretically inferior to 'reason'. This is in fact what Adelard of Bath had claimed.<sup>13</sup>

b) *In practice* *ratio* and *auctoritas* go hand in hand in the *Dragmaticon*, and, with the exception of a single cryptic allusion,<sup>14</sup>

11 PL 180,339A "homo *physicus* et philosophus *physice* de Deo philosophatur; ... creationem primi hominis philosophice, seu magis *physice* describens"; 340A "Et *physico* illud sensu interpretans..."

12 "Here the Gratianus edition, following the wrong reading of a small class of mss. which omit two lines of text, must be emended to read: 'Si uero hoc iudicium de re corporea < uel assensu sapientum uel argumentis necessariis confirmetur, est ratio. Est enim ratio certum et firmum iudicium de re corporea >. Quaedam igitur opinio etc.'"

13 *Quaest. nat.*, ed. M. Müller (München 1934), 12,5-9 "Id autem assero, quod prius ratio inquirenda sit, ea inventa auctoritas, si adiacet, demum subdenda. Ipsa uero sola nec fidem philosopho facere potest, nec ad hoc adducenda est. Unde et logici locum ab auctoritate probabilem, non necessarium esse consenserunt."

14 This is found in the *retractatio*, where the traditional superiority of *auctoritas* over *ratio* is implicitly alluded to and apologetically accepted ("propter illud Apostoli dam<p>namus: '*prophanas* nouitates uerborum deuita'", *Praef.* 6). One should note, however, the shrewdly oblique statement, as if uttered tongue-in-cheek.

nowhere is it claimed that the one is superior to the other. Arguments about trivial questions are based on either of the two;<sup>15</sup> arguments about important questions make use of both.<sup>16</sup>

The quantitative upgrading of *auctoritas diuinae paginae*, while re-establishing the correct balance in the eyes of the religious, has another important function: to harmonise Reason with Scripture. At the same time, what William grants to God on the one hand, he gives to Caesar on the other, so reducing considerably the sphere of competence of scriptural authority.

The harmonisation between *auctoritates diuinae paginae* and *rationes philosophorum* is generally achieved by a shrewd re-interpretation of the former according to Abelard's fourth 'rule'<sup>17</sup> and is certainly a part of the grand apologetic plan. Predictably, therefore, it is always the Duke who points out a discrepancy and asks for an explanation of a particular *auctoritas*.

But this is only one side of the coin. Sometimes the Philosopher quotes, unsolicited, a new scriptural authority to support a bold re-interpretation, as in the heated debate about the alleged 'frozen waters above the firmament'.<sup>18</sup> Indeed the procedure is supported and fully legitimated by William's epistemological definition of *opinio* and *ratio* mentioned earlier: the uncertainty of 'opinion' may become certainty of 'reason' "uel assensu sapientum uel argumentis necessariis". The "sapientes" are obviously all *auctores*.

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<sup>15</sup> As at III,75 "that birds and fishes originated from waters I shall not believe, nisi rationem uel auctoritatem induxeris". The Duke is satisfied with Ambrosius' *auctoritas*.

<sup>16</sup> As at II,59 "Auctoritate et ratione, non conuiciis, illum conuince" (that the Earth does not move); or at III,65ff. (on the 'frozen waters' above the firmament).

<sup>17</sup> Abelard's five rules to reconcile conflicting biblical or patristic authorities are found in the Prologue to the *Sic et Non* (PL 178,1339-1349) and summarised in M. Grabmann's *Geschichte der scholastischen Methode*, vol.2, Graz 1957, p.200-202 (but see also M. D. Chénu, *op. cit.*, p.362, n.1). The fourth rule applies to controversial matters in which the disagreement is more apparent than real, due to the semantic ambivalence of certain terms. In such cases the solution will be easier if one can prove that the controversial term is used "by different authors with different meanings" (si eadem uerba in diversis significationibus a diversis auctoribus posita defendere poterimus: PL 178, 1344D).

<sup>18</sup> Cf. *Dragm.* III,65 "Aliquando aer dicitur caelum, ut ibi [= Baruch 3,17] 'Qui in aibus caeli illudunt'" (to explain that the sense of *aer* is sometimes implicit in the biblical term *caelum*).



9. As for the *restriction* of the field of competence of the *auctoritas diuinae paginae*, the crucial evidence is provided by the discussion of the *frozen waters above the firmament*. In the *Philosophia* the frozen waters theory is reported as anonymous, the opinion is disproved, and that is the end of it; in the *Dragmaticon* the Duke attributes it to the Venerable Bede. This prompts the Philosopher's bold reply: "In those matters which pertain to catholic faith or moral instruction it is not allowed to contradict Bede or any other of the holy Fathers. If, however, they err in matters pertaining to physics, it is permitted to state an opposite view. For, although greater than we, they were only human beings".<sup>19</sup> This statement has been quoted out of context to make of William of Conches an idealised pre-Galilean martyr for freedom of thought.<sup>20</sup> It is, however, not the authority of the *Bible* that is at stake here, but only that of the Church Fathers (represented by Bede, certainly not the greatest authority among them). William would hardly have dared to raise such a fundamental objection against the Bible (as did Galilei, but only in the 17th century) or the Gospel, the authority of which he rates *higher* than that of the Fathers.<sup>21</sup> Here he merely emphasises the *human* condition of two authorities, and plays them off against each other (using Abelard's *fifth* 'rule').<sup>22</sup> That William had in mind a certain hierarchy within the heterogenous *auctoritates* can be reasonably assumed.<sup>23</sup> That he did

<sup>19</sup> *Dragm.* III,65-66 "In eis quae ad fidem catholicam, uel ad institutionem morum pertinent, non est fas Bedae uel alicui alii sanctorum patrum contradicere. In eis tamen quae ad philosophiam [read: physicam] pertinent, si in aliquo errant, licet diuersum affirmare. Etsi enim maiores nobis, homines tamen fuere". Note that in the Gratarolus edition a line is added, in brackets but nevertheless arbitrarily, after "patrum": "(citra scripturae sacrae auctoritatem)".

<sup>20</sup> Cf. Tina Stiefel, "Science, Reason and Faith in the Twelfth Century: The Cosmologists' Attacks on Tradition", *Journal of European Studies*, vi (1976), 1-16. The article does not take into consideration the development of William's thought and gives a one-sided picture of it, based almost entirely on the *Philosophia*. Incidentally, Stiefel's translation of the above statement, on p.6, is incorrect.

<sup>21</sup> He retracts, for instance, on his early view on the divine Persons with the words "quia nec in Euangelio nec in scriptis sanctorum patrum illud inuenimus" (*Dragm.* Praef., 6).

<sup>22</sup> This applies to controversies where the disagreement is real. In such cases no semantic trick will do, but the different authorities should be weighed against each other and preference given to that which appears "to be supported by the most solid evidence and best confirmed" (Quod si forte adeo manifesta sit controversia, ut nulla possit aboliri ratione, conferendae sunt auctoritates, et quae potioris est testimonii et maioris confirmationis, potissimum retinenda: PL 178, 1345A).

<sup>23</sup> In addition to the above evidence, cf. *Dragm.* I,23 (the Duke should feel free to compare what is going to be said about the elements with any other available authority



distinguish the hierarchical status of the *Gospel* from that of the *Fathers*, is beyond doubt.

To sum up: With the proviso that Bede's authority should be taken to represent the Fathers alone, the drawing of a line between the domains of Reason and Sacred Authority still remains a clear sign of William's bold and amazingly 'modernistic' attitude. The clear-cut separation of the two spheres of competence is tantamount to a declaration of independence of Science (natural philosophy) from Religion, or to the right of autonomy of scientific research from theological dogma.<sup>24</sup>

10. To conclude: The new dialogical form of the *Dragmaticon* is shrewdly exploited for apologetic purposes: the Philosopher wants to convince his religious readers that they can safely use his new work as a companion to their *lectio philosophorum*; he also formally appeases his theological opponents by ostensibly redressing the imbalance between secular reason and sacred authority; and, last but not least, William of St Thierry is granted his *retractatio errorum* and *confessio fidei*. All this is not a mere "retreat" in the sense of Flatten's "Rückzug". In fact, most passages connected with the *Rückzug* are ambivalent and subtly allusive. Even for the apparently most fideistic of those passages, as are the conclusion of the *confessio fidei* and the miraculous creation of Eve, William manages to provide the necessary rational explanations, and ironically allusive at that: a) he ends his Profession of Faith by saying that he believes "all these things, approving some with human reason, others, *although* contrary to human reason"; he then promptly gives the *reason* why he believes: "because the men who wrote them were inspired by the Holy Spirit (...) and they profess neither to *lie* nor to affirm anything but certainty". In other words: epistemological certainty guaranteed *assensu sapientum*; and against those inspired holy writers are played off all contemporary (by implication religious) *liars!* b) As for the miraculous creation of Eve, he is willing to accept it, but only because God had "plausible reasons" to intervene personally in such an act *contra naturam*:

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and give his assent to the most convincing of them - another application of Abelard's fifth rule): "Non enim quaerendum est qui dixerint, sed quid dixerint. Non tamen nego qualitatem personae bono operi maiorem gratiam conferre". Of course 'gratiam conferre' is not quite the same as 'auctoritatem conferre'.

<sup>24</sup> Cf. H. Flatten, *Die Philosophie des Wilhelm von Conches*, Köln 1929, p.34: "In erster Linie betont unser Scholastiker die Selbständigkeit der Wissenschaft".

"He did this not from a shortage of material, but 1) to show that woman should be joined to man and be subject to him (...); 2) to confirm the sacrality of marriage, and 3) to prefigure the Church which issued from His side in the sacraments".<sup>25</sup> That is, in defiance of the laws of physical causation, he exceptionally admits the possibility of miracle, if substantial evidence can be produced to prove that such a miracle is *reasonably justified*.<sup>26</sup>

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<sup>25</sup> *Dragm.* III,77: "quod non penuria materiae fecit, sed ut mulierem uiro coniunctam et subditam esse debere significaret, et sacr[ament]um coniugii confirmaret et ecclesiam, quae ex latere eius in sacramentis profluxit, praefiguraret".

<sup>26</sup> Elsewhere, in reply to the objection that God can intervene any time to change the natural course of events, he had rejoined: "Quid est stultius quam affirmare aliquid <esse> quia Creator potest illud facere? Fecitne quicquid potest? Qui igitur Deum aliquid contra naturam facere dicit, uel sic esse oculis uideat, uel rationem quare hoc sit ostendat, uel utilitatem ad quam hoc sit praetendat" (*Dragm.* III,68-9).

CECILIA TRIFOGLI

**The Place of the Last Sphere in Late-Ancient and  
Medieval Commentaries\***

Aristotle's treatment of the place of the last sphere is the most frequently discussed topic of his doctrine of place among Late-ancient and Medieval commentators.<sup>1</sup> They raise many questions about it and attempt different solutions which often reflect either conceptions of place different from Aristotle's or innovations introduced in the doctrine.

The exposition of Giles of Rome's position on this topic is the primary concern of this paper. To introduce his position we shall briefly consider the Aristotelian context of the problem and the major interpretations of it proposed by the commentators.

Aristotle's doctrine of place seems to be inconsistent when applied to the heavens since it turns out that the heavens cannot be in a place, but, at the same time, must be in a place. In particular, the definition of place as an external container<sup>2</sup> and the derived criterion for being in a place<sup>3</sup> deny a place to the heavens. For this criterion claims that only bodies which are contained by another external body are in a place. As a consequence, the heavens or the outermost body of the universe cannot be in a place, since they are not contained by another body. There are, however, other primary assumptions about place which show that the heavens must be in a place. They concern the essential connection between place and local motion; this requires that every body that moves

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<sup>1</sup> On the history of Aristotle's doctrine of place, see, for instance: P. Duhem, *Le Système du Monde* (10 vols.), Paris, A. Hermann, 1913-1959; vol.1, pp.197-205, 297-300, 313-320, 333-350; vol.7, pp.158-302; vol. 10, pp.50, 79-81, 100, 157-160, 204-210, 396-412; E. Grant, "The Medieval Doctrine of Place: some Fundamental Problems and Solutions", in: *Studi sul XIV secolo in memoria di Anneliese Maier* (a cura di A. Maierù e A. Paravicini Bagliani) Roma, Edizioni di Storia e Letteratura, 1981, pp.57-59.

<sup>2</sup> See Aristotle's *Physics* (a Revised Text with Introduction and Commentary by W.D. Ross), Oxford, Clarendon Press, 1936<sup>1</sup>, IV.4, 212a20-21.

<sup>3</sup> See Aristotle, *Physics*, IV.5, 212a31-32.

with local motion must be in a place.<sup>4</sup> But the heavens move with circular motion, i.e. with a kind of local motion. So the problem with Aristotle's doctrine can be summed up as follows: the heavens cannot be in a place, since they are not contained, but must be in a place, since they move with local motion.

In facing this problem, the Aristotelian tradition reached two different positions:

1) the first declares that the contradiction is unavoidable and rejects the Aristotelian doctrine of place completely. This position was supported by Simplicius and Philoponus, who formulate other doctrines of place. Following Damascius' doctrine, Simplicius defines place as the measure of the position of the bodies, whereas Philoponus defines it as a three-dimensional incorporeal extension.<sup>5</sup>

2) Proponents of the second position attempt to remove the contradiction without giving up the whole Aristotelian doctrine, but by modifying some principles from which it derives. This position was supported by some Greek commentators and commonly by the Medieval commentators. These commentators, however, followed different routes to save Aristotle's doctrine; all of them reflect interpretations of the difficult passage of *Physics* IV.5 where Aristotle attempts to deal with the place of the heavens.<sup>6</sup>

Aristotle claims that only the parts of the heavens are in a place since only they move from a place to another; the heavens as a whole are not in a place since they do not change place, as they rotate. This solution assumes that circular motion is not a local motion in its own right, for it is not the rotating body itself that changes place, but only its parts.

There are two main terminological ambiguities in Aristotle's text which justify the different reconstructions of his solution offered by the commentators. The first ambiguity concerns the term 'parts'. Since Aristotle mentions both the heavens and the universe, this term can stand (i) for the continuous parts which compose the last sphere or (ii) for

<sup>4</sup> See, in particular, Aristotle, *Physics*, IV.4, 211a12-14.

<sup>5</sup> See Simplicii *In Aristotelis Physicorum Commentaria*, ed. H. Diels (C.A.G. vol.IX), Academia Litterarum Regia Borussica, Berlin 1882, pp.601,1-645,19; Ioannis Philoponi *In Aristotelis Physicorum Commentaria*, ed. H. Vitelli (C.A.G. vol.XVI), Academia Litterarum Regia Borussica, Berlin 1887, pp.557,8-585,4.

<sup>6</sup> See Aristotle, *Physics*, IV.5, 212a31-b22.

the single celestial spheres as parts of the celestial region or (iii) for both the celestial spheres and the sublunar elements as parts of the universe. The second ambiguity concerns the expression '*per accidens*'. For Aristotle's account of the place of the heavens clearly indicates that the heavens are in a place in virtue of their parts, but Aristotle concludes that they are in a place *per accidens*.

If only the second ambiguity is considered, the different reconstructions of Aristotle's solution fall into two broad exegetic traditions. The first tradition assumes that '*per accidens*' simply means '*per partes*'; the second tradition makes a distinction between the meaning of '*per accidens*' and that of '*per partes*'.

1) The first tradition also seems chronologically first for it appears in Themistius' paraphrasis and in Philoponus' and Simplicius' commentaries.<sup>7</sup> These commentaries also show that this tradition divides into two, according to the interpretation given to the first ambiguity, i.e. to the term 'parts'. According to the first, the parts to which Aristotle refers are the continuous parts of the last sphere, according to the second they are the single celestial spheres and the sublunar elements. In the Middle Ages the first interpretation reappears in Thomas Aquinas' commentary, who accepts it but falsely ascribes it to Themistius.<sup>8</sup> For Themistius, in fact, follows the second. Both these interpretations remain faithful to Aristotle's doctrine on two important aspects: 1) they accept the view that the circular motion of a body can be reduced to the local motion of its parts; 2) they assume that an essential element of the definition of place is containing the located body. Both these aspects are rejected by the second exegetic tradition.

2) This second tradition starts from Averroes; it is followed by Albert the Great, criticized by Thomas Aquinas, and defended by Giles of Rome and such important later authors as Walter Burley.<sup>9</sup> Its peculiar

<sup>7</sup> See Themistii *In Aristotelis Physica Paraphrasis*, ed. H. Schenk (C.A.G. vol.V, p. II), Academia Litterarum Regia Borussica, Berlin, 1900, pp.119,12-121,20. Simplicius, *Physics*, pp.588,1-595,26. Ioannes Philoponus, *Physics*, pp.593,11-597,4; 600,25-604,19.

<sup>8</sup> See S. Thomae Aquinatis *In octo Libros Physicorum Expositio*, ed. P.M. Maggiolo, Torino-Roma, Marietti 1965, Bk.IV, lectio 7, pars. 478-480, pp.232-233.

<sup>9</sup> See Averrois Cordubensis *Aristotelis de Physico audio (Aristotelis Opera cum Averrois Commentariis*, vol.IV), Venetiis 1562 (repr. Minerva G.M.B.H., Frankfurt 1963), Bk.IV, Comment 43, fol.141L-M; Comment 45, fols. 143M-144E. Alberti Magni *Physicorum Libri VIII (Opera Omnia*, vol.III), ed. A. Borgnet, Parisiis 1890, Bk.IV, tract.I, cap.XIII, p.269. Thomas Aquinas, *Physics*, Bk.IV, lectio 7, par.477, p.232; par.486, p.234. Aegidii Romani *Commentaria in octo Libros Physicorum Aristotelis*, Venetiis 1502 (repr. Minerva



trait is the distinction between being in a place *per partes* and being in a place *per accidens*, which refer in turn to different meanings of 'the heavens'. When the heavens are conceived as the whole celestial region, they are in a place *per partes*, i.e. because the single celestial spheres are in a place; but when the heavens are conceived as the last sphere, they are in a place *per accidens*, i.e. *per centrum*, namely the earth. This account of the accidental location of the heavens is clearly an innovation introduced by Averroes and, furthermore, it presupposes the rejection of Aristotle's principle which reduces circular motion to the motion of the parts of the rotating body.

I will discuss next Giles' treatment of the accidental location of the heavens.

To clarify Giles' position it is necessary to analyze further the claim that the last sphere is in a place in virtue of the earth. It includes two assumptions which are conceptually and factually distinct.

The first comes out from the spatial relationship between the last sphere and the earth. The earth is contained by the last sphere but does not contain it. So in attempting to solve the problem of the place of the heavens, the second tradition gives up the primary axiom on place, that of containment, and admits an internal place, at least for the bodies which move with circular motion.

But this does not yet explain why, among all the bodies which are contained inside the last sphere, the one most distant from it, the earth, is chosen to define its place. The explanation is provided by the second assumption concerning the immobility of place: place must be immobile and the earth is the only body in Aristotle's universe which is properly immobile.

All the followers of the second exegetic tradition share both these assumptions and occasionally repeat the arguments which Averroes used to support them.

Regarding internal place, Averroes declares that it is not necessary for spherical bodies to have an external place, since they move *circa aliquid* and not *in continente*. Furthermore, he seems to accept Avempace's arguments on this topic: unlike the rectilinear bodies, the

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G.M.B.H., Frankfurt 1968), Bk.IV, lectio 8, fol.82ra-b. Walter Burley, *In Physicam Aristotelis Expositio et Quaestiones*, Venetiis 1501 (repr. Georg Olms, Hildesheim-New York, 1972), Bk.IV, fol.102vb.

sphere is complete in itself and, therefore, does not need to be completed by something else, a containing place.<sup>10</sup>

Regarding the immobility of place, he declares that the heavens are in a place because of the earth since the immobility of the earth is the cause of the *fixio* of the heavens.<sup>11</sup>

Besides repeating these arguments, Giles formulates other arguments in favour of the opinion that the heavens are in a place *per centrum*. These arguments describe a new interpretation of the connection between place and local motion. For they stress the function of place in the description of local motion, but they deny any real dependence of local motion on place. A quantitative concept of place seems also to derive from this function.

In what follows I shall try to prove this claim, showing that these new aspects appear in Giles' treatment both of the place of the last sphere and of the immobility of place.

In the treatment of the first problem, the function of place as a framework within which motion and rest are described is chiefly emphasized. It appears, for instance, in the main argument formulated by Giles against Thomas' position.

Following Aristotle, Thomas held that the last sphere is in a place in virtue of its parts, since each part is contained by those which are before and after it. Giles' criticism is the following: if place is identified with the relative order of the parts of the last sphere, the last sphere undergoes motion, but it cannot be recognized and described, since this order does not change, as it moves. The correct frame of reference is an internal place, i.e. the earth, because the position of the last sphere changes with respect to the earth, as it rotates. For, as Giles explains: 'Moto enim celo, partes celi habent alium ordinem ad partes centri. Pars enim illa que prius respiciebat hanc partem terre, moto celo, respicit aliam partem terre. Totum ergo celum semper respicit totam terram, sed non semper respicit eam eodem modo, partes vero celi non semper respiciunt easdem partes terre, propter quod, si comparamus celum ad centrum et partes celi ad partes centri, inveniemus quod totum celum

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<sup>10</sup> See Averroes, *Physics*, Bk.IV, Comment 43, fols.141M-142B, 142E, 142M-143A; Comment 45, fol.144B.

<sup>11</sup> See Averroes, *Physics*, Bk.IV, Comment 43, fol.142G.

mutat locum secundum dispositionem, partes vero eius mutant locum secundum substantiam'.<sup>12</sup>

The same criticism is raised against the opinion that identifies the place of the last sphere with its convex surface: 'Si huiusmodi superficies esset locus celi, cum ad illam superficiem celum semper uniformiter se habeat, sequeretur quod celum ex motu suo nullo modo mutaret locum, quod est omnino inconueniens'.<sup>13</sup>

The function of place in the description of local motion is also definitively underlined in the third argument in favour of Averroes' opinion: 'Tertia via sumitur ex parte eorum que debemus salvare circa locum. Sic enim tribuendus est alicui locus ut per motum eius localem mutet locum. Si enim ponemus celum nullo modo esse in loco, ut posuit Alexander, vel si ponemus ipsum esse in loco solum secundum partes, ut posuit Themistius, vel si diceremus ipsum esse in loco ratione superficie ultime, ut quidam alii posuerunt, nunquam per motum eius mutaret locum. Sed si ponimus ipsum esse in loco per comparisonem ad centrum vel per comparisonem ad terram, cum totum celum semper respicit eandem terram, partes vero celi non semper respiciant easdem partes terre, salvabimus in celo quod per eius motum mutet locum et salvabimus quod quantum ad eius partes mutet locum secundum substantiam, quantum ad se totum mutet locum secundum dispositionem'.<sup>14</sup>

These passages show first that the causal connection between the motion or rest of the heavens and the earth, maintained by Averroes, has completely disappeared. Furthermore, they show a sharp distinction between the existence of motion and the elements necessary to describe it, and place appears to be relevant only for the description. From this it follows that Giles gives no clear indications about the physical properties of place. Place, it seems, could be either of several things - the Aristotelian surface of the container, a space or an internal place-provided that it allows a suitable description of motion. But to perform this function it must meet an essential requirement: it must not only be physically separated from the mobile body but immobile since, as Giles explains: 'Omnis enim motus fit respectu alicuius immobilis; nunquam

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<sup>12</sup> Aegidius Romanus, *Physics*, Bk.IV, lectio 8, fol.82vb.

<sup>13</sup> Aegidius Romanus, *Physics*, Bk.IV, lectio 8, fol.83ra. This opinion is not mentioned by Averroes, but by Albert the Great, who ascribes it to Gilbertus Porretanus (see Albertus Magnus, *Physics*, Bk.IV, tract.I, cap.XIII, p.270).

<sup>14</sup> Aegidius Romanus, *Physics*, Bk.IV, lectio 8, fol.83rb.

enim possumus imaginari motum nisi imaginemur aliquid immobile respectu cuius aliquid dicatur moveri'.<sup>15</sup>

The first conclusion in this passage is espoused by all the followers of the second exegetic tradition, whereas the second is introduced by Giles. It contains an explanation of the immobility of place that is clearly congenial to the new function of place. Averroes himself, for instance, explained this point in a different way: the place towards which a body moves must be immobile because: 'Si aliquid movetur ad motam rem, tunc motus eius esset ociosus'.<sup>16</sup>

This explanation, that is completely absent in Giles, refers to Aristotle's doctrine of natural place and motion. Therefore, it assumes a real connection between place and motion based on the nature of bodies.

Giles' treatment of the immobility of place also shows which physical properties place must have to provide a description of motion and rest. These properties turn out to be different from those of Aristotle's place.

To explain this point we must turn to Giles' distinction between formal and material place. This distinction is introduced to counter an objection against the immobility of place: if place, according to Aristotle, is the surface of a natural body, since each natural body can move, how can place be immobile? Giles admits that this objection cannot be answered if place is completely reduced to the surface of the containing body and formulates the following distinction: 'Locus est immobilis formaliter, mobilis vero materialiter'.<sup>17</sup>

The material place coincides with the Aristotelian place as surface of the containing body in contact with the contained, whereas formal place is the *ordo ad universum* of this surface, i.e. its relationship to the fixed points of the universe (the earth and the celestial poles). The essential traits of this distinction already appear in Thomas Aquinas' commentary. Neither commentators offer an explicit definition of the *ordo ad universum*; there are, however, some differences in the terms and examples they use which illustrate Giles' quantitative notion of formal place.

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<sup>15</sup> Aegidius Romanus, *Physics*, Bk.IV, lectio 8, fol.83rb.

<sup>16</sup> Averroes, *Physics*, Bk.IV, Comment 41, fol.140A.

<sup>17</sup> Aegidius Romanus, *Physics*, Bk.IV, lectio 7, fol.81ra.

To explain how the *ordo ad universum* remains unchanged when the surfaces on which it is founded vary Thomas introduces the following analogy: 'Sicut etiam dicitur idem ignis manere quantum ad formam, licet secundum materiam varietur, consumptis et additis quibusdam lignis'.<sup>18</sup> Thomas' *ordo*, therefore, is similar to Aristotle's form, being a quality common to all the containing surfaces and conferring the function of place upon them. But there is no analogy between place and form in Giles' commentary. For Giles explains the permanence of place by the permanence of the distance between the located body and the fixed points of universe: 'Nam, ut consequenter ponitur, ideo locus est immobilis quia, licet, te quiescente, possit moveri aer qui est iuxta te vel aliquod aliud corpus circumdans te, semper tamen diceris esse in eodem loco quia semper es in eadem distantia ad centrum et ad polos'.<sup>19</sup>

From this passage it is evident that Giles replaces the generic notion of *ordo* with the quantitative notion of *distantia*. This distance can be measured and, therefore, the formal place conceived as distance is a suitable framework for the description of local motion and rest.

The comparison of the quoted example with other similar examples offered by Giles reveals a doctrinal aspect that, though not systematically developed by Giles, elucidates the theoretical consequences of his position. For, in this example, Giles refers to the distance between the located body itself and the fixed points of the universe, whereas in the other examples he refers to the distance between the surface of the containing body and these points. How can this be explained? Perhaps, the explanation could be found in a remark by Edward Grant<sup>20</sup> that, when considering formal place, the Medieval authors speak indifferently of the distances measured from the place itself or from the body in that place, since place and the external surface of the located body are coincident, according to Aristotle. Consequently, the distance measured in both cases is the same. This explanation has a further implication: the formal place, identified with a distance, is no longer something that simply completes Aristotle's notion of place as surface of the container, but seems to replace it. Place, in fact, according to Giles, serves essentially to evaluate motion and rest and it performs this function when

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<sup>18</sup> Thomas Aquinas, *Physics*, Bk.IV, lectio 6, par.468, p.227.

<sup>19</sup> Aegidius Romanus, *Physics*, Bk.IV, lectio 7, fol.81rb.

<sup>20</sup> See E. Grant, "The Medieval Doctrine of Place"..., p.65, note 25.



it is defined as a distance that remains the same, if the located body is at rest, and varies, if the located body is in motion. Both conditions are indifferently satisfied when the distance is measured from the located body itself and from the surface of the body containing it. Consequently, it seems superfluous to introduce the containing surface besides the located body, at least as far as the description of motion is concerned.

In conclusion, Giles' emphasis on the role of place in the description of motion seems to lead to a quantitative and relational notion of place. Giles, however, does not completely substitute the Aristotelian notion of place for that of place as a distance. Place as distance is only one of the two notions of place which appear in his commentary. The other, which is related to material place, assumes an intrinsic connection between place and the located body that cannot be founded on distance alone.

G. WHITE

### Ockham and Hume's Question

There has been, in the secondary literature, no shortage of attempts to bring Ockham into some sort of meaningful relationship with "the problem of scepticism", however conceived. Such attempts generally go with attempts to link Ockham with later figures; thus Goddu<sup>1</sup> raises the possibility of a scepticism about induction and the reliability of causal connections, which gains a hold because of Ockham's principle that the existence of one thing cannot necessitate the existence of another thing. Even though this principle did not lead *Ockham* to scepticism, it could have, as it later did Hume; and the fact that it didn't is something that, Goddu seems to think, needs to be explained.

We find a similar chain of thought in Adams.<sup>2</sup> Again, we have the fact that Ockham subscribed to a certain principle - in this case, the principle that God could cause us to believe falsehoods - and the assertion that this principle leads to a form of scepticism - in this case, scepticism about mind-independent material objects.<sup>3</sup> Here, too, the path from the principle to fully-fledged scepticism is one that Ockham didn't take, but somebody else - in this case Descartes - did.

#### 1. *Propositional Structure, Assent, and Cause*

Let us start by examining one of Ockham's key texts: the *Prologue* to his *Ordinatio*. Ockham is concerned here with the structure<sup>4</sup> of acts of

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<sup>1</sup> André Goddu, *The Physics of William of Ockham. Studien und Texte zur Geistesgeschichte des Mittelalters* 16 (Leiden 1984), p. 217.

<sup>2</sup> Marilyn McCord Adams, "Intuitive Cognition, Certainty, and Scepticism in William Ockham", *Traditio* 26 (1970), pp. 389-398. See p. 394.

<sup>3</sup> In her definition of scepticism, she follows Etienne Gilson, "The Road to Scepticism", in *The Unity of Philosophical Experience* (New York 1937), pp. 61-91, and A. C. Pegis, "Concerning William of Ockham", *Traditio* 2 (1944), pp. 465-480.

<sup>4</sup> Cf. John Boler, "Ockham on Evident Cognition", *Franciscan Studies* NS 36 (1976), pp. 85-98. See p. 86: "the doctrine of intuitive cognition depends upon an analysis of the

assent (specifically with evident assent to theological propositions, but more generally with evident assent to propositions in general.) He is not here interested in the evident assent which belongs to science (i.e. that which comes from knowledge of first principles and the like;<sup>5</sup> such principles are known when the terms occurring in them are known - in fact, Ockham refers to a passage in Aristotle which contains the statement "We know principles in that we know their terms".<sup>6</sup> However, the sort of evident assent that Ockham is concerned with will be *like* knowledge of first principles in that it is knowledge of propositions (*complexa*) which is able to be caused simply by (a certain sort of) knowledge of their terms (*incomplexa*).<sup>7</sup> The sort of knowledge of terms is called intuitive knowledge (*notitia intuitiva*), by contrast with abstractive knowledge (*notitia abstractiva*).<sup>8</sup>

I shall call this Ockham's *broad* definition of intuitive knowledge of terms. It is a rather general definition, and it applies - as Ockham sees it - to a variety of cases. Firstly, it extends to the sort of knowledge of empirical facts which someone has when looking at Socrates and being able to judge on that basis that Socrates is white.<sup>9</sup>

... if someone intuitively sees Socrates and whiteness existing in Socrates, then (s)he can know evidently that Socrates is white.

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structure of thought."

<sup>5</sup> Ockham, *Sent. Prol.* qu. 1, *Opera Theologica* I, ed. G. Gál, S. Brown (St. Bonaventure NY 1967), p. 6:

"Si dicatur quod notitia evidens veritatis contingentis nunquam causatur sufficienter ex notitia incomplexa terminorum, quia tunc sciretur cognitio terminis. Sed omne tale est principium per se notum, secundum Philosophum I *Posteriorum* [c. 3 t. 21, 72<sup>b</sup> 18-26]. Sed nulla veritas contingens est per se nota; igitur etc.:

Dicendum quod propositio per se nota est illa quae scitur evidenter ex quacumque notitia terminorum ipsius propositionis, sive abstractiva sive intuitiva. Sed de propositione contingente non est hoc possibile ..."

<sup>6</sup> "Principia cognoscimus in quantum terminos cognoscimus." *Post. Anal.* c. 3 t. 21, 72<sup>b</sup> 18-26.

<sup>7</sup> "Notitia evidens est cognitio alicuius veri complexi, ex notitia terminorum incomplexa immediate vel mediate nata sufficienter causari." Ockham, *Sent. Prol.* qu. 1, O.Th. I, p. 5.

<sup>8</sup> The existence of such a distinction is *Conclusio* 1 of qu. 1 (Ockham, *ibid.* p. 15); this is proved in Ockham, *ibid.* pp. 22-30.

<sup>9</sup> "...si aliquis videat intuitive Sortem et albedinem existentem in Sorte, potest evidenter scire quod Sortes est albus." Ockham, *Sent. Prol.* qu. 1, O.Th. I, p. 6.

Secondly, it applies to much introspective knowledge that we have:<sup>10</sup> our knowledge that we understand something, that we love, are happy or are sad is evident knowledge, is of a contingent fact, and thus - argues Ockham - must be due to *notitia intuitiva* that we have of our own mental states. (This is to be interpreted in the technical way described above; such mental states are things - *intellectiones, affectiones, delectationes, tristitiae et huiusmodi* - and the *notitia intuitiva* is associated with terms - *incomplexa* - referring to these things.)

And, in his polemics against Scotus, Ockham seems to insist on precisely *this* property of intuitive cognition - that it guarantees knowledge of the propositions that it occurs in. But we can also see now the point of certain objections that Ockham made to Scotus' characterisation of the distinction:

- (1) When Scotus said that intuitive knowledge has to do with the object "under a complete description" (*sub perfecta ratione*), whereas abstractive knowledge only has to do with the object "according to some diminished similitude".<sup>11</sup> Ockham objects to this that, according to whatever description one refers to anything, one can doubt whether that thing exist or not - and, consequently, it must be possible to know something abstractively under that description.<sup>12</sup>
- (2) When Scotus said that, in intuitive knowledge, the thing itself is the motive, whereas in abstractive knowledge it is some

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<sup>10</sup> "... omne intelligibile quod est a solo intellectu apprehensibile et nullo modo sensibile, cuius aliqua notitia incomplexa sufficit ad notitiam evidentiam alicuius veritatis contingentis de eo et aliqua notitia incomplexa eiusdem non sufficit, potest cognosci ab intellectu duabus cognitionibus specie distinctis. Sed intellectiones, affectiones, delectationes, tristitiae et huiusmodi sunt intelligibiles et nullo modo sensibiles, et aliqua notitia incomplexa earum sufficit ad notitia evidentem utrum sint vel non sint, et utrum sint in tali subiecto vel non, et aliqua notitia earundem non sufficit; igitur etc. Minor quantum ad primum partem patet, quia quilibet experitur in se quod intelligit, diligit, delectatur, tristatur; et ista notitia, cum sit respectu contingentis, non potest accipi ex propositionibus necessariis." Ockham, *Sent. Prol.* qu. 1, O.Th. I, p. 28.

<sup>11</sup> Scotus, *Quodl.* qu. 6 n. 8; ed. Wadding, XII, 145; ed. and tr. Wolter, pp. 135f. Cf. Ockham, *Sent. Prol.* O.Th. I, p. 34.

<sup>12</sup> Ockham, *Sent. Prol.* O.Th. I, pp. 36f. Cf. Gareth Evans, *The Varieties of Reference* (Oxford 1982), p. 219: "... the property of being immune to error through misidentification [which corresponds to Ockham's *notitia intuitiva* of a term] is not one which applies to propositions *simpliciter*, but one which applies only to judgments made on this or that basis. Once we appreciate this relativity to a basis, which arguably must be taken into account in the case of mental self-ascription as well, the fact that there are cases involving the self-ascription of physical predicates in which 'the possibility of error has been provided for' [these correspond to Ockham's *notitia abstractiva*] will be seen not to impugn the fact that there are cases in which it just as clearly has not."

representative of the thing.<sup>13</sup> Ockham objects to this that whatever comes about by natural causality can be brought about by God acting directly; God can thus bring about such an intuitive knowledge of things without the things acting.<sup>14</sup> And Ockham at one point talks of God bringing about intuitive knowledge of something located at Rome (presumably when he is away from Rome.)<sup>15</sup>

So far so good. A modern philosopher may have a few reservations about describing mental states as things, and describing psychological language as referential *tout court*, but otherwise John Boler seems to be more or less on track when he remarks, citing Jerry Fodor, that<sup>16</sup>

... I think Ockham's enterprise [could] be ... fruitfully compared to those recent studies which claim some relation between logical form and linguistic structure, and between those and cognitive psychology.

And all Ockham has surely done is to analyse certain propositions - 'Socrates is white', 'I am happy' - and to claim that, if we analyse the way that we deal with such propositions there must be different mental attitudes (let us say) corresponding to the terms; these mental attitudes give us, for each term, a grasp of the corresponding object. Very similar distinctions have been made by Gareth Evans when he talks about personal pronouns; he calls the mental attitudes corresponding to terms "Ideas".<sup>17</sup> Now in Ockham's analysis, there are two ways of having a grasp of objects, corresponding to whether or not we know the relevant proposition evidently; so, too, in Evans' theory, there are two sorts of knowledge that we can have of propositions such as 'My legs are crossed'

<sup>13</sup> Scotus, *Quodl.* qu. 13, n. 10; ed Wadding, XII, p. 311; ed. and tr. Wolter, p. 292. Cf. Ockham, *Sent. Prol.* O.Th. I, p. 34.

<sup>14</sup> Ockham, *Sent. Prol.* O.Th. I, p. 37.

<sup>15</sup> Ockham, II *Sent.* qq. 12/13, O.Th. V, ed. G. Gál, R. Wood (St. Bonaventure NY 1981), p. 258: "Sic igitur patet quod per cognitio intuitivam iudicamus rem esse quando est, et hoc generaliter sive intuitiva cognitio naturaliter causetur sive supernaturaliter a solo Deo. Nam si naturaliter causaretur, tunc non potest esse nisi obiectum existat praesens in debito approximatione, quia tanta potest esse distantia inter obiectum et potentiam quod naturaliter non potest potentia tale obiectum intueri. Et quando obiectum est sic praesens tali modo approximatum, potest intellectus per actum assentiendi iudicare rem esse, modo praedicto. Si autem sit supernaturalis, puta si Deus causaret in me cognitionem intuitivam de aliqua obiecto existente Romae, statim habita cognitione eius intuitiva possum iudicare quod illud quod intueor et video est, ita bene sicut si illa cognitio haberetur naturaliter." Ockham does say elsewhere that "in cognitione intuitiva [obiectum] est praesens in se"; II *Sent.* 12/13, O.Th. V, p. 310.

<sup>16</sup> J. Boler, "Ockham on Evident Cognition", p. 86; he cites J. Fodor, *The Language of Thought* (New York, 1975).

<sup>17</sup> Evans, *The Varieties of Reference*, p. 104.



(evident or non-evident); this corresponding precisely to two different uses of the first person pronoun.<sup>18</sup> And these two uses will differ precisely in whether the utterances they are used in are grounded by other propositions or not; this establishes a continuity between these concerns and Adams' analysis of Ockham's position.<sup>19</sup>

However, things are not as simple as that. It is possible, and illuminating to say that<sup>20</sup>

... the doctrine of intuitive cognition depends on an analysis of the structure of thought, an analysis which is controlled directly not by any observation of the parade of cognitive activity but rather by the demands of the analysis of propositions.

It is maybe even true. And Ockham himself says something very similar when he says:<sup>21</sup>

... a concept is given so that it corresponds to utterances, so that, just as something is understood by an external utterance, so [it is understood] by the concept signified [by the utterance].

However, the continuities that this analysis establishes, between Ockham's thought and modern philosophy of mind, are entirely of one sort; they are to do, that is, with the functional role of language, mental attitudes, and the like. Now there are two sides to the philosophy of mind; on the one hand, you have to talk about the functional role of the various theoretical entities that you use. On the other hand, you have to tell certain causal stories which describe how our brains (or our souls) actually do the stuff. And the work that I have just described ignores another ingredient in Ockham's theory, besides the analysis of propositions; it ignores, that is, Ockham's ontology and his physics. My claim is that it is these which give Ockham's theory some of its most distinctive features, and which are responsible for its major difficulties and peculiarities.

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<sup>18</sup> Evans, *The Varieties of Reference*, pp. 215-220. Cf. Sidney Shoemaker, "Self-Reference and Self-Awareness", in S. Shoemaker, *Identity, Cause and Mind* (Cambridge 1984), pp. 6-18; and Ludwig Wittgenstein, *The Blue and Brown Books* (Blackwell, Oxford 1958), pp. 66-7.

<sup>19</sup> Adams, "Intuitive Cognition in Ockham", p. 393.

<sup>20</sup> J. Boler, "Ockham on Evident Cognition", p. 86.

<sup>21</sup> "... conceptus ponitur ut correspondeat vocibus, ut sicut aliquid intelligeretur prolata voce et concepto suo significato." Ockham, *Questione in Libros Physicorum Aristotelis* qu. 5, ed. Stephen Brown, *Opera Philosophica VI* (St. Bonaventure NY 1984), p. 405. (Cf. Ockham, *Exp. Periherm.* I, Proem, §4, O.Ph. II, pp. 349f.)

### 1.1 Logical Atomism

Now Ockham began this *quaestio*, as I have described, by defining what evident assent to a proposition was; it is assent that is caused solely and immediately by (a certain sort of) knowledge of the terms of that proposition. Now this definition is not, at this stage, biased in favour of any particular analysis of the proposition in question. One could, for example, very well introduce the distinction in the way that Gareth Evans does: in Evans' terms, such knowledge is not identification-dependent; thus, knowledge that 'a is F' is not the result of knowledge that 'b is F' and that 'a is b'. But Evans' work differs from Ockham's in two ways; firstly, it is done in terms of a subject-predicate analysis of the propositions that he is interested in;<sup>22</sup> secondly, he does not talk, as does Ockham, of knowledge being *caused* by other pieces of knowledge<sup>23</sup> - Evans talks, rather, of propositions being deduced from, or grounded on, others.

However, elsewhere Ockham imports a bias in his definition of intuitive knowledge of terms (this is, remember, just that knowledge of terms that causes evident assent to the propositions that they occur in). He defines it as follows:<sup>24</sup>

... intuitive knowledge of a thing is such knowledge by virtue of which it can be known whether the thing exists or not, in such a way that if the thing exists, the intellect always judges that it exists and evidently knows that it exists, unless perhaps it is impeded because of an imperfection of that knowledge. And, in the same way, if a perfect such knowledge were conserved, by divine power, when the thing did not exist, by virtue of that knowledge of a term [*notitia incomplexa*] it would evidently be known that the thing did not exist."

Now this is, on the face of it, a restriction on the analysis of propositions that the term can occur in; if we have intuitive knowledge of a term *a*, then, according to Ockham's broad definition, this should guarantee knowledge of a whole variety of propositions with *a* occurring

<sup>22</sup> Evans, *The Varieties of Reference*, pp. 180ff.

<sup>23</sup> Note that Ockham explicitly talks of *efficient* causality in this context; "notitia praemissorum est causa notitiae conclusionis" (Ockham, *Sent. Prol.* qu. 8; O.Th. I, p. 222). Furthermore, he defines *per se notae* propositions in this way; "propositio per se nota cognoscitur ex notitia terminorum" (*Sent. Prol.* qu. 2, O.Th. I, p. 81), as well as the idea of a knowable proposition; "de ratione propositionis scibilis est quod eius notitia possit causari ex notitia principiorum" (*ibid.*, p. 82).

<sup>24</sup> Ockham, *Sent. Prol.* qu. 1; O.Th. I, p. 31.

in them. In actual fact, though, Ockham only talks about two propositions; 'a exists' and 'a does not exist'.<sup>25</sup> (And, in fact, only the former applies in the normal course of events.) Let us call this Ockham's narrow definition of intuitive knowledge of a term. He adds to it (as an extension? a corollary? it is not quite clear) that<sup>26</sup>

Similarly, intuitive knowledge is such that, when several things are known of which one inheres in the other, or one is spatially distant from the other, or is related to the other in some other way, then always, by virtue of that knowledge of terms [corresponding to] those things, it is known if the things inhere in each other or not, if they are distant from each other or not, and so on for other contingent truths ... Thus, if Socrates is, in fact, white, that knowledge of Socrates and of whiteness, by virtue of which it can evidently be known that Socrates is white, is called intuitive knowledge. And generally every knowledge of terms ... by virtue of which some contingent truth can evidently be known ... is intuitive knowledge.

Ockham thus seems to be sliding between the narrow definition and the broad definition. There are probably several reasons for this. One is that Scotus originally defined intuitive cognition by saying that it was "per se of existence, and it attains the object in its own actual existence."<sup>27</sup> This is one factor; the fact that intuitive cognition was

<sup>25</sup> This is not simply an isolated oversight; in Ockham, II *Sent.* qq. 12/13, O.Th. V, we have: "[cognitia] intuitiva est illa mediante qua cognoscitur res esse quando est, et non esse quando non est" (p. 256); and *ibid.*: "in quolibet sensu, qui habet aliquam cognitionem virtute cuius potest cognoscere rem esse quando est et non esse quando non est, est cognitio intuitiva et experimentalis. Quia illa est cognitio intuitiva per quam sic cognosco rem esse vel non esse". (pp. 268f.) See also *ibid.*, pp. 286f.

<sup>26</sup> "Similiter, notitia intuitiva est talis quod quando aliquae res cognoscuntur quarum una inhaeret alteri vel una distat loco ab altera vel alio modo se habet ad alteram, statim virtute illius notitiae incomplexae illarum rerum scitur si res inhaeret vel non inhaeret, si distat vel non distat, et sic de aliis veritatibus contingentibus ... Sicut si Sortes in rei veritate sit albus, illa notitia Sortis et albedinis virtute cuius potest evidenter cognosci quod Sortes est albus, dicitur notitia intuitiva. Et universaliter omnis notitia incomplexa termini vel terminorum ... virtute cuius potest evidenter cognosci aliqua veritas contingens ... est notitia intuitiva." Ockham, *Sent. Prol.* qu. 1, O.Th. I, pp. 31f.

Similarly, immediately after the passage from II *Sent.* cited above (n. 25), there is a very similar analysis of the proposition 'corpus est album'; this is introduced with 'quia', so it seems as if it is supposed to follow from the definition in terms of existence and non-existence. (Nothing of the sort is added after the second passage referred to there.) And in IV *Sent.* qu. 2 there is the claim that "... per cognitionem alicuius accidentis absoluti devenitur in cognitionem subiecti"; O.Th. VII (St. Bonaventure NY 1984), p. 23. There is no indication of whether this happens necessarily, or only in the normal course of events.

<sup>27</sup> Scotus, *Quodl.* 13; Vivès XXV:521. Cf. Katherine M. Tachau, "The Response to Ockham's and Aureol's Epistemology (1320-1340)", in Alfonso Maierù (ed.), *English Logic in Italy in the 14<sup>th</sup> and 15<sup>th</sup> Centuries* (Naples 1982), pp. 185-217. See p. 192.

designed, initially, to solve the problem of knowledge of existence. Another factor is the shape of Ockham's semantics and ontology, according to which many propositions are logically equivalent to propositions which assert that a certain relation holds between a set of terms. Now this corresponds to a very important strain in Ockham's thought; as Goddu rather vigorously summarises his views,<sup>28</sup>

Ockham's philosophy of nature ... reduced natural phenomena to absolute existences and their functions, [and] prescribed the expression of relations, acts, and events functionally.

Now this is rather problematic. For example, it leads to an analysis of the proposition 'I am happy' into a proposition asserting that there is a happiness which inheres in me; and, as we have seen,<sup>29</sup> Ockham was quite willing to talk in such terms, and correspondingly, to describe our knowledge of our mental states in terms of intuitive knowledge of such things as happinesses. However, those of us who have read Wittgenstein will probably find such reification disturbing.

This semantic assumption, however, explains how Ockham could slip so easily between the broad and the narrow definitions. Since his semantics treated individuals so prominently, it explains why he was so interested in the intuitive knowledge of referential terms, and why he was mainly interested in one particular sort of proposition: a proposition asserting the existence, or non-existence, of an individual. We will return to this later; it has to do with the narrow definition of intuitive knowledge.

### 1.2 *The Razor at Work*

However, there is one of Ockham's objections to Scotus which seems much more problematic, and which has attained some notoriety. When Scotus says that intuitive knowledge can only be of existent, present objects,<sup>30</sup> Ockham objects to this that intuitive knowledge is a *mental capacity*, and its object (the thing the term refers to) cannot be one of its essential causes. It can therefore continue to exist with the thing

<sup>28</sup> Goddu, *The Physics of William of Ockham*, p. 236.

<sup>29</sup> Above, p. 2.

<sup>30</sup> Scotus, *Opus Oxoniense* II dist. 3 pars 2 qu. 2 nn. 318-322 (ed. Vaticana 1973), pp. 552f. (Vivès qu. 9 n. 6.) Cf. Ockham, *Sent. Prol.*, O.Th. I, p. 33.



destroyed; we can therefore have intuitive knowledge of nonexistent objects.<sup>31</sup>

Now there are two separate things here that may seem problematic, only one of which is, I think, genuinely so. The first is the very idea that we can have intuitive knowledge of nonexistent objects *at all*. Now if we think of this in terms of Ockham's *broad* definition of intuitive knowledge, this will lead us to give an abstract definition of intuitive knowledge in terms of a functional role; but a functional role is something which is manifested when the term occurs in a range of propositions; and here this range of propositions seems to include the proposition '*a* does not exist'. Now *in the normal course of events*, we have intuitive knowledge of *a* when we stand in certain causal relations to it (when we can see it, and so on). Thus, the empirical realities of the way that we have intuitive knowledge rule out the semantic possibility that we could have intuitive knowledge when *a* figured in a proposition of *this* particular form. However, there is nothing to prevent God bringing it about by direct divine causality that we *could* have intuitive knowledge of nonexistents - just as we could, by divine causality, have intuitive knowledge of what is going on in Rome, even though there are no causal chains of the usual sort between Rome and us. This is one of the apparently problematic things about the intuitive knowledge of nonexistents; and Ockham lets himself in for it simply because he gives a very general definition of intuitive knowledge (that is, that it is knowledge of some component of a proposition which is suitable for causing evident knowledge of the truth of propositions containing the component in question), and because he does not specify any particular causal story about how this knowledge should arise. I also suspect that Ockham talks so much about intuitive knowledge of nonexistents because existence assertions are so prominent in his semantics *anyway*, so that if he wanted to establish a clear difference from Scotus, since Scotus would not have found the intuitive knowledge of existence problematic, Ockham had to commit himself firmly to the intuitive knowledge of nonexistence.

In fact, one of the major differences between Ockham and his contemporaries seems to be that his contemporaries would define intuitive and abstractive cognition *case by case*, in terms of such things as the presence or absence of the object; e.g. Richard Campsall says that the

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<sup>31</sup> Ockham, *Sent. Prol.*, O.Th. I, pp. 35f. There is an extensive treatment of this argument in A. Goddu, *The Physics of William of Ockham*, pp. 32-51.



same mental entity is intuitive cognition when the object is present, and abstractive cognition when it is absent.<sup>32</sup>

However, there is something genuinely problematic about Ockham's position, and that is the way that he argues for it. He says:<sup>33</sup>

... every absolute thing, different in place and subject from some other absolute thing, can, by absolute divine power, exist without the latter thing (since it does not seem likely that, if God wanted to destroy one absolute thing existing in the sky, that (s)he would necessarily have to destroy another thing existing on the earth.) But intuitive vision - sensitive or intellectual - is an absolute thing, distinct in place and subject from its object. Just as, if I see intuitively a star existing in the sky, that intuitive vision - whether sensitive or intellectual - is distinct in place and subject from the object seen; therefore, that vision can remain, with the star destroyed; therefore, etc.

What is problematic here is simply that Ockham thinks of the vision, or, generally, the intuitive knowledge corresponding to a term, as an absolute thing,<sup>34</sup> which is located in the knower's mind.<sup>35</sup> And, more generally, Ockham talks of mental entities ("*intellectiones*") which *naturally supposit* for their objects.<sup>36</sup> And Ockham seems to just *assume* that, when this *res absoluta* is held constant, its functional role (to guarantee knowledge of propositions that it occurs in) is also held constant. A modern philosopher - for example, Evans - who is willing to talk of the grasp of propositional components in the same sort of way that Ockham is, and who is willing to talk of certainty in the same sort

<sup>32</sup> Katherine M. Tachau, "The Influence of Richard Campsall on Fourteenth-Century Oxford Thought", in Anne Hudson, Michael Wilks (eds.), *From Ockham to Wyclif; Studies in Church History, Subsidia 5* (Blackwell, Oxford 1987), p. 112.

<sup>33</sup> "...omnis res absoluta, distincta loco et subiecto ab alia re absoluta, potest per divinam potentiam absolutam existere sine illa, quia non videtur verisimile quod si Deus vult destruere unam rem absolutam existentem in caelo quod necessitetur destruere unam aliam rem existentem in terra. Sed visio intuitiva, tam sensitiva quam intellectiva, est res absoluta, distincta loco et subiecto ab obiecto. Sicut si videam intuitive stellam existentem in caelo, illa visio intuitiva, sive sit sensitiva sive intellectiva, distinguitur loco et subiecto ab obiecto viso; igitur ista visio potest manere stella destructa; igitur etc." Ockham, *Sent. Prolog.* qu. 1, O.Th. I, pp. 38f.

<sup>34</sup> Cf. A. Goddu, *The Physics of William of Ockham*, pp. 30f.

<sup>35</sup> One should be careful, however, to notice that, for Ockham, something intellectual does not *per se* have a physical location; it is "subiective in intellectu, non extensive in aliquo composito sive organo corporali" (II *Sent.* qq. 12/13, O.Th. V, p. 285). Correspondingly, "Anima enim per accidens est in loco, quia corpus est in loco" (*Expositio in Libros Physicorum* IV cap. 8 §3, t. 45 212<sup>b</sup>7-13, O.Ph. V, p. 100).

<sup>36</sup> Ockham, *Quaestiones physicorum* qu. 7, O.Ph. VI, p. 411: "Et ita sicut vox supponit ex institutione pro suo significato, ita ista intellectio supponit naturaliter pro re cuius est."

of way, would probably be much more reticent about talking of intuitive knowledge as a *thing* in this sense. In fact, such an intuitive grasp of propositional components would - in the normal case - involve the functioning of suitable causal chains from the object to the knower, and if the object, or the causal chains were destroyed, then the grasp would also go. Such an "intuitive grasp", then, is not really located in someone's head. This is an objection which was already made by Godfrey of Fontaines.<sup>37</sup>

### 1.2.1 Action at a Distance

However, we should notice that there is still a strong element of causal explanation in Ockham's theory. One of the crucial factors is that he believed in action at a distance;<sup>38</sup> he cited in this connection the propagation of light - which does not happen by means of *species* in the medium<sup>39</sup> - and the action of magnets.<sup>40</sup> Furthermore, certain animal-e.g. lynxes - can see through walls, and this too is to be explained by means of action at a distance.<sup>41</sup> In this connection, one can even talk of intuitive *vision* of a distant object, brought about by divine power, and without anything caused between me and the object.<sup>42</sup>

Now when Ockham talks of a *notitia intuitiva*, this is something which fulfills a certain functional role: namely, it causes evident cognitions of the existence of the object when it exists, and of its

<sup>37</sup> Rega Wood, "Intuitive Cognition and Divine Omnipotence: Ockham in Fourteenth-Century Perspective", in Anne Hudson, Michael Wilks (eds.), *From Ockham to Wyclif*, pp. 51-61.

<sup>38</sup> Ockham, III *Sent.* qu. 2, O.Th. VI (St. Bonaventure NY 1982), pp. 48-58.

<sup>39</sup> Although sometimes the light source causes illumination of the medium: "... aliquando causatur aliquid a colore in medio, sicut prius dictum est ... Sed quando est et quando non, difficile est dare experientiam in visu..." Ockham, III *Sent.* qu. 2, O.Th. VI, p. 81.

<sup>40</sup> "Tertia experientia est de magnete, qui secundum Commentatorem, commento 9, trahit ferrum distans ab eo localiter: trahit, dico, immediate et non virtute aliqua in medio vel in ferro." Ockham, III *Sent.* qu. 2, O.Th. VI, p. 53.

<sup>41</sup> "... aliquod animal videt per medium opacem, sicut patet de lynce qui videt per murum, et illud medium non recipit speciem aliquam, igitur etc." Ockham, III *Sent.* qu. 2, O.Th. VI, p. 81.

<sup>42</sup> "... objectum distans ab angelo et a me potest intuitive videri ab angelo et a me, etiam si per potentiam divinam objectum nihil causet in medio, nec speciem nec cognitionem." Ockham, III *Sent.* qu. 2, O.Th. VI, pp. 55f.

nonexistence when it does not exist. And there are relevant causal stories to be told in each case: "the judgment of existence is caused by the cognition together with the object, while the judgment of nonexistence is caused by the cognition in the absence of its object."<sup>43</sup> Thus, we have an entity which fulfills a certain functional role, and a causal story about how it does it; the difference from the modern theory is this, that nowadays one talks about information propagating through the physical environment by means of physical processes, whereas Ockham talked of things acting directly at a distance.

Now if one asked him why *this* intuitive cognition was a cognition of *this* object, he would have a story about similitude to tell.<sup>44</sup> And Ockham talks about representation quite generally in terms of similitude; for example, representation is transitive because similitude is.<sup>45</sup> Ockham had clearly not read Nelson Goodman. And since, quite generally, causation is of like by like,<sup>46</sup> as is representation, this brings the semantic and causal categories very close to one another, in Ockham's view. *Thus* he can talk of knowledge of the premises of an argument being the efficient cause of the knowledge of the conclusion, he can talk of the first principles as being those propositions knowledge of whose terms causes assent to the proposition, and of a demonstration being the cause of assent to its conclusion (so that one cannot demonstrate principles; one already assents to them when one knows their terms.)

## 2. Hume

Let us now think about Hume. Why was Hume a sceptic? Well, he had a project of basing a philosophical methodology upon a "science of man", and such a science of man would have, as a major component, a theory of associative relations by which the mind constructed thoughts and

<sup>43</sup> Rega Wood, "Intuitive Cognition and Divine Omnipotence", pp. 51-61.

<sup>44</sup> "... anima est quoddammodo omnia per cognitionem omnium. Nam per cognitionem sensitivam est omnia sensibilia et per cognitionem intellectivam omnia intelligibilia. Et utraque cognitio est ita perfecta similitudo obiecti et perfectio quam species [intelligibilis]." Ockham, II *Sent.* qq. 12/13, O.Th. V, p. 309. Cf. M. Adams, in the *Cambridge History of Later Medieval Philosophy* (Cambridge 1982), p. 439; K.M. Tachau, "Richard Campsall", p. 121.

<sup>45</sup> Ockham, II *Sent.* qq. 12/13, O.Th. V, p. 304.

<sup>46</sup> Ockham, II *Sent.* qq. 12/13, O.Th. V, p. 287f.

theories out of the ideas presented to it.<sup>47</sup> And, because his "science of man" was constructed in the way it was, he thought he had a grasp of the causal mechanisms underlying the functioning of the mind which (although not complete) was enough to undermine the usual views of common sense. Thus, one's causal theory of the mind has to have a certain sort of autonomy for one to be a Humean; causal explanations pursue their own way through the world, and do not satisfy the requirements of grounding propositions.

Not so for Ockham. Although he does talk of causal mechanisms, they do not seem to figure in his theory in their own right; they mostly seem to be postulated in order to implement whatever interesting semantic facts he has discovered. He does not, as Tachau remarks, seem very interested in "the physics, psychology, or mathematics of vision".<sup>48</sup> And because of this disinterest, even though he assumed a rather naive psychological parallelism, the causal mechanisms that he proposed were so flexible that he ended up as what one can only describe as a Wittgenstinian *malgré lui*; the significant factor in his philosophy of mind is given by the propositional and semantic component, not by the causal mechanisms.

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<sup>47</sup> Cf. J. Passmore, *Hume's Intentions* (London 1980), p. 106.

<sup>48</sup> Tachau, "Response", p. 198.

JOHN F. WIPPEL

Thomas of Sutton on Divine Knowledge of Future Contingents  
(Quodlibet II, qu. 5)

While the date of Thomas Sutton's Quodlibet II is still uncertain, it clearly comes some time after the death of Thomas Aquinas. It also comes after the criticism of Aquinas's views concerning divine knowledge of future contingents by William of la Mare in the latter's *Correctorium*. Moreover, Sutton's treatment of this issue presupposes that he is familiar with Henry of Ghent's theory of essential being (*esse essentiae*). This would suggest that Sutton's Quodlibet should date some time from within the 1280s, or as other indications suggest, in the 1290s.<sup>1</sup> It is not my intention here to attempt to settle the question of the exact dating of Sutton's Quodlibet, but rather to turn to him as one representative of the English Dominican school who was strongly influenced by the views of Thomas Aquinas. This should be useful in enabling us to determine Sutton's personal views concerning divine knowledge of future contingents, and his understanding and application of Aquinas's position.

As regards Aquinas's position, medieval, renaissance, and twentieth-century interpreters have differed with respect to one issue in particular. On Aquinas's account, is it by reason of their eternal presence to God

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<sup>1</sup> For detailed discussion of conflicting opinions concerning the dating of Sutton's first two quodlibets see the Introduction to M. Schmaus's edition of Sutton's *Quodlibeta* (Munich, 1969), pp. xvi-xxii (as early as 1284-1285 or as late as the mid-1290s). Schmaus's remark that Sutton's Quodlibet I, qu. 14 is refuted by Godfrey of Fontaines' Quodlibet VII, qu. 9 (of 1290, or possibly 1291/1292, as I have suggested elsewhere) is highly questionable, it seems to me. The alleged reference by Godfrey need not be to Sutton. But Schmaus is correct in noting how difficult it is to arrive at any exact dating for these first two Quodlibets, and in his acknowledgment that any of these proposed datings seems to be too early if Sutton only became a Master in Theology in 1299/1300 (see p. xix, commenting on Glorieux). For a strong defense of an early dating for Sutton's becoming a Master and for Quodlibet I, i.e., 1284 or before, see F. Kelley, Introduction to his edition of *Expositionis D. Thomae Aquinatis in Libros Aristotelis De generatione et corruptione. Continuatio per Thomam de Suttona* (Munich, 1976), pp. 1-31. For critical reaction to this and defense of a later dating see J. Schneider, Introduction to his ed. of Sutton's *Quaestiones Ordinariae* (Munich, 1977), pp. 44-57.



that he knows future contingents? Or is it rather by reason of God's awareness of the eternal decrees of his will concerning such contingents that he knows them?<sup>2</sup>

In Quodlibet II, qu. 5, the following question was posed for Sutton: Did God have from eternity (*ab aeterno*) certain knowledge of future contingents insofar as they are contingents?<sup>3</sup> Sutton comments that the question has been properly phrased since the reduplication - "insofar as they are contingents" - is crucial. Without the reduplication, the question would pose little difficulty; even what is contingent can be known not only by God but by us once it has been realized in actuality. Thus the fact that you are now sitting is contingent. Even so, anyone here can be certain of this simply by using his eyes. Hence, once such a contingent event is realized in actuality, it is not undetermined but necessary in the sense that while one is sitting, it is necessary for him to be sitting. When something is viewed as future and as contingent, however, it is not yet determined to one side or the other. Therefore, when it is so viewed, it cannot be known with certainty. Hence it seems to remain in doubt whether even God can know such a contingent as contingent. It is clear, continues Sutton, that no created intellect can do so; for then it could only know such a contingent as it exists in its causes. And these causes may be impeded from producing their effect.<sup>4</sup>

Sutton now begins to develop his reply by arguing that God knows all future contingents insofar as they are in their causes. But God knows them with certainty and from eternity. This is because God's knowledge is measured by eternity just as is his being. But eternity is *tota simul* and nonetheless contains the whole of time. Therefore all things which are in time or in any part of time are always present to God, and were so present from eternity. Hence Sutton reasons that the divine vision bears

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<sup>2</sup> For differences among recent interpreters of Aquinas concerning this see J. Groblicki, *De scientia Dei futurorum contingentium secundum S. Thomam eiusque primos sequaces* (Krakow, 1938), pp. 7-10. For this in classical commentators on Thomas see F. Schmitt, *Die Lehre des hl. Thomas von Aquin vom göttlichen Wissen des Zukünftig Kontingenten bei seinen grossen Kommentatoren* (Nijmegen, 1950), especially pp. 196-202.

<sup>3</sup> Schmaus ed., p. 202. "...utrum deus ab aeterno habuit certam cognitionem futurorum contingentium, secundum quod contingentia sunt."

<sup>4</sup> *Ed. cit.*, pp. 202-03.

upon all such things from eternity (*ab aeterno*) even though they take place only in the course of time.<sup>5</sup>

Moreover, Sutton continues, it is not only the essences of such things but their actual existences which are known by God from eternity as present to himself. Therefore, even when such a contingent exists only in its cause, its coming forth from its cause is still present to God's knowledge and, in fact, is as present before it comes forth from its cause as when it actually does so. Hence, argues Sutton, any such future contingent is known by God with the same degree of certainty when it is still future in itself as when it is actually realized in itself in time. This is because God's knowledge bears upon any such future contingent when it is still future for us as upon that which is present to himself.<sup>6</sup> In support of this Sutton turns to the well known view of Boethius as set forth in his *Consolation of Philosophy*, V. This follows, Sutton continues, because for God there is no past or future.<sup>7</sup>

Then Sutton issues a warning. Even though all things have been present to God from eternity in terms of their actual existence, it does not follow from this that they have actually existed in themselves from eternity.<sup>8</sup> Here the reader is reminded of an objection raised by William of la Mare against the position of Thomas Aquinas, and of Henry of Ghent's effort to avoid being driven to this same conclusion. The point of the objection is this: if things are eternally present to God, they must have actually existed from eternity.<sup>9</sup> Sutton counters that for something to be said to be present to God's knowledge from eternity, it is enough

<sup>5</sup> *Ibid.*, p. 203. See especially: "...et ideo omnia, quae sunt in toto tempore vel quacumque parte eius, semper sunt deo praesentia et ab aeterno fuerunt...."

<sup>6</sup> *Ed. cit.*, pp. 203-04.

<sup>7</sup> For Boethius see *The Theological Tractates. The Consolation of Philosophy*, by H.F. Stewart, E.K. Rand, S.J. Tester (Cambridge, Mass., 1978), Bk V, 6, p. 426:77-80, 61-66. Sutton also cites Augustine. See *De civitate Dei* XI, c. 21 (CSEL 40.1, p. 541).

<sup>8</sup> *Ed. cit.*, p. 205.

<sup>9</sup> See William's criticism of Aquinas's ST I, q. 14, a. 13 in his *Correctorium*. See *Les premières polémiques thomistes: I. - Le Correctorium 'Quare'*, ed. by P. Glorieux (Le Saulchoir, Kain, Belgium, 1927), p. 18. While the date of this work has been disputed for some time, the general consensus now is that it falls ca. 1278-1279. See R. Wielockx, *Aegidii Romani opera omnia III.I. Apologia* (Florence, 1985), p. 39, n. 68, for the important references, and especially V. Heynck, "Zur Datierung des 'Correctorium fratris Thomae' Wilhelms de la Mare," *Franziskanische Studien* 49 (1967), pp. 1-21. For Henry see *Quodlibet VIII*, qu. 2 (Paris, 1518), fol. 303v. For discussion see my *Meta-physical Themes in Thomas Aquinas* (Washington, D.C., 1984), pp. 267-70.

for it to enjoy actual existence at any point in time. This is so because God's present is eternal and admits of no transition from past through present to future. It embraces all of time. Once more Sutton finds support from other texts in Boethius's *Consolation*.<sup>10</sup>

Here Sutton has made a helpful point. If something never enjoys actual existence in itself, it will not be viewed by God as actually existing in itself. This precision should enable Sutton to distinguish between God's knowledge of any contingent, whether past or present or future when viewed in itself, and God's knowledge of pure possibles which are never realized in actuality. Thus Sutton can hold that to say that something is present to God from eternity in terms of its existence (*esse*) is not the same as to say that it enjoys actual existence from eternity. This point was not granted by William of la Mare in his critique of Aquinas, though it is one that Henry of Ghent had attempted to defend in meeting William's challenge.<sup>11</sup>

As Sutton continues, something may be present to God in terms of its existence when it does not now actually exist in itself; for the divine present exceeds all time. This means that the divine present contains both that time in which the contingent exists and that in which it does not, just as the divine essence itself is a proper likeness for all creatures owing to the immensity of its perfection.<sup>12</sup> But now Sutton introduces a warning. To hold that things are known by God from eternity because they are eternally present to him should not be taken as implying that from eternity they are what they are through their own essences as distinct from the divine essence and as realized in some way outside God. This would be contrary to the faith which maintains that God alone is a thing (*res*) from eternity.<sup>13</sup>

Sutton now refers to what I take to be Henry of Ghent's theory of essential being (*esse essentiae*). Someone, *i.e.*, Henry, might hold that Sutton's previous denial is true if we limit the name "thing" (*res*) to that to which existential being belongs, or to that which enjoys or is a nature, *i.e.*, an intrinsic principle of operation. It would be contrary to

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<sup>10</sup> *Ed. cit.*, p. 205. See Boethius, *Consolation* V, 6 (p. 432).

<sup>11</sup> See n. 9 above. For Sutton see p. 205.

<sup>12</sup> *Ibid.*

<sup>13</sup> Pp. 205-06.

faith to hold that any such "thing" existed from eternity in distinction from God.<sup>14</sup> But if by "thing" we rather have in mind an object of the divine intellect, or mean thereby that which is not intrinsically impossible, one might hold that it is not opposed to faith for essences to be such things from eternity. One might even argue that it is necessary for essences other than God to be things in this sense from eternity. And such things might also be said to be outside God from eternity if we take the expression "outside God" in the negative sense, meaning thereby that such things are not God. Defenders of this view, *i.e.* Henry, would not claim that such things *exist* outside God in the subjective sense from eternity.<sup>15</sup>

In other words, Sutton is presenting in his own way Henry's view that because the essences of things are objects of God's knowledge from eternity and thereby constituted as intrinsically possible in themselves, they may also be called "things" (*res*) from eternity. As Henry would often put it, one may accordingly ascribe an eternal *esse essentiae* (essential being) to them. Yet, Henry would always insist, this is not to say that they actually exist in themselves from eternity. Existence comes to them only in the course of time owing to the added intervention of the divine will, when it communicates existential being (*esse existentiae*) to them.<sup>16</sup>

Sutton will have no part of this theory. But, like Henry, he has defended the eternal presence of contingents to God's knowledge against the charge raised by William of la Mare that this entails admitting eternally existing creatures. But now he quickly distances himself from Henry's theory of an eternal essential being (*esse essentiae*) which the

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<sup>14</sup> P. 206.

<sup>15</sup> *Ibid.* For discussions of Henry's complicated theory see J. Paulus, *Henri de Gand. Essai sur les tendances de sa métaphysique* (Paris, 1938), pp. 69-74, 123-25; J. Gómez Caffarena, *Ser participado y ser subsistente en la metafísica de Enrique de Gante* (Rome, 1958), pp. 65-92; J. Wippel, *The Metaphysical Thought of Godfrey of Fontaines* (Washington, D.C., 1981), pp. 66-79; "Thomas Aquinas, Henry of Ghent, and Godfrey of Fontaines on the Reality of Nonexisting Possibles," in *Metaphysical Themes in Thomas Aquinas*, pp. 173-80; S. Marrone, *Truth and Scientific Knowledge in the Thought of Henry of Ghent* (Cambridge, Mass., 1985), pp. 104-29.

<sup>16</sup> On my (as distinguished from Godfrey's) reading of Henry, he assigns an eternal *real* (but not *actual*) being to possibles or essences insofar as they are objects of God's eternal knowledge. Marrone (pp. 122, 123, and n. 83, and 124-29) seems to overlook this distinction in my reading; hence the need for me to state it explicitly here.



Master from Ghent assigns to such possible creatures. And Sutton clearly appreciates Henry's claim that such a theory is required if one is to account for the fact that nonexistent possibles are truly *res*, not merely chimerae (or *res* as taken from *reor, reris*), but genuine essences and objects of knowledge (*res* as taken from *ratitudine*).<sup>17</sup>

Sutton begins his criticism of this part of Henry's position by observing that in this case poison is hidden under honey. He grants that from eternity the essences of creatures were objects of the divine intellect. But it does not follow that whenever something is an object of intellect it is also a thing (*res*), especially when the latter is taken in Henry's strict sense. For something can be understood by human intellects even when it does not exist. For instance, today I can understand yesterday even though yesterday is not now a thing (*res*). If the fact that something is known suffices for it to be called a *res*, it would follow from the fact that I understand yesterday here and now that yesterday is here and now a *res*, and, adds Sutton, an actually existing thing.<sup>18</sup>

In like fashion, continues Sutton, God knew all creatures from eternity, not merely in terms of their essences but also in terms of their actual existences. Suppose for the sake of discussion we grant Henry that the fact that such creatures were understood by God from eternity is enough for us to regard them as things (*res*). It will also follow from the fact that they were understood by God that all creatures which have existed, which now exist, or which ever will exist must have enjoyed actual existence from eternity. Sutton rejects this conclusion. Therefore he also rejects the claim that whatever is an object of intellect must also be a thing.<sup>19</sup>

Sutton counters that the essences of creatures were not things from eternity and that they were not essences from eternity. In themselves from eternity they were simply nothing. Otherwise they would not have been created by God in the course of time; for creation is production *ex nihilo*. But if they were nothing from eternity, they were not "things"; for nothing means the same as "no thing" (*nulla res*). This

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17 For a good presentation of this distinction in Henry see Marrone, pp. 108-13.

18 *Ed. cit.*, pp. 206-07.

19 P. 207. Henry, of course, would not admit that, simply because a creature is a thing (*res*) in the sense of enjoying essential being, it therefore enjoys actual existence.



objection concerning creation was frequently raised against Henry by others, for instance, by Godfrey of Fontaines.<sup>20</sup>

Nor, continues Sutton, does the mere fact that it is not repugnant for something to be realized in actual existence suffice for us to refer to it as a thing (*res*). In other words, intrinsic possibility is not enough for us to describe something as a "thing" when that term is taken in Henry's technical sense. Here Sutton appears to have in mind Henry's claim that if something is not contradictory in itself, *i.e.*, if it is intrinsically possible, it must enjoy essential being and be a *res*. Against this Sutton counters that such a possible is still nothing in itself, much as is now true of the soul of the AntiChrist.<sup>21</sup> (In his own discussion of divine knowledge of future contingents in Quodlibet VIII, qu. 2, Henry had devoted considerable attention to the issue of the AntiChrist.)<sup>22</sup>

Sutton insists that the fact that something is the object of an idea is not enough for it to be a thing. He repeats his criticism: to say that essences were things from eternity outside God (*extra Deum*) amounts to saying that they have actually existed from eternity.<sup>23</sup> Here we should recall that, as Sutton had earlier presented Henry's position, Henry does not admit that essences were things from eternity and outside God in the "subjective" sense, *i.e.*, as existing apart from God. They are "outside" God only in the negative sense, in that they are not God. Sutton apparently regards this distinction as a subterfuge: to say that essences other than God were things from eternity and outside God in the negative

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<sup>20</sup> P. 207. For Godfrey see Quodlibet VIII, qu. 3 (1292/1293 by my dating). If God knows things he has created in the same way he knows things he is to create, he must know their existence as well as their essential being from eternity. Hence Henry should grant the eternity of all things, past, present, and future, both as regards their essence and existence (*Les Philosophes Belges*, Vol. 4, p. 37). Moreover, Godfrey argues that Henry's view really implies that when creatures receive existential being from God, they are not thereby created (p. 45). See Quodlibet IX, qu. 2 (p. 190), and my *The Metaphysical Thought of Godfrey*, pp. 136, 140.

<sup>21</sup> *Ed. cit.*, p. 207. For other texts from Henry see, for instance, Quodlibet III, q. 1 (f. 61r, bottom); Quodlibet I, q. 9 (Macken ed., pp. 53-55); Quodlibet IX, qq. 1-2 (Macken ed., pp. 7-8, 22-23, 34-37); Quodlibet X, q. 7 (Macken ed., pp. 151-52); *Summa quaestionum Ordinariorum*, a. 28, q. 4 (Paris, 1520), Vol. 1, fol 167v.

<sup>22</sup> See Quodlibet VIII, qu. 2, ff. 301v-302v.

<sup>23</sup> P. 207.

sense is really to hold they existed outside God in the stronger and "subjective" sense, that is, that they actually existed apart from God.<sup>24</sup>

Sutton sums up by stating that from eternity God had certain knowledge of future contingents insofar as they are contingents; but such contingents did not enjoy the status of "things" from eternity.<sup>25</sup>

In assessing Sutton's position, which is taken largely from Aquinas, we should recall that Sutton grounds God's knowledge of future contingents on the eternal mode of God's knowledge and therefore on the eternal presence of such contingents to God. There is no indication that Sutton would account for this by appealing to God's knowledge of the decrees of his will, as Henry of Ghent ends by doing. On this point, therefore, Sutton appears to me to be an accurate interpreter of Aquinas.<sup>26</sup>

On the other hand, Sutton states that things were eternally present to God in terms of their actual existence, without their having enjoyed eternal existence in themselves. Here his terminology could be misleading. First of all, as did Aquinas, Sutton speaks of things as being present to God "from eternity" (*ab aeterno*). This could give the mistaken impression that he regards eternity itself as subject to temporal succession.<sup>27</sup> In fact both Sutton and Aquinas would deny this. Secondly, for Sutton to say that things *were* eternally present to God is misleading. It would be better for him to say that they *are* eternally present to God.<sup>28</sup>

Finally, Sutton rejects the claim that admission of the eternal presence of creatures to God as their knower entails ascribing eternal

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<sup>24</sup> Cf. p. 206. For Sutton's rejection of a third *esse* between being in the mind and *ens naturae extra intellectum* see *Quaest. Ord.* 26 (Schneider ed., p. 725).

<sup>25</sup> "Et dicendum quod ab aeterno deus habuit certam cognitionem futurorum contingentium secundum quod contingentia, quae tamen non fuerunt res ab aeterno" (p. 207).

<sup>26</sup> See the references given in n. 2 above. For justification of this as the correct reading of Aquinas see my *Metaphysical Themes*, pp. 244-64.

<sup>27</sup> For Thomas see ST I, q. 14, a. 13: "Unde omnia quae sunt in tempore, sunt Deo ab aeterno praesentia, non solum ea ratione qua habet rationes rerum apud se praesentes, ut quidam dicunt: sed quia eius intuitus fertur ab aeterno super omnia, prout sunt in sua praesentialitate" (Marietti ed., Turin-Rome, 1950, pp. 86-87). For discussion see my *Metaphysical Themes*, p. 268, n. 82.

<sup>28</sup> Perhaps Sutton's usage was partly determined by the way the question was framed (see n. 3 above). But for other texts where he uses similar language see p. 205:73-74; and the concluding text cited above in n. 25.

(actual) existence to them. In making this point, he is in agreement with Henry of Ghent. But Sutton has distanced himself from Henry's theory of an eternal essential being which would be enjoyed by all possibles insofar as they are eternally objects of God's knowledge.

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**Calculating Grace:  
The Debate about Latitude of Forms  
According to Adam de Wodeham**

Most Christians today believe that the nature of grace is veiled in mystery. Scholastics sought and achieved greater precision. They determined that grace was an accident not a subject. They asked: to which of the nine categories of accidents, described by Aristotle in his *Categories*, does it belong? Concluding that it was a quality, they inquired: to which of the four species of quality does it belong? They decided that it belonged to the first species; it was a habit or disposition. And since any such quality is subject to increase and decrease, they felt obliged to ask how grace increased or decreased. The intensification and remission of grace was one of the most hotly debated theological questions in fourteenth century Oxford.

At the same time, increasing and decreasing forms, like grace, were a subject of intense controversy among natural philosophers. Although masters of arts were forbidden to discuss theological questions, most fourteenth century philosophers and theologians assumed that degrees of charity were gained or lost in exactly the same way heat was intensified or diminished. Whether spiritual or physical, any quality which was divisible and subject to change by degree was considered a form with latitude.<sup>1</sup> Arguments about latitude of forms dealt with *continua* and the nature of gradual change. Many of the same issues raised in discussion of the intensification of charity were also topics in the discussion of time and motion.<sup>2</sup> Hence fourteenth century theology on degrees of charity

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<sup>1</sup> Chatton, *Reportatio*, I, d. 17, q. 2, a. 1, cod. Paris. Bibl. Nat. lat. 15,887, fol. 48rb: "Si in instanti illo est subiectum sub calore corrumpendo, et ille non est indivisibilis, cum sit eiusdem rationis cum praecedente, et per consequens habeat latitudinem, ergo adhuc restat pars corrumpenda post istud instans ... Si in illo instanti est sub frigore, idem argumentum est, quia illud non est indivisible sed habet latitudinem."

<sup>2</sup> Wodeham, *Tractatus alphabeticus*, cap. 50 (*Continuum*): "[D]e omnibus his [alteratione, motu et tempore] est par ratio sicut de continuo." fol. 139va); *Tractatus de indivisibilibus*, quaest. 1, art. 1; quaest. 3, dub. 4: "[D]ifficultas est aequalis de omnibus

was scientific not just in the sense that it was logically rigorous, but also in the sense that it was a topic in natural science: latitude of forms.

Edith Sylla discusses the debate about latitude of forms among the Oxford Mertonians from about 1320 to 1337.<sup>3</sup> Sylla describes three positions: (1) the succession of forms theory (2) the admixture theory and (3) the addition theory. The succession theory describes the intensification of forms as a series of instantaneous changes. The addition theory describes a gradual change over time as infinitesimal parts are gained or lost. Sylla considers Walter Burley as a proponent of the succession theory; the admixture theory is represented by Roger Swineshead, and the addition theory by John Dumbleton and Richard Swineshead.

The English Franciscan theologian, Adam Wodeham discusses Oxford opinions on the subject of latitude of form, in the period 1316-1329, in his *Tractatus alphabeticus*, dated about 1333.<sup>4</sup> Thus Wodeham was writing about a period that overlaps with the earlier period Sylla has described for the Mertonians. Wodeham was chiefly concerned with the views of Campsall, Ockham, Chatton and Fitzralph.<sup>5</sup> Ockham, Fitzralph, and Wodeham himself are addition theorists. Chatton adheres to an admixture theory, identified by Wodeham as a "modern theory" associated with Thomas Aquinas.<sup>6</sup> Campsall held a new theory according to Wodeham,<sup>7</sup>

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compositis divisibilibus, sive intensive sive extensive ... [et] apud me illa quae inducunt difficultatem [in] inquisito, omnia inducunt difficultatem circa continuum, licet non e converso." ... "Et nota quod omnia haec dubia aequaliter possunt fieri in augmentatione et decremento formarum sicut de continuo." (ed. R. Wood, Dordrecht, 1988, pp. 34, 180).

<sup>3</sup> Given the difficulty of dating Burley's works, it is not clear exactly what period is under discussion. But Weisheipl dates Burley's *Tractatus primus*, 1320 to 1327. Roger Swineshead wrote his *Descriptiones motuum* between 1328 and 1337. See James Weisheipl, "Ockham and Some Mertonians," *Mediaeval Studies* 30 (1968), p. 185, 196, 212 and Sylla, "Medieval Concepts of the Latitude of Forms," *Archives d'histoire doctrinale et littéraire du Moyen âge* 40 (1973), p. 240n.

<sup>4</sup> Codex Erfurt, Stadtsbibliothek, Amplon., Folio 133, fol. 134ra-145va.

<sup>5</sup> Re Campsall's dates, see Tachau, K., "Richard Campsall," in *From Ockham to Wyclif*, ed. A. Hudson and M. Wilks, p. 110n.

<sup>6</sup> Wodeham, *Tractatus alphabeticus*, cap. 2 (*Actio maxime reperitur in qualitate*): "Sed contra hoc et pro ista conclusione arguitur et contra argumentum Thomae, I *Sent.* <prima parte Summae E>, d. 17, q. 2, art. 2, cuius est opinio quod calor remissus per approximationem agentis fit postea intensus, nulla (!) sibi addito, ita quod secundum modernos eadem res ut est in transmutatione est latitudo quaedam, ut autem in quieto esse, est calor." (fol. 134ra).

<sup>7</sup> A great many theories were current. Ockham list four kinds of addition theories. *Quaest. in III Sent.*, q. 8 (OTh VI, 220s.). Aureol describes six possible opinions



one which we will call a connotation theory. No proponent of the succession of forms is named.<sup>8</sup>

In this paper I will discuss three issues in the theory of latitude of forms: (1) Do forms undergo intension and remission? (2) How are qualities intensified? and (3) Are maximal degrees in the intensity of forms possible? I will be chiefly concerned with the views presented by Adam Wodeham in his *Tractatus alphabeticus*, but the discussion will be amplified by reference to the views discussed by another fourteenth century Franciscan, Walter Chatton, and by Edith Sylla. The least controversial of these issues for fourteenth century philosophers is first:

### 1. Do forms undergo intension and remission?

Addition and succession of forms theorists agree on this issue; in no sense is it true that the same form undergoes remission or intension. For the simultaneous existence of contrary forms in exactly the same subject is impossible. Ockham and Wodeham held that strictly speaking it is the subject, not the form, which becomes more white, more hot or more charitable.<sup>9</sup> And though in the case of intensification, parts are added to the form, the same form which was remiss does not become intense. Rather, a new form appears in which the additional parts are incorporated, and the new form is more intense than the previous form was.<sup>10</sup> As Anneliese Maier pointed out, this means that addition theorists, like succession theorists, hold that intensification is the result of a succession of new forms. They differ only in claiming that the parts of

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on augmentation. *Scriptum super I Sent.*, dist. 17, pars 17, a. 1 (ed. Romae 1596, 427-35).

<sup>8</sup> Scotus, and Ockham following him, attribute this view to Godfrey of Fontaines. Scotus, *Ordinatio*, I, d. 17, pars 2, q. 1 (ed. Vaticana, V, 234ss.). Ockham, *Scriptum in I Sent.*, dist. 17, q. 5 (OTh III, 485); *Quaest. in II Sent.*, q. 19 (OTh V, 418s.).

<sup>9</sup> Ockham, *Scriptum in I Sent.*, dist. 17, q. 4 (OTh III, 481ss.).

<sup>10</sup> Wodeham, *Tractatus alphabeticus*, cap. 15 (*Augmentatio*): "Ultra dico quod loquendo de vi vocis, nulla forma potest intendi, etiam et remitti. Sed auctores hoc dicentes intendunt, si non <lectio dubia> errant, quod additur formae alia forma, ex qua et ipsa fit intensior, vel subtrahitur aliqua pars ut forma remissior sit quam praefuit. Non quod aliqua una forma numero primo sit intensa et post remissa vel e converso. Et ideo talis forma habet veram latitudinem intensivam vel gradualem, quia habet in se plures partes realiter distinctas constituentes eam [ut] qualitatem, sicut suo modo est de quantitate extensiva." (fol. 135rb).

the old form are not destroyed in the process.<sup>11</sup> As Sylla puts it "What is at stake is whether there is within the higher degree a part equal to the lower degree."<sup>12</sup>

Chatton too agrees that strictly speaking not the form but its subject undergoes intension and remission.<sup>13</sup> Strictly speaking the statement '*forma suscepit magis et minus*' is false.

Wodeham is expressing a common view when he argues that properly speaking dearness cannot be increased, because no underlying, constant subject remains.<sup>14</sup> According to Wodeham, when we say that the dearness increases, this means that the same dearness that formerly existed is now greater than it formerly was. But one and the same thing cannot be both more and less.<sup>15</sup> However, according to proponents of the addition theory, parts of the same form can be added to the parts of dearness which were originally present, and the new parts together with the old parts make the substance in which the form inheres more dear. And wherever there is genuine latitude of form, it must be possible to add and subtract parts of that form to an underlying substance. When Peter become dearer, his former dearness is not really intensified. Rather additional parts of dearness reach him and combine with the preexisting form to produce a

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<sup>11</sup> Anneliese Maier, *Zwei Grundprobleme der scholastischen Naturphilosophie*, Studien zur Naturphilosophie der Spätscholastik II (Rome, 2nd ed., 1951), p. 54.

<sup>12</sup> Sylla, "Medieval Concepts," p. 231s.

<sup>13</sup> Chatton, *Reportatio*, I, d. 17, q. 3, a. 4: "Et est hic una opinio quod non est dicendum quod forma suscipiat magis et minus ... Contra. ... Unde calorem suscipere magis et minus non est nisi subiectum suum esse calidius. Sed tamen ad hoc bene requiritur quod forma sit maior vel perfectior. Et si hoc intendebant quidam dicentes istam augmentationem fieri per inesse subiecto, bene." (fol. 51va).

<sup>14</sup> Norman Kretzmann discusses a similar problem in his "Adam Wodeham's Anti-Aristotelian Anti-Atomism," *History of Philosophy Quarterly* 1 (1984), 381-97.

<sup>15</sup> Wodeham, *Tractatus alphabeticus*, cap. 15 (*Augmentatio*): "Dico <quod add. E> secundo quod sicut non suscipit, illo modo nec suscipit magis et minus intentionaliter vel logice loquendo, per praedicationem scilicet alicuius termini de ea qui exprimit crementum huiusmodi cum hoc adverbio 'magis', quia non potest dici quod forma talis, puta albedo sit magis albedo quam ante. Immo, quod plus est, nec intensa albedo est magis albedo quam sit remissa, licet sit maior, id est intensior. Sed <haec add. C> talis denominatio concretiva proprie convenit subiecto tantum secundum talem formam vel partes talis formae in ipso successive receptas, nam subiectum huius proprie est primo minus album et postea magis vel e converso." (fol. 135ra).

form of greater intensity.<sup>16</sup> Numerically distinct parts of a form combine to constitute a unified whole.

When qualities intensify, according to this account, the preexisting form becomes part of something greater. Only Richard Campsall presented the obvious objection to this view: "On this account nothing is augmented." For what was there before is not more intense; and neither the resulting whole nor the new part existed before, so they cannot have been intensified.<sup>17</sup>

But though most fourteenth century medievals agree on this subject, their views are not the result of common sense observation. Indeed, these views are contrary to our ordinary experience - namely, that qualities increase and decrease in their intensity. One wall can be whiter than another; God's love for Peter can increase. The ground for this denial was a logical consideration, supported by Aristotle's authority: a form cannot increase or decrease while retaining its identity any more than a number can.<sup>18</sup> Different accidents can inhere in the same subject at different times,<sup>19</sup> but different degrees of whiteness cannot be predicated of the same form. Returning to examples: Peter can be dearer, but his grace cannot increase while retaining its identity. If one wall is whiter than another, a different form of whiteness inheres in it; a wall which increases in whiteness by being painted gains a new form.

## 2. How are forms intensified?

Considering qualities as Aristotelian forms, made medieval discussions of qualitative change more difficult. Emphasis on a related logical dictum -

<sup>16</sup> Wodeham, *Tractatus alphabeticus*, cap. 15 (*Augmentatio*): "Alio modo potest intelligi etiam bene illud commune dictum quod 'forma suscipit magis et minus', licet non ad vim vocis, quia alicui formae advenit aliquid constituens cum illa formam perfectiorem. Et ideo dicitur suscipere magis et minus. Aliquando vero subtrahitur pars aliqua, qua subtracta non remanet illa forma sed alia minor priore, non quod eadem sit primo maior et post minor, nec e converso. Et potest improprie dici quod maior cuius pars subtrahitur minuitur, vel adhuc magis proprie quod minor quae remanet minuitur, pro eo quod ista est minor illa totali quae praefuit." (fol. 135ra).

<sup>17</sup> Chatton, *Reportatio*, I, d. 17, q. 2, a. 3: "Et est opinio (marg.: Campsale), quod nunquam [est augmentatio per additionem], quia si aliquando sic, tunc nihil esset auctum, quia nec pars nova, cum illa non praefuit, nec praecedens, quia illa non est intensior quam prius, nec totum, quia non praefuit." (fol. 49ra).

<sup>18</sup> Aristot., *Metaph.*, VIII, c. 3 (1044a 9-10).

<sup>19</sup> Aristot., *Topica*, II, c. 7 (113a 34-35).

contrary qualities cannot simultaneously inhere in the same subject - raises similar problems in considering the second issue discussed here.

What is the process by which forms intensify? Fourteenth century medieval authors tried to answer this question in such a way as would allow them to affirm that (1) qualitative change is gradual (2) the quality resulting from change constitutes a unified whole and (3) contrary forms do not exist simultaneously in the same subject. Addition theorists' paradigm of qualitative change resembles quantitative change. Intensification of qualities is a successive process in which infinitesimal parts are added. The addition theory readily accounts for the gradual nature of change. It also allows that as a quality increases, new parts are added to the preexisting form which remains.

Opponents of the addition theory claimed it could not account for the fact that the new form is a unified whole. According to Richard Campsall, a Mertonian contemporary of Ockham, there is no reason to believe that old and new qualitative parts - or individuals of a form - would combine to produce a unified whole. For the only things which when combined make one, are actual beings which can be combined with potential beings, or *receiving* entities which can be combined with *received* entities. But parts of a single form would be parts of the same kind, so if they inhered in the same subject, they would not constitute a whole, but remain separate individuals. Consequently, any intensible form acquired over time would be composed of an infinite number of separate parts and constitute an actual infinity, which is absurd.<sup>20</sup>

Campsall claims that the infinitely many new and preexisting parts posited by addition theorists would remain separate and unintegrated and constitute an actual infinite.<sup>21</sup> Addition theorists, like Aristotle and

<sup>20</sup> Chatton, *Reportatio*, I, d. 17, q. 2, a. 3, fol. 49rb.

<sup>21</sup> Wodeham, *Tractatus alphabeticus*, cap. 57 (*Infinium in augmentatione continua*): "Si detur secundum, quod in quolibet sit nova albedo praecedentibus remanentibus, sequitur secundum inconveniens, scilicet quod alteratum sit in fine virtutis infinitae in vigore. Probatio consequentiae, quia quacumque albedine data, demonstrata in actu, sequitur: 'infinitae albedines tantae virtutis sunt in hoc subiecto, igitur hoc subiectum est infinitae virtutis'.

Consequentia patet, quia actualiter habet infinitas virtutes. Hoc dato antecedens patet isto posito, quia cito post hoc instans habebit tunc infinitas qualitates quarum quaelibet erit maioris virtutis quam virtus data, quia quaelibet acquisita post datam erit intensior quam illa. - Et si quaelibet sequens fuerit remissior ordinate, contra: illo modo tenet argumentum in hoc argumento cum ipse fundasti TE, igitur argumentum tuum contra TE (Campsall).

Respondeo concedendo illud quod infertur in ista forma qua infertur. Et hoc etiam



almost all medieval thinkers, agreed in rejecting the possibility of an actual infinity. But addition theorists had no difficulty replying to this objection. Wodeham simply states that infinitely many qualitative parts can be added without producing an actual infinite, provided each successive part is less than the part which preceded it.

Although attacks of this kind were not taken seriously by addition theorists, they did take seriously the claim that they were committed to holding that contraries simultaneously coexisted in the same subject. By definition contraries belong the same genus but are maximally different from each other.<sup>22</sup> It appears to be the case that when something gradually changes its color from white to black, there is an intermediate period when we might say that it is both black and white, which is a contradiction.

Ockham and Wodeham agree with succession of forms theorists that contraries cannot inhere in the same subject. They disagree with Chatton who holds that addition theorists must embrace the claim that remiss degrees of contrary forms can coexist in the same subject.<sup>23</sup> Ockham explains that it is unnecessary to posit that remiss degrees of contrary qualities inhere in the same subject; the degrees of quality added when forms are intensified are not contraries, but individuals of the same kind, numerically not specifically different. It is the addition of numerically distinct individuals of a form which produces intension. And these distinct individuals constitute together a single unified form. No change in intensity is recorded when tepid water is added to tepid water, because the forms involved remain in distinct subjects.<sup>24</sup> Change takes place successively, part by part.<sup>25</sup>

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CAMPSALE, cuius est argumentum, concedere habet de partibus albedinis extensae, cum neget indivisibilia." (fol. 140vb).

Chatton, *Reportatio*, I, d. 17, q. 2, a. 3: "Item, tunc quaelibet forma augmentabilis componeretur ex infinitis partibus, quarum nulla est alia nec pars alterius, quia in tempore mensurante illum motum sunt infinita instantia, et in quolibet est aliquid novum quod nunquam praefuit." (fol. 49ra).

<sup>22</sup> Aquinas, *In Metaph. Aristot.*, X, lect. 5, n. 2032-4.

<sup>23</sup> Ockham, *Quaest. in II Sent.*, q. 19 (OTh V, 418s.). Chatton, *Reportatio*, I, d. 17, q. 2, a. 1: "Dicunt isti quod aqua est tepida quia calor et frigus sunt in partibus diversis,... Sed quidquid sit de hoc, teneo quod [contraria] compatiuntur se in remissis gradibus, quia aliter non salvaretur successio in motu et in acquisitione partiali talis formae." (fol. 48va).

<sup>24</sup> Ockham, *Scriptum in I Sent.*, dist. 17, q. 7 (OTh III, 542-5).

<sup>25</sup> Ockham, *Quaest. in II Sent.*, q. 19 (OTh V, 418s.).



The addition theory was the most popular theory of the latitude of forms. We come now to the minority views. *Succession of forms theories* model qualitative change on substantial change, the kind of change described as generation and corruption. According to succession theorists, when a quality appears to increase, a more remiss quality is replaced by an entirely different form of greater intensity. When something changes from white to black, there is no intermediate period when the subject is partly white and partly black, rather there are a series of entirely different forms; all the various shades of white, grey and black succeed each other. This means that what appears to be gradual change is really a series of sudden changes.

A succession theorist can readily deny that contrary forms coexist in the same subject. For intensification is the result of replacing remiss forms with entirely new intense forms. But succession theorists have difficulty accounting for the fact that qualitative change is gradual, since change takes place suddenly, and forms cannot be intensified by adding parts.

Not only was the succession theory vulnerable to the charge that it was contrary to our experience of gradual qualitative change, it was also attacked as a form of indivisibilism. According to Richard Campsall, if qualitative change involves the annihilation and replacement of forms, it is instantaneous. But if this is motion, we have to conclude that motion is composed of indivisibles, which is contrary to Aristotelian philosophical principles,<sup>26</sup> as a common opinion concedes. So according to Wodeham, Campsall claimed that adherents of the succession theory were committed to indivisibilism, just as addition theorists were committed to defending an actual infinity.

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<sup>26</sup> Wodeham, *Tractatus alphabeticus*, cap. 57 (*Infinitum in augmentatione continua*): "Et ideo ex hoc ALIQUI arguunt quod si in tota transmutatione non maneat eadem qualitas maior et minor, sequitur vel quod motio <lectio dubia> mensuretur instanti vel quod alteratum sit infinitae perfectionis in vigore. Consequentiam probant, quia si non maneat etc., aut igitur in quolibet instanti est alia et alia forma corrupta priori; aut priori manente si corrupta praecedente, tunc ille motus solum mensuratur instanti, quia ille motus non est nisi ista qualitas secundum quam movetur mobile. Ire enim ad calorem est calor quoquo modo. Sed ista qualitas tunc non mensuratur nisi instanti.

Et praeterea <lectio dubia> si motus ille tunc non sit haec qualitas nunc existens, quaero a TE quae res est iste motus: aut qualitas praesens aut praeterita aut futura. Nec praeterita, nec futura, quia non sunt, nec aggregatum ex his propter Deum. Igitur oportet tunc dicere quod motus ille sit qualitas praesens, et tunc sequitur expository 'ista qualitas non manet nisi per instans, illa qualitas <qualis E> est motus, igitur ille motus non manet nisi per instans.' Et ultra: 'igitur motus mensuraretur instanti', quod est contra philosophiam." (fol. 140vb).

Succession theories sacrifice all other consideration in order to retain a strong interpretation of the dictum, "forms cannot be increased or decreased." By contrast, the *admixture theory* embraces an apparent contradiction: contraries can coexist in the same subject. It is an eccentric theory, seldom espoused, according to Sylla.<sup>27</sup> Among its supporters, however, is Wodeham's *bete noire*, Walter Chatton,<sup>28</sup> it is also a view attributed to Thomas Aquinas.

The Mertonian advocate of the *admixture theory*, described by Sylla, is Roger Swineshead. Swineshead's model of qualitative change differs both from quantitative change and from substantial change. In answer to the question "what causes an increase in the intensity of a form?" Swineshead argues that qualities in a subject can become more intense without anything being added, if the contrary quality inhering in that subject is weakened. So this is an admixture theory in the sense that contrary qualities inhere in the same subject, but not in the sense that intensification involves a new admixture of forms or parts of forms. In fact Wodeham characterizes this view as the view that "altogether the same form can be first remiss and afterward intense, ... without the addition of any new [part]."<sup>29</sup>

To the contrary Wodeham argues that there cannot be any augmentation without the addition of a new part. Against the admixture theory, Wodeham repeatedly adduces an argument presented by Richard Fitzralph.<sup>30</sup> The gist of this argument is that it is absurd to claim that quality can be increased without extrinsic change and addition. It is

<sup>27</sup> Sylla, "Medieval Concepts," p. 232n.

<sup>28</sup> Sylla, "Medieval Concepts," p. 232n.; Chatton, *Reportatio*, d. 17, q. 1, a. 1.

<sup>29</sup> Wodeham, *Tractatus alphabeticus*, cap. 1 (*Augmentatio*): "Nulla forma potest augmentari nec fieri maior in sua specie sine additione novae partis ad praeteritam ex quibus fiat una forma. Et haec est contra opinionem tenentium quod eadem forma est omnino primo intensa et post remissa in eodem subiecto et e converso." (fol. 134ra).

<sup>30</sup> Wodeham, *Tractatus alphabeticus*, cap. 2 (*Actio maxime reperitur in qualitate*): "Contra: Si hoc, sequitur quod aliqua parva albedo potest fieri perfectior quam aliqua creatura mundi de facto sit, nullo sibi addito, quod est absurdum. Probatur consequentia secundum Fitzralph (Fi-r), quia secundum istam opinionem aliqua res potest fieri duplo perfectior absque aliquo novo sibi addito, sicut caritas remissior potest fieri duplo intensior, nullo sibi adveniente. Et eadem ratione, adhuc duplo intensior, et adhuc, et sic in infinitum. Sed quidquid praeter Deum potest imaginari intellectus simplici apprehensione sine conceptu composito ex repugnantibus, potest Deus facere cum sit omnipotens. Et tunc patet ista consequentia, quia omnis creatura perfectior ista caritate excedit eam in proportione finita, et quacumque finita potest Deus facere perfectiorem." (fol. 134ra).

incongruous to suggest that the perfection or intensity of a quality could be increased *ad infinitum* without adding anything.

Swineshead's admixture theory encounters no difficulty in explaining how more intense forms constitute a unified whole, since no new parts are added. Gradual degrees of qualitative change are also readily explained by his theory of a changing equilibrium between contrary qualities. But Swineshead would be hard-put to show that he was not committed to the view that contrary qualities could inhere in the same subject. His views are also vulnerable to Fitzralph's argument that his view would be consistent with increase without addition.

The form of admixture theory espoused by Walter Chatton and attributed to Thomas Aquinas is not vulnerable to Fitzralph's attack, since it does not explain qualitative change as a result of a shifting equilibrium between contrary qualities. It has in common with Swineshead's version of the admixture theory only the view that contrary qualities can inhere in the same subject at the same time.<sup>31</sup> Even this view does not appear to be a distinctive tenet of admixture theories; many medieval addition theorists - such as Scotus<sup>32</sup> - also held that remiss degrees of contrary qualities could coexist.

Unlike other medieval theories of qualitative change, Chatton's version of the admixture theory treats spiritual qualities differently from

<sup>31</sup> Chatton, *Reportatio*, I, d. 17, q. 2, a. 3: "teneo ... oppositam, scilicet quod aliqua qualitates contrariae compatiuntur se in eodem subiecto in gradibus remissis. ... (fol. 49rb) ... Contra: quod aliquando fiat augmentatio formarum per additionem partis novae ad praecedentem proba." (fol. 49ra-49rb)

Art. 4: "Dictum est enim ... quod qualitates eiusdem speciei cum contrariis compatiuntur se in eadem parte subiecti, et probavi hoc multipliciter .... (fol. 49vb) ... teneo quod caritas augetur et aliae formae multae. Sed quomodo? Aliqua per additionem partis ad partem, aliqua non. Illa videlicet non, ubi est successio propter impossibilitatem formae prioris ad sequentem. Unde si in intellectionibus procederet continue a forma minus perfecta ad maius perfectam, ibi foret unus modus augmentationis non per additionem partium sed per successionem continuum formae perfectioris, novae totaliter, post imperfectiorem totaliter corruptam. ... Unde in talibus, ubi est successio propter impossibilitatem formarum, vel alio etiam casu ubi formae sunt simplices, nunquam est augmentatio per additionem. Sed tamen aliquando est augmentatio formae per additionem, quando scilicet ita est quod successio motus et processus de imperfecto ad perfectum non provenit ex impossibilitate formarum sed ex hoc quod passum est indispositum per formam contrariam remissam cuius diminutio requiritur ... et ita in isto casu habetur in fine motus forma quaedam composita, cuius adquisitio erat partis post partem." (fol. 49va-49vb)

Quaest. 3, art. 3: "Tenui ... quod aliquando est augmentatio ubi successio provenit ex impossibilitate formae praecedentis et sequentis, et illa non est per additionem, aliquando <alia P> ubi non ex hoc sed magis ex indispositione passi per contrariam formam vel propter limitationem agentis ..." (fol. 50va).

<sup>32</sup> Scotus, *Ordinatio*, I, d. 17, pars 2, q. 2, num. 242 (ed. Vaticana, V, 255).

physical qualities. Spiritual qualities are indivisible and increase or decrease in the manner described by the succession theory; physical qualities are divisible and increase or decrease in the manner described by the addition theory. Chatton's claim that some forms are, and other forms are not augmented by addition was anticipated by Thomas Aquinas, who also held, as Chatton does, that charity does not increase by addition.<sup>33</sup>

Chatton was on strong ground when he argued that spiritual qualities could not increase by addition. He argued that a simple or indivisible subject like the soul could not have a compound accident.<sup>34</sup> But if the accident or quality being intensified is indivisible, it does not have parts. It would be nonsense to say that an indivisible quality could be intensified by adding parts. Since he adheres both to the addition and the succession theory, Chatton's views have most of the same strengths and weaknesses as those theories. And like Wodeham, Chatton attacked the view that there could be increase without addition.<sup>35</sup>

Chatton's versions of the addition and succession theories provide a distinctive account of the successive or gradual character of qualitative change. He claims that gradual change is always the result of some form of resistance. In cases where increase by addition is impossible, the successive quality of change arises from introducing incompatible forms. In the case of forms susceptible of increase by addition, the successive quality of the intension of forms, is a result of the indisposition of the subject; or, as we might say, its resistance to change. If contrary qualities could not inhere in the same subject, the intensification of forms which results from the addition of parts would not be successive.<sup>36</sup>

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<sup>33</sup> Thomas Aquinas, *Summa theol.*, I-2, q. 52, a. 2, resp.

<sup>34</sup> See Chatton, as quoted in note 36.

<sup>35</sup> Chatton, *Reportatio*, I, d. 17, q. 3, a. 3: "Iuxta istam imaginationem diceretur quod ita est in augmentatione et remissione formarum, quod eadem forma prius remissa, sine productione cuiuscumque novi, eadem penitus sit forma intensa ad praesentiam activi nati augmentare, non quod aliqua pars praefuerit, et aliqua non; et tunc consequenter dicendum esset quod totum est novum et quod totum praefuerit." (fol. 51ra).

<sup>36</sup> Chatton, *Reportatio*, I, d. 17, q. 2, a. 4: "Ex his ergo simul cum tertio articulo infero solutionem quaestionis, et teneo quod caritas augetur et aliae formae multae. Sed quomodo? Aliqua per additionem partis ad partem, aliqua non - illa, videlicet, non, ubi est successio propter impossibilitatem formae prioris ad sequentem. ... Et hoc, primo quia intellectio non habet partes, et secundo quia forma prior et forma posterior non compatiuntur se naturaliter. Unde in talibus ubi est successio propter impossibilitatem formarum, vel in alio etiam casu ubi formae sunt simplices, nunquam est augmentatio per additionem.



Thus Chatton holds that change takes place successively in all cases of intensification and remission, but not for the same reason. It is the result of different forms of resistance, incompatible forms or an indisposition in the underlying subject.

The last theory we encounter in Adam's *Tractatus alphabeticus* is that of Richard Campsall, a Mertonian, most of whose works are lost. Campsall's cogent attacks on the succession and addition theories were mentioned earlier. They are clearly reported by Wodeham and Chatton. But Campsall's own views are more difficult to discover, and Wodeham's account differs from that of Chatton. What follows is a reconstruction which may be mistaken in some respects.

Most probably Campsall began his career as an adherent of the succession of forms theory. Chatton says that he had heard Campsall,<sup>37</sup> and that Campsall's attempt to defend the succession theory had been refuted. Chatton tells us that Campsall had had to come up with new views because the succession theory had been disproved.<sup>38</sup>

At the time of Chatton's *Reportatio*, Campsall evidently entertained three views: (1) succession of forms (2) an addition theory according to which an infinite number of individuals of a form, which do not combine to make a whole but remain altogether discrete, are acquired in augmentation and (3) a form of admixture theory. Chatton quotes long arguments by Campsall,<sup>39</sup> the proponent of the view that forms are never the same; they are constantly being annihilated and replaced.<sup>40</sup> But

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Sed tamen aliquando est augmentatio formae per additionem, quando scilicet ita est quod successio motus et processus de imperfecto ad perfectum non provenit ex impossibilitate formarum sed ex hoc quod passum est indispositum per formam contrariam remissam cuius diminutio requiritur ... et ita in isto casu habetur in fine motus forma quaedam composita, cuius adquisitio erat partis post partem." (fol. 49vb).

<sup>37</sup> Chatton, *Reportatio*, I, d. 17, q. 2, a. 4: "Ad aliud, illud est aeque contra eos de partibus continui, ex quo negant indivisibilia, sicut audivi eos negare." (fol. 50ra).

<sup>38</sup> Chatton, *Reportatio*, I, d. 17, q. 3, a. 3: "Ista via non placet mihi, et prius [erat] improbata. Ideo excogitaret homo duplicem aliam viam ..." (fol. 50vb).

<sup>39</sup> We discussed only two or three of the eight arguments against addition theory by Campsall quoted by Chatton. According to one argument not mentioned above, addition by parts could not result in a more perfect form. The more perfect a form is, the simpler it is, so adding parts detracts from the perfection of the resulting form. Chatton, *Reportatio*, I, d. 17, q. 3, a. 3, fol. 49rb.

<sup>40</sup> Chatton, *Reportatio*, I, d. 17, q. 2, a. 3-4: "Tertius articulus est utrum generaliter nunquam sit augmentatio per additionem novae partis ad praecedentem facientem per se unam cum illa. Et est opinio (marg.: Campsale) quod nunquam. ... (fol. 49rb) ... Ideo dicunt quod semper in materialibus forma perfectior est totaliter alia numero a praecedenti cui succedit, ita quod ibi oportet recipiens denudari a natura recepti ...



evidently by the time of Wodeham's *Tractatus alphabeticus*, Campsall had settled on the third theory, which can be called a connotation theory although it does not describe the process of qualitative change in terms of connotations. Chatton describes this view as one which could be consistently maintained by adherents of connotation theories; Campsall was a connotation theorist when discussing relations.

What is the Campsall's theory? According to Wodeham, Campsall held that when intensification occurs, the quality remains the same. According to Chatton, matter contains a diminished being, called a "possible object." "In the presence of a natural agent, this being becomes the form. This happens in such a way that the agent does not cause something to be other than it was. Rather altogether the same thing which was previously potential becomes the actual form." No addition takes place in the presence of the agent. The same form which was remiss is intense in the presence of a suitable agent. In some sense the whole form is new, and the whole form existed previously.<sup>41</sup> This description of the process makes it clear that a potential is actualized when forms are intensified. So the denial that intensification is motion

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(fol. 49vb) ... Ad primum argumentum opinionis Campsal in tertio articulo, illa consequentia maxime procedit contra eos. Si enim semper in processu illo est totaliter alia forma numero, nulla erit aucta, igitur directe est hoc contra ipsos." (fol. 49ra-vb)

Quaest. 3, art. 3, dub. 2: "Item, quantitas potest augeri etiam in rarefactione, et non per partes eiusdem rationis, sed potest esse absque hoc quod quantum recipiat aliquid eiusdem rationis. Ergo eodem modo in formis aliis est .... possibilis quod sit augmentatio sine additione et compositione partium eiusdem rationis. Qui teneret istam conclusionem quam inferunt haec argumenta ... posset eam ponere secundum triplicem viam, quarum una est quod quaelibet augmentatio est successio formarum simplicium, ita quod [vetus] semper totaliter corrumpitur et succedit totaliter nova forma. Ista via non placet mihi, et prius [erat] improbata. Ideo excogitaret homo duplicem aliam viam: una est quod prior et posterior forma non semper sunt impossibiles, nec tamen unquam faciunt unum, sed remanent distinctae simul in eodem subiecto, sicut dicunt quidam de duabus caritatibus simul manentibus in anima, scilicet CAMPSAL et sui sequaces, ut superius recitatum est. Ita posset dici quod agens naturale continue inducit aliud et aliud individuum formae, sed illae non faciunt unum, sed simul manent ..." (fol. 50vb).

<sup>41</sup> Chatton, *Reportatio*, I, d. 17, q. 3, a. 3: "Alia est quod in materia est unum ens diminutum, quod vocatur possibile obiectum, et quod istud ens diminutum ad praesentiam naturalis agentis fit forma, ita quod agens non facit aliud quam prius, sed illud idem penitus quod prius erat in potentia, illud idem absque omni addito ad praesentiam agentis fit forma actu. Iuxta istam imaginationem diceretur quod ita est in augmentatione et remissione formarum, quod eadem forma prius remissa, sine productione cuiuscumque novi, eadem penitus fit forma intensa ad praesentiam activi nati augmentare, non quod aliqua pars praefuerit et aliqua non. Et tunc consequenter dicendum esset quod totum est novum et quod totum praefuit. Et maxime TENENTES CONNOTATIONES dicere possent quod formam intendi est formam esse talem qualis nata est esse in praesentia agentis talis, et formam esse remissam est esse talem qualis nata est esse in praesentia alterius agentis contrarii." (fol. 51ra).

means only that the change involved is instantaneous and hence properly described not as motion but as transmutation. This explains the claim quoted by Wodeham: throughout the entire *transmutation*, the quality, both greater and lesser, remains the same.<sup>42</sup>

Like a succession of forms theorist, Campsall describes qualitative change as a series of instantaneous changes which resemble substantive change. Hence Campsall's theory does not account well for the gradual nature of qualitative change. On the other hand, the theory was especially designed to explain how the resulting quality constitutes a unified whole. It was for this reason that Campsall, like the admixture theorist Roger Swineshead, held that in the process of intensification nothing is added, there are no new parts. But unlike succession theorists, Campsall would maintain that the form was the same, and had retained its underlying nature at the same time that it was new.

To sum up the major points of disagreement: qualitative change is treated like quantitative change by addition theory, like substantial change by succession theory. Chatton treated intensifying spiritual qualities like instances of substantial change and physical qualities like quantitative change. Roger Swineshead and Richard Campsall discussed qualitative change as a unique case. Campsall agrees with Swineshead that the form remains the same in intensification. Roger Swineshead holds that what changes is a balance of contrary qualities. Campsall holds that potential objects are forms in the presence of the appropriate natural agent.

The connotation theory allows contraries to be predicated successively of the same subject; the admixture theory allows contraries to inhere simultaneously in the same subject - in a remiss degree according to Chatton. But most fourteenth century addition and succession theorists like Wodeham, Ockham, Fitzralph and Burley deny that the same form can have different intensities and that contrary qualities can inhere in the same subject.<sup>43</sup> Addition and succession theorists agree that

<sup>42</sup> Wodeham, *Tractatus alphabeticus*, cap. 57 (*Infinium in augmentatione continua*): "Et ideo ex hoc ALIQUI arguunt quod si in tota transmutatione non maneat eadem qualitas maior et minor, sequitur vel quod motio <lectio dubia> mensuretur instanti vel quod alteratum sit infinitae perfectionis in vigore." (fol. 140vb).

<sup>43</sup> Ockham, *Scriptum in I Sent.*, dist. 17, q. 4 (OTh III, 481ss.). Fitzralph, *Sent.*, I, q. 13 (dist. 17, q. 1), *Utrum intensio formae accidentalis fiat per additionem*, cod. Oxford, Oriel 15, fol. 48vb-49rb. Wodeham, *Tractatus alphabeticus*, cap. 15 (*Augmentatio*), fol. 135ra. Burley, *De instanti*, as cited by Sylla, "Medieval Concepts," p. 234n.

intensification involves new forms, but differ on the question of whether the old form is annihilated, whether forms have parts, and whether the change takes place successively or instantaneously.

The appearance that intensifying qualities constitute a unified whole was an argument against addition theorists, who maintained that change takes place successively, part by part. Opponents of addition theory maintained that parts, or individuals, of quality would not combine to form a unified whole.

The appearance of gradual change mitigates against succession theorists and connotation theorists. A connotation theorist would maintain that intensification was the result of one or more instantaneous changes. A succession theorist would agree that change takes place suddenly, and that forms cannot be intensified by adding parts. Though intensification appears to be continuous, the change - or rather changes - really take place suddenly. Proponents of the addition theory disagree, claiming that intensification is a successive process, in which parts are added. Chatton holds that both successive and sudden changes in intensity occur. In cases of successive change, where parts are added, those parts do combine to constitute a single form. In the case of forms which have no parts, change is sudden.

### 3. *Is there a maximum degree in the intensity of a form?*

Most medievals were addition theorists who followed Aristotle in denying that a form can be greater or lesser, and Wodeham was an adherent of the common view on both these subjects. But Wodeham and the older contemporaries whom he most respected, Richard Fitzralph<sup>44</sup> and William Ockham, disagreed with common opinion on the subject of maximal degrees.<sup>45</sup>

Most medievals maintained that there were maximal degrees of quality. Both admixture theorists, Roger Swineshead and Walter Chatton, argue that there is a maximal degree in the intensification of forms. Chatton holds that we should not deny that God could create such a degree. The succession theorist, Walter Burley, holds that maximal degrees

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<sup>44</sup> Fitzralph, *Sent.*, I, q. 15 (dist. 17, q. 3), *Ad quaestionem principalem: Utrum caritas possit augeri*, cod. Oxford, Oriel 15, fol. 53vb-54rb.

<sup>45</sup> See note 48.

of a quality are possible. Godfrey of Fontaines defends this claim, on the grounds that this possibility is not repugnant to the nature of charity or beyond the power of God.<sup>46</sup> A number of addition theorists, including John Duns Scotus, also held this view.<sup>47</sup> Wodeham and Ockham denied that there could be a maximal degree of charity which could be produced. For whatever degree we specify, God could add a part and create a greater degree.<sup>48</sup>

Thus both proponents and opponents of maximum degrees base their arguments on divine omnipotence. Those who deny maximal degrees argue that because God is omnipotent, he could add a part and create a greater degree, however intense the existing form was. Proponents of a maximum degree - such as, Scotus, Chatton and Godfrey - claim that God is so powerful that he could create a maximal degree.

### Conclusion

This brings to an end our discussion of the debate about latitude of forms as it is raised in Adam de Wodeham's *Tractatus alphabeticus*. This *Tractatus* was part of an intense debate, one which was conducted with novel vocabulary like individuals of form (*individua formarum*) and quantities of quality. To a limited extent it was a scientific debate, in

<sup>46</sup> Godefridus de Fontibus, *Quodlibet* VII, q. 12 (ed. M. de Wulf - J. Hoffmans, III, 389s.). Burley, *De instanti*, as cited by Sylla, "Medieval Concepts," p. 235n.

<sup>47</sup> Scotus, *Opus Oxoniense*, III, d. 13, q. 4, n. 2 (ed. Wadding, VII-1, 261ss).

<sup>48</sup> Ockham, *Scriptum in I Sent.*, dist. 17, q. 8 (OTh III, 547-67). Wodeham, *Tractatus alphabeticus*, cap. 17 (*Augmentari potest quantum infinitum*): "Item, tria sunt quae impediunt quod Deus non potest facere maius in specie illius dati. Primum: si illud esset indivisibile. Unum enim indivisibile eiusdem speciei non potest esse maius alio, ut supra patet. Secundum: quia variatio quantitatis variat speciem. Ideo Deus non potest facere unum ternarium maiorem alio, quia omnis unitas variat speciem. Et hoc etiam est causa quare Deus non potest facere unum bicubitum maius alio. Tertium <tertio E>: ex eo quod in specie non posset esse nisi unicum individuum. Sicut si tempus esset infinitum a parte ante et post secundum Philosophum, in cuius specie non sunt simul compossibilia plura individua, Deus non posset facere aliud tempus maius, pro eo quod non potest esse aliquod individuum in specie temporis praeter illud et partes suas. Et hoc etiam est ratio quare est contradictio quod sit unum individuum maius et perfectius Deo. Ubi quocumque ergo nullum istorum trium impedit, ibi quocumque dato potest Deus facere maius. Sic est de gratia, ergo etc. ...

Quinto apparet mihi, similiter cum Ockham et multis aliis doctoribus, quod omnis forma augmentabilis secundum intensionem in infinitum potest intensive crescere, modo superius posito et concessio. Hoc est quod non est dare ita intensam quin possit a Deo fieri duplo intensior et quadruplo, et sic in infinitum." (fol. 135va-135vb). Cf. cap. 61 (*Lumen infinitae intensionis*), fol. 142ra-142rb.



today's sense of an investigation of the results of experience. Ockham argued that his conclusions accord with reason and experience. Chatton replied that in discussing simple substances, our reason and experience mitigate against an acceptance of Ockham's account.<sup>49</sup> Nonetheless many participants in this debate were willing to deny the most basic result of their experience - namely, that qualities increase and decrease in their intensity. Strictly speaking, most participants in the debate agreed that *forma non suscepit magis*. And proponents of the theory of succession of forms even denied the evidence of their senses that such changes were gradual.

Clearly logical considerations about the nature of forms and contrary qualities were just as compelling as the result of experience. Perhaps fourteenth century medievals were correct to place as high a value on logic as on what experience appears to teach. We today also accept counterintuitive scientific doctrines. And like the medievals, we sometimes confront situations in which we do not decide between viable theories on the basis of naive observation. In fact we often find ourselves in a situation like the medievals. There is no one logically coherent theory which can account for all the appearances. The decision to accept a given theory depends both on how compatible it is with observation and on how philosophically attractive it is, from a mathematical or logical point of view.

How did fourteenth century medievals decide between rival theories about latitude of forms? The greatest difference was between admixture theories and all other theories. Admixture theories allow for the realization of a qualitative change without any new form or part of a form. Since the form remains the same as it is transmuted, such theories

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<sup>49</sup> Chatton, *Reportatio*, I, d. 17, q. 2, a. 2: "Dicunt respondendum, tum secundo quia duae partes albedinis sunt componibiles, saltem secundum extensionem faciunt unum per agens creatum, quare ergo non eadem parte praecise, cum sic solvantur multae difficultates, nec ratio nec experientia obviet." (fol. 48va)

"Ad aliud concedo illum modum augmentationis in albedine et multis aliis, sed non generaliter in omnibus. Et cum dicunt, "bonum est ex quo et quando non est contra rationem nec experientiam et solvuntur multae difficultates," ita dico quod bonum est negare illum modum unde habemus rationem et experientiam in oppositum, sicut in formis simplicibus, ut <sic P> in speciebus in medio et in angelis et in anima Christi et Iudae et in actibus intellectus vel voluntatis, quae omnia sunt formae simplices." (fol. 49ra)

Art. 4: "tamen dico quod experientia vadit ad hoc, quod unum contrariorum remittit reliquum, et non totaliter corrumpit, quia tunc in motu remissionis contrarium suum causaret contrarium, quod reputo magis absurdum." (fol. 50ra). Cf. Ockham, *Scriptum in I Sent.*, dist. 17, q. 5 (OTh III, 487).



allow their adherents to explain the appearance that qualities intensify while remaining unified, straightforwardly; these theories would also have little difficulty in accounting for gradual change. But admixture theories are unattractive from a logical and Aristotelian point of view. Their proponents must maintain that there can be increase without addition, and they must affirm that forms can be intensified which is contrary to Aristotle.

All other theories followed Aristotle in maintaining that forms cannot be intensified. Chatton's so-called admixture theory might better be called a mixed theory; it is really a combination of succession and addition theories. And it neither suggests that there can be increase without addition, nor that forms can intensify while retaining their identity. The greatest attraction Chatton's theory offers is that it treats physical and spiritual qualities differently, as divisible and indivisible qualities. From an Aristotelian point of view, addition theorists were in a weak position when they claimed that divisible accidents inhered in indivisible subjects as Chatton points out.<sup>50</sup> Chatton even claims that his position on indivisible qualities is an argument from experience.<sup>51</sup> The weakness in Chatton's view is that it requires that he account for continuous changes in terms of indivisibles. This was a consequence that Chatton accepted.

Chatton also accepted the old-fashioned view that contrary qualities could inhere in the same subject in a remiss degree. Most fourteenth century addition and succession theorists, unlike Chatton, denied that contraries could inhere simultaneously in the same subject. Here perhaps is the greatest contribution of the succession theory. Though seldom espoused itself, its influence led addition theorists to alter the account of qualitative change presented by Scotus in this regard.

Addition and succession theories present very similar accounts of qualitative change. A decision between these views could not be based on empirical considerations. The addition theory preserves the appearance of gradual motion better, but the succession theory accounts better for the unified character of the new intensified or weakened quality. According to Campsall, addition and succession theories were also equally unattractive from an Aristotelian point of view: Addition theorists were

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<sup>50</sup> See above, note 36.

<sup>51</sup> See above, note 49.

committed to defending an actual infinite, and succession theorists were committed to indivisibilism. But in fact addition theorists found it easy to disprove Campsall's argument, as we saw in Wodeham's reply. On the other hand, it would be difficult for a succession theorist to deny Campsall's charge. And once committed to indivisibilism, a theorist must abandon Aristotle's account of *continua*. For, according to Aristotelian physics, instants serve not as the locus of change but as its limits. It makes good sense to reject the assimilation of intensification and remission to a series of mutations. Not only does addition theory allow its proponents to describe intensification as a gradual change, but as continuous successive motion, it is really divisible like time and motion.

A further advantage of addition theory was its assimilation of qualitative to quantitative change. For by describing intensification as the result of the addition of parts, it ensured that the units of change were commensurable. This was useful to later Mertonians in their schemes for quantifying change.

But the basic advantage of addition theory was the adaptation of Aristotelian theories about *continua*. And the move by fourteenth century theorist to deny maximal degrees, like their denial that contraries can inhere in the same subject, is a reflection of the greater sophistication of their understanding of Aristotle. Not a new view of divine power, but a new understanding of the potentially infinite parts of a divisible quantity accounts for this novel theological doctrine.

JACK ZUPKO

### John Buridan On Abstraction and Universal Cognition

For the nominalist, the claim that the mind can cognize universally, or that its thoughts can range over non-individual objects such as 'human being', or 'whiteness', requires further explanation. What is it that happens, psychologically speaking, when I cognize universally? Given the standard assumption of nominalist ontologies that the world contains no non-individual entities, what status do the objects of universal thought have, and how do they come to be entertained?

There are two distinct questions here: one semantic, asking how a mental act can mean something universal, and the other psychological, asking about the genesis of universal thoughts. Aristotle's answer to the second can be found in *De memoria*, where he says, "... someone who is thinking, even if he is not thinking of something with a size, places something with a size before his eyes, and thinks of it not as having a size;"<sup>1</sup> thus, the intellect thinks of what is common or universal, such as triangularity, by an effort of abstraction from what is determinate or particular - triangles having physical dimensions.<sup>2</sup> His answer to the first can be reconstructed from his famous remark in *De anima* that "in the case of objects which involve no matter, what thinks and what is thought are identical."<sup>3</sup> The identity in question is formal - thinking is, like perceiving, defined as the sort of change in which form is received without matter - and so what makes my thought of triangularity a thought of that universal is my intellect *becoming* triangularity formally. But does this mean that there is something universal in my mind whenever I think universally?

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<sup>1</sup> Arist., *De mem.* 1.450a4-6; tr. Sorabji, *Aristotle On Memory* (Providence: Brown U. P., 1972), 48-49.

<sup>2</sup> Arist., *De an.* I.1.403b15; cf. III.4.429b18, III.7.431b12, III.8.432a5.

<sup>3</sup> Arist., *De an.* III.4.430a3-5.

John Buridan was quite taken with this problem in Book III, Question 8, of his *Questions on Aristotle's "De anima" (tertia lectura)*.<sup>4</sup> This Question, which asks 'Whether the intellect understands the universal before the singular, or vice versa', contains several lengthy digressions on the nature and objects of universal cognition, including a psychological explanation of how the mind can cognize universals without actually becoming a universal or containing any universal entities. As a nominalist, Buridan often asserts the particularity of the mind's conceptual contents. But he also wants to claim that this presents no obstacle to some concepts being *about* universals. I want to explore in this paper some of the consequences of the theory of universal cognition he develops in Question 8. Does his explanation of how concepts are generated fit with his views on what universal thoughts are about? Is this explanation compatible with his nominalistic assumption that the mind's contents are all of them particular?

Buridan never attempts to deny that intellect can cognize universally. To do so would be absurd, since this is usually taken to be its paradigmatic function. His task is rather to explain the evident fact of universal cognition in view of his nominalistic assumptions about the sorts of entities which might figure in such an explanation. He assumes, for example, both that "intelligible things exist singularly outside the soul and not universally, as Plato thought", and that they are also "... represented to the intellect singularly from the beginning."<sup>5</sup> This singularity assumption is extended to the mind's contents in the further claim that "our concepts exist in our intellect as singularly and distinctly from one another and from other things as colours and flavours do in

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<sup>4</sup> I have edited this Question as part of a complete edition of Book III of Buridan's *Quaestiones in libros De anima Aristotelis secundum tertiam lectionem* [hereafter 'QDA'], prepared from four manuscripts: Vat. lat. 2164 ff. 197vb-233rb; Vat. lat. 11575 ff. 65va-87ra; Reg. lat. 1959 ff. 47va-69rb; and Codex Vindobonensis Pal. 5454 ff. 41ra-56vb. References to this work will be given using (1) the line numbers of my edition, and (2) the corresponding folio[s] of the last ms. listed above [hereafter 'V'].

There are twenty questions in the *tertia lectura* of Book III.

<sup>5</sup> Item cum res intelligibiles existunt singulariter extra animam et non universaliter, sicut posuit Plato, et cum etiam cognoscuntur a sensu singulariter et per consequens a principio repraesentantur intellectui singulariter ... [QDA III.8, ll. 130-134] [V f.46ra].

Buridan comes closest to defending the claim that there are no non-individual entities in his *Quaestiones in Metaphysicam Aristotelis* (Paris: 1518, rpr. Frankfurt-am-M: Minerva, 1964) [hereafter 'QM'], VII.15 ff. 50rb-51ra, and VII.16, ff. 51ra-52ra.

bodies", and that "although such concepts do not in themselves have extension or corporeal location, they all exist singularly."<sup>6</sup>

Now given that concepts are singular but lack extension or corporeal location, it might look as if they are a kind of metaphysical hybrid, embodying the numerical distinctness of particulars together with the lack of physical dimension associated with universals. But the rather odd use of the word 'singular' to describe concepts is actually a feature of the semantic side of Buridan's theory of universal cognition - his answer to the first question above. As he says in his *Questions on the Physics*, "... the universal is properly a term or a concept in the mind by which we conceive simultaneously and indifferently many things existing singularly outside the soul, and that concept is strictly posterior to those singular things, since it is objectively caused by them."<sup>7</sup> His strategy is to recast metaphysical questions about universal cognition semantically, so that the problem is no longer one of explaining away the apparent universality of what is in my mind when I think universally, but rather of giving an account of the universality of universal terms in mental language. This 'linguistic turn' on a metaphysical question does have precedent elsewhere in Buridan's writings. It is characteristic of his general approach to the problem of universals to treat individuality and universality as being, in the strictest sense, properties of terms rather than of things.<sup>8</sup> In discussing the question, 'Whether in substances the species is contracted to the individual by a substantial or accidental differentia', he says:<sup>9</sup>

<sup>6</sup> Item conceptus nostri in intellectu nostro ita singulariter et distincte ab invicem et ab aliis existunt sicut colores et sapes in corporibus. Quamvis conceptus tales in eis non habeant extensionem nec situm corporeum, immo omnia existunt singulariter. [QDA III.8, ll. 207-210] [V f.46rb].

<sup>7</sup> *Quaestiones subtilissimae super octo Physicorum libros Aristotelis* (Paris: 1509, rpr. Frankfurt-am-M, Minerva, 1964) [hereafter 'QP'] I.7, f. 8rb: "... bene est universale terminus sive conceptus in mente quo simul indifferenter concipimus plures res singulariter extra animam existentes, et iste conceptus bene est posterior illis rebus singularibus, quia est ab eis objective causatus."

Although I concentrate in this paper on the account of universal cognition in QDA III.8, Buridan also treats this issue at some length in QP I.7 (ff. 7vb-10ra). See as well QM VII.15-16 (ff. 50rb-52rb).

<sup>8</sup> See Peter King, "Jean Buridan's Theory of Individuation", forthcoming in an anthology on the problem of individuation in the High Middle Ages, edited by Jorge E. Gracia.

<sup>9</sup> QM VII.17, f. 52va, 'Utrum in substantiis species contrahitur ad individuum per differentiam substantialem aut accidentalem': "... ista contractio non est quantum ad res



... the contraction is not with respect to the things signified, leaving concepts aside, since a man or animal or body or substance, etc., exists singularly in this way, just like Socrates or Plato, because nothing other than Socrates or Plato [or some other individual] is a man. Since, then, a man or an animal would be a thing existing singularly, it is obvious, even with everything else left aside, that no contraction would be needed in order for it to exist singularly. One must say, then, that contractions of this kind have to be understood with respect to concepts or terms significative of things ... And so a term which is a species would be said to be contracted to a singular term by the addition of a differentia restricting the specific term to suppositing for that thing alone for which the singular term supposits.

Buridan is claiming here that the way to understand contraction is not by imagining a common or specific nature as somehow squeezed into an individual, but by construing the specific nature as a specific or common term, the *reference* of which is restricted to that of a singular term by the addition of a differentia. For example, the reference of 'horse' in the general sentence, 'The horse is a quadruped', could be restricted by the addition of the differentia 'oldest' to pick out a single individual - say, Brunellus, if Brunellus happens to be the oldest horse. Again, contraction is no longer a metaphysical question about the restriction of essence or commonality, but a semantic question about the restriction of reference.

Buridan wants to deny that the universality in universal cognition stems from any intrinsic property of concepts, since this would be tantamount to the admission of conceptual universals. What makes a thought universal is not any property belonging to the concept itself, but rather, certain structural properties it possesses as a term in mental language:<sup>10</sup>

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significatas, circumscriptis conceptibus, quia ita singulariter existit homo vel animal aut corpus aut substantia etc., sicut Socrates et Plato, quia nihil aliud est homo quam Socrates vel Plato. Cum ergo homo vel animal sit res singulariter existens, etiam si omnia alia essent circumscripta, manifestum est quod non indiget aliqua contractione ad hoc quod singulariter existat. Oportet ergo dicere quod huiusmodi contractiones habent intelligi quantum ad conceptus sive terminos significativos rerum ... Ita etiam terminus qui est species diceretur contrahi ad terminum singularem per additionem differentiae restringentis terminum specificum ad supponendum pro illo solo pro quo supponit terminus singularis."

<sup>10</sup> *Tractatus de suppositionibus* III: Maria Elena Reina, "Giovanni Buridano: 'Tractatus de suppositionibus'", in *Rivista critica di storia della filosofia* XII (1957): Sed ... notandum [est] quod, cum universalialia, secundum praedicationem principaliter dicta, non sint praeter animam, ista non sunt nisi conceptus animae quibus anima indifferenter concipit plures res, ut, quia omnes homines indifferenter concipit conceptu

But ... it should be noted that since universals in the predication mentioned principally [i.e. 'Man is running'] do not exist outside the soul, they do not exist except as concepts of the soul by which the soul indifferently conceives more than one thing, as for instance, because it conceives all men indifferently by some concept, the name 'man' is imposed, and likewise for the concept of animal as regards animals. Therefore, since species and genera are universals in predication, it is apparent that species and genera are such concepts of the soul; it is true that spoken terms are consequently also called genera and species (such as the utterances 'man' and 'animal'), but they are not called universals or genera or species principally, but rather significantly, in attribution to those universal [concepts], because in them they are imposed to signify other things ...

Thus, although my concept *man* is itself a mental particular, it can function as a universal in propositional contexts, such as when I am thinking 'Man is a rational animal', where it refers to no man in particular but to all men indifferently.

Buridan spends most of Question 8 giving the psychological underpinnings of this semantic approach. He begins by saying that one reason, although not a sufficient reason, why the intellect can understand universally, even though the things it understands neither exist universally nor are themselves universals, is that "... things are understood not on account of the fact that they are in the intellect, but because their species, which are representative likenesses of them, are in the intellect."<sup>11</sup> Furthermore, he holds (1) that this likeness-relation has a natural cause, namely, in the fact that "... things existing singularly outside the soul belonging to the same species or the same genus have in their nature a likeness or essential agreement greater than those

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aliquo, imponitur hoc nomen 'homo', et sic de conceptu animalis quantum ad animalia. Ideo cum species et genera sint universalia secundum praedicationem, apparet quod species et genera sunt tales conceptus animae; verum est quod consequenter termini vocales dicuntur etiam genera et species, ut istae voces 'homo' et 'animal', sed non dicuntur universalia vel genera vel species principaliter, immo significative, secundum attributionem ad istos [conceptus] universales, eo quod secundum eos impositi sunt ad significandum res alias ... [p. 202, ll. 65-76].

<sup>11</sup> Si ergo volumus assignare unam causam, licet non sufficientem, quare intellectus potest intelligere universaliter, quamvis res intellectae nec universaliter existant nec universales sint, ego dico quod haec est causa: quia res intelliguntur non propter hoc quod ipsae sint in intellectu, sed quia species earum, quae sunt similitudines repraesentativae earum, sunt in intellectu. [QDA III.8, ll. 210-216] [V ff.46rb-va].

Cf. QP I.7: ... res intelliguntur non per hoc quod sunt apud intellectum, sed per suas similitudines existentes apud intellectum. [f.8vb].

belonging to different species or different genera";<sup>12</sup> and (2) that this sort of property-likeness or essential agreement is transitive.<sup>13</sup> In this way, a likeness which the intellect acquires from one member of a species or genus will apply to all of the other members of that species or genus indifferently. For example, Buridan says, "... if all asses have a mutual agreement or likeness *ex natura rei*, it must be that when the intelligible species in the intellect represents some ass by way of likeness, it will at the same time indifferently represent any ass at all."<sup>14</sup> In the same way, the species-likeness my intellect abstracts from Socrates will not belong to Socrates any more than to Plato or other men. "On the contrary", Buridan contends, "the intellect understands all men by means of the representation indifferently, in a single concept, namely, the concept from which the name 'man' is taken. And this is to understand universally."<sup>15</sup>

But where do these concepts come from? Buridan says that a thinking of Socrates begins when the intellect receives the species or thought of Socrates from a phantasm, making Socrates appear as if he

<sup>12</sup> Tunc accipimus quod res extra animam singulariter existentes de eadem specie vel de eodem genere habent ex natura sui similitudinem seu convenientiam essentialem maiorem quam illae quae sunt diversarum specierum vel diversorum generum. [QDA III.8, ll. 218-221] [V f.46va].

Cf. QP I.7: Res autem extra [animam] ex natura et ex essentia sua habent inter se convenientiam et similitudinem ... [f.8vb].

<sup>13</sup> Postea ego iterum suppono quod si sint aliqua ad invicem similia, quidquid est simile uni illorum, in eo in quo sunt duo in invicem similia, ipsum est simile unicuique illorum. Verbi gratia, si A, B et C sint similia secundum albedinem quia sunt alba, sicut D est simili ipsi A, oportet quod sit consimili ipsi B et C. [QDA III.8, ll. 243-247] [V f.46va].

Cf. QP I.7: Modo si sit ita quod sint multa invicem similia, omne illud quod est simile uni eorum, quantum ad hoc in quo sunt similia, est simile unicuique aliorum. [f.8vb].

<sup>14</sup> Ideo si omnes asini ex natura rei habent ad invicem convenientiam et similitudinem, oportet quod quando species intelligibilis in intellectu repraesentabit per modum similitudinis aliquem asinum, ipsa simul indifferenter repraesentabit quemlibet asinum ... [QP I.7, f.8vb].

<sup>15</sup> Ideo consequitur ex quo repraesentatio fit per similitudinem quod illud quod erat repraesentativum unius erit indifferenter repraesentativum aliorum, nisi aliud concurrat et obstet, sicut dicitur. Ex hoc finaliter infertur quod cum species et similitudo Sortis fuerit apud intellectum et fuerit abstracta a speciebus extraneorum, illa non magis erit repraesentatio Sortis quam Platonis et aliorum hominum; nec intellectus per eam magis intelliget Sortem quam alios homines. Immo sic per eam omnes homines indifferenter intelliget uno conceptu, scilicet a quo sumitur hoc nomen 'homo'. Et hoc est intelligere universaliter. [QDA III.8, ll. 247-257] [V f.46va].

were in the prospect of someone cognizing him.<sup>16</sup> The phantasm is construed as a particular produced by the sensitive part of the soul, representing a bundle of undifferentiated properties. By means of this received species or thought, the intellect is said to understand Socrates in a singular mode. If the intellect is then able to differentiate the properties represented by the phantasm, and abstract from it a concept of substance or whiteness so that Socrates is no longer perceived as something which could exist in the prospect of someone cognizing him, then there will be a common concept. For example, from the singular concept, Socrates, the intellect might abstract the common substantial concept, man. Buridan then treats this product of the process of abstraction as universal in the way required: the concept abstracted from Socrates does not represent Socrates any more than Plato, and it is that from which the name 'man' is taken. He adds that any power which can perform this sort of abstraction can cognize universally.<sup>17</sup>

But in what sense is the product of abstraction something non-universal? Buridan does not say very much about abstraction. Aristotle, as we saw above, understands abstraction as the process whereby the intellect distills what is common or universal from what is determinate or particular. Aquinas has a similar explanation, claiming that the intellect "bestows universality on understood forms to the extent that it

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<sup>16</sup> Strictly speaking, this is Buridan's account of how we cognize singular objects with which we are not acquainted directly, but only by means of a description. He holds that genuine singular cognition requires direct contact with the object in question [see *QDA* III.8, ll. 319-399]. There are some difficulties with the latter account which I do not have the space to discuss here: e.g. how the claim that some singular concepts are acquired by direct contact is compatible with the view that the intellect knows things by means of likenesses. Surely knowing a *likeness* of X introduces a degree of generality not present when it is said that we know X directly.

<sup>17</sup> Tunc ergo revertendo ad propositum, dico quod cum intellectus a phantasmate recipit speciem vel intellectionem Sortis cum tali confusione magnitudinis et situs, facientem apparere rem per modum existentis in prospectu cognoscentis, intellectus intelligit illum modo singulari. Si intellectus potest illam confusionem distinguere et abstrahere conceptum substantiae vel albedinis a conceptu situs, ut non amplius res percipiatur per modum existentis in prospectu cognoscentis, tunc erit conceptus communis. Unde cum elicitus fuerit conceptus Sortis abstracte a conceptibus albedinis et situs et aliorum accidentium vel extraneorum, ille non magis repraesentabit Sortem quam Platonem, et erit conceptus communis a quo sumitur hoc nomen 'homo'. Et quaecumque virtus potest facere huiusmodi abstractionem, sive illa sit sensus sive intellectus, illa potest universaliter cognoscere. [*QDA* III.8, ll. 347-360] [V f.47ra].



abstracts them from individuating material principles."<sup>18</sup> Buridan, however, must be extremely cautious about adopting either of these explanations without qualification. Since he wants to maintain the particularity of the mind's contents, it cannot be that the mind becomes or takes on a universal whenever it cognizes universally; it is not open to him to assert that thought and object are formally identical in Aristotle's sense, for that would seem to concede the existence of mental universals. So there must be another way of accounting for what the intellect does when it abstracts.

Buridan hints at a different explanatory strategy with a shift in terminology. He says that what the intellect abstracts from a particular representation of sense is not a universal but a "common concept", and that understanding something in accordance with a common concept is all that thinking universally amounts to.<sup>19</sup> He expands on this remark in a related Question from his *Questions on Aristotle's "Physics"*, in which he says that the intellect can abstract the species or conception of a stone from the species or conception of some location or other, and that every stone is understood by means of a common concept as being no more here than there.<sup>20</sup> But I'm afraid he doesn't develop things much beyond this. Indeed, he sometimes permits the old terminology to return in embarrassing ways by showing no aversion to speaking of the common concept as a kind of universal. In an effort to explain the relationship between a common concept and the singular concept from which it has been abstracted, he says that each universal is tied to a corresponding vague singular, and that sense-conceptions of vague singulars immediately give rise to intellectual conceptions of the corresponding universals, by the abstraction of a conception of the thing from a conception of place. Finally, he adds that that *universal* is first in the intellect to which

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<sup>18</sup> *Questiones de Anima*, ed. Robb (Toronto: PIMS, 1968), Q.2, p. 73: "Ad sextum dicendum quod intellectus dat formis intellectis universalitatem in quantum abstrahit eas a principiis materialibus individuantibus."

Cf. Q.3, p. 86, ad 8: "Sic igitur sua abstractione intellectus facit istam unitatem universalis, non eo quod sit unus in omnibus, sed in quantum est materialis."

<sup>19</sup> See n.17.

<sup>20</sup> *QP* I.7: Ideo intellectus poterit abstrahere speciem vel notitiam lapidis a specie vel notitia huius situs vel alterius, et sic intelligitur lapis, vel quantum ad hoc intelligendo de esse hic vel illic, et tunc indifferenter omnis lapis intelligitur conceptu communi non magis hic quam ille. [f.9ra].



there corresponds the vague singular first in the sense.<sup>21</sup> These uses of 'universal' are unfortunate, given that Buridan has left us no means of characterizing the product of abstraction which does not make it into a very good candidate for a universal. Might there be another way out of this difficulty?

Although Buridan has little to say about abstraction, I believe we can fill in some of the details for him. He needs something metaphysically much more ordinary than the sort of abstraction suggested by Aristotle and Aquinas. Since he holds that the universality of thought is not a result of anything the intellect does, but a property which thoughts possess in virtue of the fact that their embodying singular concepts naturally refer to sets of individuals in the world, he needs an account of abstraction which plays up the idea that the common concept is a stripped-down singular concept, while playing down any attempt to characterize it as a kind of universal. As a step in this direction, I propose the following.

For Buridan, the singularity of all aspects of cognitive processing is contained in these three claims:

- (1) Intelligible things exist singularly outside the soul
- (2) Intelligible things are represented to the intellect singularly from the beginning
- (3) Concepts all exist singularly.<sup>22</sup>

Buridan's account of how we get from things outside the soul to concepts depends upon the relation of representation, the relata of which are likenesses. Moreover, as we saw above, he assumes that:

- (4) Likenesses have a natural cause

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<sup>21</sup> *QP* I.7: *Modo ultimo considerandum est quod unicuique universali correspondet unum singulare vagum, et alteri universali alterum singulare, ut homini/hic homo, animali/hoc animal, corpori/hoc corpus, et sic de aliis.\**

... illud universale est prius apud intellectum cui correspondet singulare vagum prius apud sensum.

... Sed unumquodque universale est propinquissimum et immediatum suo individuo vago, statim enim et immediate ex notitia sensus secundum aliud singulare vagum consurgit notitia intellectiva secundum universale correspondens per abstractionem notae rei a notitia situs, sicut ante dictum fuit. [f.9vb].

\*Cf. *QDA* III.8, ll. 392-399; V f.47rb.

<sup>22</sup> See nn.5-6.

- (5) Natural-kind likenesses are transitive, such that if A is like B in being white, and B is like C being white, then A is like C in being white.<sup>23</sup>

From (4) and (5), he infers

- (6) An intellect representing (i.e. having the likeness of) some instantiation of natural property P is at the same time indifferently representing all other P-instantiations.<sup>24</sup>

Recall his remark that because all asses agree *ex natura rei*, an intellect representing some ass by way of likeness is at the same time indifferently representing any ass at all. This claim is central to the semantic side of Buridan's theory: the concept which does the representing of some ass is, in virtue of (4) and (5) above, also representing any ass at all, and this is the concept from which the term 'ass' is taken.

Now if we construe abstraction as simply the filtering process by which the intellect comes to have a representation, say, of Socrates' whiteness, apart from his sitting down, being six feet tall, etc., then there is no *prima facie* reason to regard this as a universal; it is simply Socrates's whiteness (call it s-whiteness, for short) separated from the other particular properties exhibited by him. Moreover, s-whiteness is causally related to Socrates because it is a likeness of *his* whiteness. But in virtue of (4) and (5) above, s-whiteness will also indifferently represent all white things: not only Socrates, but Plato, Aristotle, etc.; that is, from the abstracted general property s-whiteness, we cognize the extension of its corresponding predicate 'is white', which ranges over white things. The transitivity of natural-kind likenesses ensures that should an intellect have instead abstracted p-whiteness (from Plato) or a-whiteness (from Aristotle), it would still cognize by means of p-whiteness or a-whiteness something coextensional with what is cognized by means of s-whiteness.

There is a certain pragmatism attaching to this interpretation: s-whiteness does not count as a universal because it is Socrates' whiteness, distilled from the sensible representation of Socrates; but it is common

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<sup>23</sup> See nn.12-13.

<sup>24</sup> See nn.14-15.

enough, or vague<sup>25</sup> enough, that the concept corresponding to it can be used to refer not only to Socrates but also to all other individuals *k* from which *k*-whiteness can be abstracted. No universal need be invoked to explain the natural similarity of properties.

While this account avoids populating the mental realm with universals, and while there is something to be said for natural resemblance as the source of commonality, if not universality, let me add a proviso: it is not clear how Buridan might, using such an account, explain the important difference between having the concept *s*-whiteness and taking this concept to be true of other things besides *S*. If cognizing universally amounts to the recognition that the predicate corresponding to a vague common concept refers to a set of individuals indifferently, then surely recognizing this would be another mental operation; that is, abstracting *s*-whiteness cannot be what it means to think universally. Another operation is needed - that of taking *s*-whiteness to refer to other individuals besides *S* - in order to grasp the universality of that concept.

Buridan does speak in his *Questions on Aristotle's "De anima"* about the common concept being that under the guise of which things are understood universally,<sup>26</sup> but gives no details about how this works. Still, we can reconstruct. Since concepts properly function as terms in mental language, most thinking will consist in our combining these concepts in well-formed ways into mental language propositions. And since Buridan also holds that it is only in propositional contexts that terms refer, it will only be in propositional contexts that questions about the ontology of thought-objects are strictly relevant. Using a concept in a context where it actually refers presupposes that the user already has a fairly firm grip on the signification of that concept. Of course, how we learn concepts and come to appreciate their generality is an important matter.

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<sup>25</sup> The very closest Buridan comes to something like the account I'm sketching is in his treatment of cognition in his *Questions on Aristotle's "Physics"*, where he says that each universal is tied to a corresponding vague singular, and that sense-conceptions of vague singulars immediately give rise to intellective conceptions of the corresponding universals, by abstracting a conception of the thing from a conception of the place [see n. 21 above]. I think the vagueness of mental representations is exactly the notion Buridan needs to focus on if he wishes to avoid conceptual universals. A charcoal drawing of someone, for example, can be a vague representation of that person without being a universal, even though it depicts only some of his or her actual features.

<sup>26</sup> See n.17 above.

But here we seem to reach the limits of what can reasonably and charitably be added to Buridan's original account.

In conclusion, I think Buridan is for most part successful in reconciling his nominalistic world-view with the problem of how we think universally. The task for the nominalist is to explain our evident ability to cognize universally without postulating universals, either as products of abstraction or thought-objects. Buridan endeavours to steer clear of both these obstacles by on the one hand stipulating that the species by which we entertain a universal is itself singular, and on the other by treating the universality of thought as a function of the way in which concepts refer not to abstract concepts or entities, but to individuals in the world. And although his account of concept-generation explains intellectual abstraction in such a way that its product still looks like a good candidate for a universal, we can tell a more suitable story without much difficulty. At least in this respect, Buridan's psychology does not compromise his ontology.<sup>27</sup>

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<sup>27</sup> I wish to thank Calvin Normore and especially Norman Kretzmann for comments on earlier versions of this paper.





SECTION THREE

*TRIVIUM* AND THE SCIENCES



E.J. ASHWORTH

**Paul of Venice on Obligations: The Sources for both the *Logica Magna*  
and the *Logica Parva* Versions**

Treatises on obligations formed part of the specifically medieval contribution to logic along with treatises on supposition theory, consequences, and insolubles.<sup>1</sup> Their history may go back as far as the late twelfth century; but the most important early treatise was the *Tractatus de Obligationibus* of Walter Burley, which dates from around 1302. This work presented the theory in a fully developed form, and set the stage for all subsequent discussion. For my purposes, the next leading figure was Roger Swyneshed, who probably wrote between 1330 and 1335, and who held controversial views about the treatment of conjunctions and disjunctions. His doctrines were presented in a favourable light by Martinus Anglicus,<sup>2</sup> Robert Fland and Richard Lavenham,<sup>3</sup> but were otherwise generally rejected. Richard Billingham, who became a fellow of Merton College, Oxford, in 1344, wrote a text on obligations which formed part of the *Logica Oxoniensis*, a loose collection of logic treatises which was popular in the fifteenth century, and which was printed in England as late as 1530.<sup>4</sup> Another Englishman, Ralph Strode, who was a fellow of Merton 1359-1360, wrote a treatise which was especially popular

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<sup>1</sup> For general discussion of obligations and further references, see E. Stump, 'Obligations: A. From the beginning to the early fourteenth century' in *The Cambridge History of Later Medieval Philosophy*, edited by N. Kretzmann, A. Kenny and J. Pinborg (Cambridge etc.: Cambridge University Press, 1982), pp. 315-334; and P.V. Spade, 'Obligations: B. Developments in the fourteenth century', *ibid.*, pp. 335-341.

<sup>2</sup> See E.J. Ashworth, 'English *Obligationes* Texts after Roger Swyneshed: The Tracts beginning "Obligatio est quaedam ars"' in *The Rise of British Logic*, edited by P. Osmund Lewry, O.P. (Toronto: Pontifical Institute of Mediaeval Studies, 1985), pp.311-312.

<sup>3</sup> See Spade, *op.cit.*, pp.334-338. There are some striking similarities between Martinus Anglicus and Robert Fland.

<sup>4</sup> For Billingham's *Ars Obligatoria* and the subsequent manuscript tradition, see Ashworth, 'English *Obligationes* Texts'. For the *Logica Oxoniensis*, see L.M. de Rijk, 'Logica Oxoniensis: An Attempt to Reconstruct a Fifteenth Century Oxford Manual of Logic', *Medioevo* 3 (1977), pp.121-164; and E.J. Ashworth, 'The "Libelli Sophistarum" and the Use of Medieval Logic Texts at Oxford and Cambridge in the Early Sixteenth Century', *Vivarium* 17 (1979), pp.134-158.

in Italy.<sup>5</sup> At Paris, we find Albert of Saxony, whose discussion of obligations in his *Perutilis Logica*<sup>6</sup> was particularly influential for the 1360 treatise of the Dutchman William Buser.<sup>7</sup> In turn, Buser's treatise was heavily used in the treatise by his pupil, Marsilius of Inghen.<sup>8</sup> Two Italian authors must also be mentioned. Peter of Candia, later Pope Alexander V, wrote an obligations treatise perhaps between 1370 and 1380.<sup>9</sup> Peter of Mantua, writing between 1384 and 1392, included a long section on obligations in his *Logica*.<sup>10</sup> This is the background against which Paul of Venice must be considered.

Four independent logic treatises have been attributed to Paul: the *Logica Parva*;<sup>11</sup> the *Logica Magna*;<sup>12</sup> the *Quadratura*; and the *Sophismata Aurea*. The first two are general texts, each of which contains a section on obligations. There is also some relevant material in the *Quadratura*, but I shall not consider it here.<sup>13</sup> Francesco Bottin has given reasons for dating the *Logica Parva* 1395-96 and for dating the *Logica Magna* 1397-

<sup>5</sup> I am presently preparing an edition of this text in conjunction with A. Maierù's edition of the rest of Strode's *Logica*. References in this paper are to Ralph Strode, *Obligationes*, in *Consequentie Strodi etc.* (Venetiis, 1517), fol.78<sup>ra</sup>-fol.93<sup>rb</sup>.

<sup>6</sup> Albert of Saxony, *Perutilis Logica* (Venice, 1522; Hildesheim, New York: Georg Olms, 1974), fol.46<sup>va</sup>-fol.51<sup>vb</sup>.

<sup>7</sup> I have used Oxford, Bodleian Library MS Canon.Class.Lat. 278, fol.72<sup>ra</sup>-fol.78<sup>rb</sup>. For discussion of Buser, see C.H. Kneepkens, 'The Mysterious Buser Again: William Buser of Heusden and the *Obligationes Tract Ob Rogatum*' in *English Logic in Italy in the 14th and 15th Centuries*, edited by A. Maierù (Napoli: Bibliopolis, 1982), pp.147-166.

<sup>8</sup> I have used Cracow, Biblioteka Jagiellońska MS 2602, fol.70<sup>r</sup>-fol.101<sup>r</sup>.

<sup>9</sup> I have used Oxford, Bodleian Library MS Canon.Class.Lat. 278, fol.65<sup>ra</sup>-fol.69<sup>vb</sup>. For the date, I have used Green-Pedersen's conjecture about the date of Peter of Candia's *Consequentiae*: see N.J. Green-Pedersen, 'Early British Treatises on Consequences' in *The Rise of British Logic*, p.307.

<sup>10</sup> I have used Peter of Mantua, *Logica* (Venice, 1492), sig. G ii<sup>ra</sup>-sig. G viii<sup>vb</sup>. For the dating of his logical works, see T.E. James, 'Peter Alboini of Mantua: Philosopher-Humanist', *Journal of the History of Philosophy* 12 (1974), pp.161-170.

<sup>11</sup> Paulus Venetus, *Logica* (Venice, 1472; Hildesheim, New York: Georg Olms, 1970). For a translation of this edition, see A.R. Perreiah, *Paulus Venetus. Logica Parva* (München, Wien: Philosophia Verlag, 1984). I shall use the citation LP, with page references to the 1472 edition. These references are included in Perreiah's translation.

<sup>12</sup> Paulus Venetus, *Logica Magna* (Venetiis, 1499); E.J. Ashworth, editor and translator, *Paul of Venice. Logica Magna. Part II. Fascicule 8. Tractatus de Obligationibus* (printed for the British Academy by the Oxford University Press, 1988). I shall use the citation LM, with folio references to the 1499 edition. These references are included in my edition.

<sup>13</sup> Paulus Venetus, *Quadratura* (Venetiis, 1493): see *Dubium secundum*, cap.11; *Dubium tertium*, cap.6, cap.23, cap.29.

98.<sup>14</sup> However, there is some controversy about the relationship between these works; and it has even been asked whether Paul was the author of both.<sup>15</sup> In this paper I shall first give a brief survey of the sources for the *Logica Magna* treatise on obligations; and I shall then argue that, in light of what I have discovered, there is good reason to attribute both the *Logica Magna* and the *Logica Parva* tracts on obligations to the same author.

The first thing to notice about the *Logica Magna* is that despite its frequent heavy dependence on other sources, it is an integrated and interesting work. It contains useful clarification of such matters as the function of ordering in obligational disputations;<sup>16</sup> and there is an abundance of new sophisms. For instance, twenty-seven of the sixty sophisms for *positio* seem to appear in no other source.<sup>17</sup> There are two doctrinal innovations. First, Paul offers a definition of '*obligatio*' which seems completely new in the literature.<sup>18</sup> Instead of identifying an *obligatio* with a statement, or an action, or an act of binding the respondent, or a preface to some statement showing how it should be treated, he preferred to define an *obligatio* as a relation which arose when the opponent's *positum* was admitted by the respondent. Second, Paul offers a somewhat novel tripartite division of *obligationes* into *suppositio*, *positio*, and *depositio*.<sup>19</sup> I say 'somewhat novel', because

<sup>14</sup> F. Bottin, 'Logica e filosofia naturale nelle opere di Paolo Veneto' in *Scienza e Filosofia all'Università di Padova nel Quattrocento*, edited by A. Poppi (Contributi alla Storia dell'Università di Padova 15. Trieste: Lint, 1983), pp.87-93.

<sup>15</sup> See F. del Punta and M.M. Adams, edition and translation, *Paul of Venice. Logica Magna. Part II. Fascicule 6. Tractatus de Veritate et Falsitate Propositionis et Tractatus de Significato Propositionis* (Published for the British Academy by the Oxford University Press, 1978), p.xiii: '...while the common authorship of the *Logica Magna*, the *Logica Parva*, the *Sophismata*, and the *Quadratura* is highly probable, it has not been proved with certainty.... We have found that the teachings of the *Logica Parva* are in any event often inconsistent with those of the *Logica Magna*.' Perreiah, op.cit., pp.327-343, gives the strong impression that he doubts common authorship of the *Logica Parva* and the *Logica Magna*.

<sup>16</sup> For some discussion see E.J. Ashworth, 'The Problems of Relevance and Order in Obligational Disputations: Some Late Fourteenth Century Views', *Medioevo* 7 (1981), pp.175-193.

<sup>17</sup> These sophisms are found LM fol.181<sup>ra</sup>-fol.189<sup>vb</sup>. The new sophisms are: 2.4 (i.e. the fourth sophism directed against the second rule), 3.1, 3.2, 3.4, 3.5, 3.7, 4.2, 4.3, 4.4, 4.6, 4.7, 4.8, 5.2, 6.1, 6.2, 6.3, 8.1, 8.3, 9.3, 9.4, 9.5, 10.3, 10.4, 10.4A (i.e. a supplementary sophism), 12.1, 12.2, 12.4.

<sup>18</sup> LM fol.177<sup>rb-vb</sup>.

<sup>19</sup> LM fol.178<sup>va</sup>-fol.179<sup>ra</sup>.



references to *suppositio* are found in Billingham, Strode and Peter of Mantua;<sup>20</sup> and because the notion seems to have close links with that of *casus* in Burley and Ockham.<sup>21</sup> Nor is it a category of which Paul was to make real use. Briefly, *suppositio* was a kind of preliminary *obligatio* in which the respondent agreed to accept a description of the initial situation as true. The main *obligatio* would then be set against this background of assumed fact. However, Paul himself wrote:<sup>22</sup>

In what follows, I shall not discuss the first species of *obligatio*, unless perhaps accidentally in the context of a *positio* or *depositio*, since it is not a sentence used to test <logical skills>, nor are misleading disputations produced through it.

In the *Logica Magna* Paul combines original discussion with long paraphrases or even straightforward quotations from earlier sources, a technique which doubtless enabled him to produce a work so enormously long.<sup>23</sup> However, the earliest direct source one can establish with certainty is Albert of Saxony.<sup>24</sup> All the material which relates to such figures as Burley and Swyneshed is also found in Albert, Buser or Strode. To some extent the situation is the same with respect to Billingham and the *Logica Oxoniensis*, but here there are a few places in which Paul uses rules or examples found only in some version of the *Logica Oxoniensis*.<sup>25</sup> William Buser is an important source, especially for the discussion of sophisms;<sup>26</sup> but the most important overall is Ralph Strode. This is so

<sup>20</sup> Richard Billingham, *Ars Obligatoria*, Salamanca University MS 1735, fol.89<sup>v</sup>; Peter of Mantua, op.cit., sig. G v<sup>ra</sup>. Strode has the word '*suppono*', op.cit., fol.78<sup>rd</sup>, but the word '*suppositio*' appears in at least one of the manuscripts: see Oxford, Bodleian Library MS Canon.misc.219, fol.37<sup>rb</sup>.

<sup>21</sup> For Burley, see Stump, op.cit., p.322. For Ockham, see William Ockham, *Summa Logicae*, edited by P. Boehner, G. Gál, S. Brown (Opera Philosophica I. St. Bonaventure, N.Y.: Franciscan Institute, 1974), pp.735-736.

<sup>22</sup> This is my translation of LM, fol.179<sup>ra</sup>.

<sup>23</sup> For full details, I refer the reader to my forthcoming edition: see note 12.

<sup>24</sup> Cf. Del Punta's notes on the sources for *Paul of Venice. Logica Magna. Part II. Fascicule 6*.

<sup>25</sup> For instance, the tenth rule for *depositio* (LM fol.191<sup>va</sup>) is found in Oxford, Bodleian Library MS Lat.misc.e 79, fol.23<sup>rd</sup>; and the examples on LM fol.191<sup>rd</sup> in relation to the third rule for dissimilars are reminiscent of two sophisms in *ibid.*, fol.22<sup>rd</sup>.

<sup>26</sup> Given the similarities between Buser and Marsilius of Inghen, one might wonder whether Paul had used Marsilius. Kneepkens offers reasons for thinking that Paul followed Buser: Kneepkens, op.cit., pp.161-164. Kneepkens' view is borne out by my own observations. For instance, Paul nowhere mentions Marsilius' characteristic division of *obligatio* into *positio*, *depositio*, and *dubie positio*; and in at least one place where Marsilius and Buser offer different solutions to a sophism, it is Buser whom Paul

with respect not only to theoretical discussion but to the sophisms themselves. Of the thirty-three sophisms for *positio* whose sources I have traced, nineteen are found in Strode, and of these, eight are found only in Strode.<sup>27</sup> Peter of Candia was another source. Of five sophisms for *positio* found in both Peter and Paul, Peter provides the only source I know for three.<sup>28</sup> Moreover, of Paul's twelve rules for *depositio*, all but two are found explicitly in Peter of Candia.<sup>29</sup> Paul has largely adopted Peter's wording and examples; and three of the rules, Paul's rules seven, eight and nine, are unique to Peter of Candia. Finally, there is Peter of Mantua. He was not a strong influence; but there are various passages in which Paul seems to be drawing on his text.<sup>30</sup>

Let us now turn to the *Logica Parva*. At first blush, the most obvious feature of the *Logica Parva* is its close relationship to the *Logica Oxoniensis*. Like the *Logica Oxoniensis*, it is a loose collection of treatises on various logical topics, and like the *Logica Oxoniensis* it opens with a brief *summulae* in which terms, propositions and syllogisms are discussed.<sup>31</sup> The resemblance between the obligations tracts in the *Logica Parva* and in the *Logica Oxoniensis* is particularly striking, at least with respect to the table of contents.<sup>32</sup> In the *Logica Oxoniensis* the standard list of contents was as follows: 1. Introductory section, including definitions of key terms. 2. Rules for *positio*. 3. Sophisms for *positio*. 4. Sophisms and rules for for posited conjunctions and disjunctions. 5. Interchangeable propositions. 6. Similar and dissimilar propositions. 7. Sophisms and rules for *depositio*. Paul of Venice omits the section on posited conjunctions and disjunctions, but otherwise he follows this outline exactly. This does not mean, however, that the contents of each section are the same. In fact, there are considerable differences.

The first difference concerns the introduction. Paul has substituted Albert of Saxony's definition of '*obligatio*' for that found in Billingham

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follows: see LM fol.190<sup>ra</sup>; Marsilius, op.cit., fol.94<sup>r</sup>; Buser, op.cit., fol.77<sup>rb</sup>.

<sup>27</sup> The eight found only in Strode are 2.2, 2.3, 3.3, 3.5A, 5.3, 10.1, 10.2, and 12.3.

<sup>28</sup> The three found only in Peter of Candia are 3.6, 5.4, and 9.2.

<sup>29</sup> LM fol.191<sup>va-vb</sup>; Peter of Candia, op.cit., fol.69<sup>ra-vb</sup>.

<sup>30</sup> For instance, LM fol.178<sup>va</sup> draws on Peter of Mantua, op.cit., sig. G ii<sup>va</sup> for the distinction between '*concedenda participialiter*' and '*concedenda nominaliter*'.

<sup>31</sup> LP pp.[1]-[30].

<sup>32</sup> For some reason I denied this in 'English *Obligationes* Texts', p.317.

and the *Logica Oxoniensis*.<sup>33</sup> Moreover, unlike Billingham, who mentioned both *impositio* and *suppositio*, but like all the other versions of the *Logica Oxoniensis*, Paul gives just two kinds of *obligatio*, namely *positio* and *depositio*. In both these respects the *Logica Parva* is unlike the *Logica Magna* where, as I have already pointed out, we find a completely new definition of *obligatio*, and where *suppositio* as a type of *obligatio* is discussed at some length. Alan Perreiah finds these differences significant,<sup>34</sup> but I do not. The *Logica Parva* introduction is very brief, a mere six lines, and this alone would preclude the paying of attention to such relatively marginal notions as *suppositio*. Furthermore, if, as I believe, the *Logica Magna* was written after the *Logica Parva*, there is no reason why Paul should not have changed his mind about the most appropriate way of defining *obligatio*. Instead of continuing to follow Albert of Saxony, he developed his own view of the matter.

When one turns to the sets of rules and sophisms, one again finds that the difference between the *Logica Parva* and the *Logica Oxoniensis* is considerable, though I shall not pause to demonstrate this here.<sup>35</sup> On the other hand, the relationship between the *Logica Parva* and the *Logica Magna* is very close. This relationship was noted by Perreiah, on the basis of his comparison of the rules. He wrote:<sup>36</sup>

The treatment of obligations in the two works thus reveals a close kinship. Apart from the initial definition and typology of obligations which are markedly different in the two works, the rules of obligation including the examples used to illustrate them are strikingly close. Because the *Logica Parva* expressions are normally simpler and briefer and because of a reduction of the number of rules in several groups, the *Logica Parva* account would appear to derive either from the *Logica Magna* treatment or more likely from a source which both works have in common.

I have two points to make about Perreiah's claims. First, if Bottin is right, the *Logica Magna* is later than the *Logica Parva* and there is hence no question of the former serving as source for the latter. Second, an investigation of the sources for both the *Logica Magna* and the *Logica Parva* reveals a situation which it would be absurd to explain by

<sup>33</sup> Albert of Saxony, op.cit., fol.46<sup>vb</sup>; LP p.[118].

<sup>34</sup> Perreiah, op.cit., pp.340-341.

<sup>35</sup> The relevant material for making a comparison is found in Ashworth, 'English *Obligationes* Texts'.

<sup>36</sup> Perreiah, op.cit., p.343.

postulating some as yet unknown intermediate source. I shall illustrate what I mean by looking at each section of the *Logica Parva* in turn.

First, there are the rules for *positio*.<sup>37</sup> In the *Logica Parva* there are nine; in the *Logica Magna* there are twelve. Rules three and five of the *Logica Magna* are both included in rule three of the *Logica Parva* and rules four and six of the *Logica Magna* are both included in rule four of the *Logica Parva*. Rule ten of the *Logica Magna* appears as a corollary to rule seven of the *Logica Parva*. However, the ordering of the rules is otherwise exactly the same. This is significant, because I know of no other source with just that ordering.<sup>38</sup> Moreover, rule one in both works, to the effect that every possible proposition should be admitted, was not normally put forward as a rule, though it was a generally acknowledged principle; and rule ten, the corollary to rule seven in the *Logica Parva*, was not a standard rule either. It comes from Ralph Strode.<sup>39</sup>

Second, there are the sophisms for *positio*. There are just ten of these in the *Logica Parva*, as compared to the sixty of the *Logica Magna*.<sup>40</sup> Nine of the ten are found in the *Logica Magna*. Of these nine, three are popular sophisms found in most sources; three are found in Strode and at most one other source; one is found in Strode alone; one is closely related to a sophism of Strode's; and one is only in the *Logica Magna*. The remaining sophism is very close to one found in Peter of Candia, another of the known sources for the *Logica Magna*.

Third, there is the section on interchangeable propositions.<sup>41</sup> There

<sup>37</sup> LM fol.179<sup>ra</sup>-fol.180<sup>ra</sup>; LP pp.[118]-[122].

<sup>38</sup> Perreiah, op.cit., p.341, points out that the *Logica Parva* rules omit the phrase '*scitum esse tale infra tempus obligationis*'. He believes this to be important, but I think it could be explained by the brevity of the text. In the *Logica Magna*'s treatment of sophisms little seems to hinge on the presence or absence of the phrase in question.

<sup>39</sup> Strode, op.cit., fol.78<sup>vb</sup>.

<sup>40</sup> The relations are as follows: Sophism 1 (LP p.[122]) is LM 1.1, found in Strode and (following Strode) Peter of Mantua. Sophism 2 (LP p.[123]) is similar to one in Peter of Candia, op.cit., fol.67<sup>ra-rb</sup>. Sophism 3 (LP p.[124]) is LM 3.3, found in Strode alone. Sophism 4 (LP p.[125]) is LM 4.1 and found in a variety of sources. Sophism 5 (LP p.[125]) is LM 7.1 and found in a variety of sources. Sophism 6 (LP p.[126]) is LM 8.2 and is found in Albert of Saxony and Strode. Sophism 7 (LP p. [127]) is LM 9.1 and found in Strode and the *Logica Oxoniensis*. Sophism 8 (LP p.[128]) is LM 11.1 and found in a variety of sources. Sophism 9 (LP p.[128]) is LM 12.1 and is similar to a sophism in Strode. Sophism 10 (LP p.[129]) is LM 12.2. For full references, see my edition cited in note 12. In the case of sophism 3, Perreiah's punctuation (op.cit., pp.218-219) obscures the sense. It should read: 'I posit to you this proposition: "You run and 'You do not run' is to be conceded by you".'

<sup>41</sup> LP pp.[129]-[134].



is no such separate section in the *Logica Magna*, and the six rules found in the *Logica Parva* are not in the *Logica Magna*. Nor do they feature in any of the other authors that I know, so we may have here a case in which Paul included new material in the *Logica Parva*, only to change his mind about its value before he wrote the *Logica Magna*. Be that as it may, the bulk of the section on interchangeable propositions is devoted to the discussion of one sophism, 'I posit to you: "There is a God' and 'A human being is a donkey' are interchangeable".' This sophism is discussed in three separate places in the *Logica Magna*, and the third discussion, which owes a great deal to the long and elaborate discussion found in Buser, is itself extremely long and elaborate, occupying one whole page in the 1499 edition.<sup>42</sup> My hunch is that Buser inspired Paul's interest in the sophism, that Paul indulged this interest in the *Logica Parva*, and that he worked through the material yet more fully in the *Logica Magna*.

The fourth section is on similars and dissimilars.<sup>43</sup> The one sophism fully discussed is also discussed in the *Logica Magna* at length and, like the sophism mentioned previously, it derives from William Buser.<sup>44</sup> The package of rules is the same in both the *Logica Parva* and the *Logica Magna*; and no such neatly organized package is to be found in any of the other sources that I know.

The final section is on *depositio*.<sup>45</sup> Here the *Logica Parva* has five rules where the *Logica Magna* has twelve. Of the *Logica Magna* rules, the first two appear as general principles rather than as rules in the sources. Rule three of the *Logica Magna* is rule one of the *Logica Parva*. Rules four and ten of the *Logica Magna* are included in rule two of the *Logica Parva*; rules five and six are included in rule three; and rules seven and nine in rule four. Most of rule twelve is captured by rule five of the *Logica Parva*. Rule eight of the *Logica Magna*, which also appears in Peter of Candia, does not appear in the *Logica Parva*.<sup>46</sup> Rule eleven of the *Logica Magna* appears as a definition given after the rules in the *Logica Parva*. Apart from the placing of the *Logica Magna* rules ten and twelve, the content and ordering is virtually the same in both cases.

42 LM fol.178<sup>rb</sup>; fol.180<sup>ra-rb</sup>; fol.185<sup>ra-rb</sup>; Buser, op.cit., fol.74<sup>va</sup>-fol.75<sup>va</sup>.

43 LP pp.[134]-[138]; LM fol.190<sup>va</sup>-fol.191<sup>rb</sup>.

44 LP pp.[134]-[135]; Buser, op.cit., fol.76<sup>vb</sup>-fol.77<sup>ra</sup>; LM fol.190<sup>va-vb</sup>.

45 LM fol.191<sup>va</sup>-fol.192<sup>rb</sup>; LP pp.[138]-[142].

46 LM fol.191<sup>va</sup>; Peter of Candia, op.cit., fol.69<sup>vb</sup>.



While I have already argued that Peter of Candia was the main source for the *Logica Magna* rules, he was not responsible for their ordering.

Finally, there are four sophisms in the *Logica Parva* section on *depositio*. One of these features in the *Logica Oxoniensis* but not in the *Logica Magna*.<sup>47</sup> A second is given a different wording in the *Logica Magna* but the discussion, which largely derives from Peter of Candia, is exactly the same.<sup>48</sup> The remaining two sophisms appear in the *Logica Magna*, and they both come from Strode.<sup>49</sup>

To sum up: the pattern of sources for the *Logica Parva*'s treatment of obligations is exactly the same as the pattern of sources for the *Logica Magna*'s treatment. We find Albert of Saxony, Buser, the *Logica Oxoniensis*, Strode and Peter of Candia. The rules given are generally standard rules, but their organization is idiosyncratic, and common to both the *Logica Magna* and the *Logica Parva*. The sophisms in the *Logica Parva* are nearly all found in the *Logica Magna*. Given these facts, I would be astounded to discover that the same man had not compiled both treatises. Whether similar conclusions can be drawn for other parts of the *Logica Parva* remains to be seen.

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47 'Antichristus non est albus vel Antichristus est coloratus': LP p.[140]. For the *Logica Oxoniensis*, see 'English *Obligations* Texts', p.326. The word 'non' should be restored to the text found there.

48 'Tu es homo vel tu es Romae': LP pp.[139]-[140]; 'Tu es Romae vel aliquis homo est animal': LM fol.191<sup>vb</sup>-fol.192<sup>ra</sup>. Peter of Candia, op.cit., fol.69<sup>va</sup>.

49 'Aliquae propositiones non sunt simul verae': LP p.[140]; LM fol.192<sup>ra</sup>; Strode, op.cit., fol.89<sup>rb</sup>. 'Tu es et omne tibi depositum est a te negandum': LP p.[141]; LM fol.192<sup>ra</sup>; Strode, op.cit., fol.89<sup>va</sup>.

NAIDA ANNA BACCIN

*Homerus est poeta: un caso di predicazione  
secundum accidens*

Con la distinzione tra predicazione καθ'αυτό e κατά συμβεβηκός del verbo εἶναι il passo 21a 25-28 del *De Interpretatione* costituisce ancor oggi un oggetto di complesse discussioni.<sup>1</sup>

Non voglio addentrarmi nel problema dell'interpretazione del testo greco, ma mi limiterò a proporre la traduzione boeziana, della quale si avvalgono i commentatori medievali:

Verum autem dicere de aliquo et simpliciter, ut quendam hominem hominem aut quendam album hominem album; non semper autem, sed quando in adiecto quidem aliquid oppositorum inest quae consequitur contradictio, non verum sed falsum est, ut mortuum hominem hominem dicere, quando autem non inest, verum.

Vel etiam quando inest quidem semper non verum, quando vero non inest, non semper verum, ut Homerus est aliquid, ut poeta. ergo etiam est an non? secundum accidens enim praedicatur esse de Homero; quoniam <enim> poeta est, sed non secundum se, praedicatur de Homero quoniam est.<sup>2</sup>

Nella prima parte del capitolo undicesimo del *De Interpretatione* si sono delineate le condizioni d'inferenza da un enunciato con predicazione *disiunctim* al corrispondente *coniunctim*:

da "Socrates est homo"

e da "Socrates est albus"

si può inferire: "Socrates est homo albus".

L'inferenza non si può tuttavia generalizzare, senza opportune restrizioni: per esempio, da "Socrates est bonus" e da "Socrates est citharedus" non è dato inferire "Socrates est bonus citharedus".

Il caso inverso, ossia quello d'inferenza da una predicazione *coniunctim* a una *disiunctim*, presenta analoghe restrizioni. L'inferenza

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<sup>1</sup> Per la difficoltà degli usi di εἶναι in Aristotele e nella tradizione filosofica posteriore si veda in particolare: S. Knuutila e J. Hintikka, *The Logic of Being*, Reidel: Dordrecht 1986.

<sup>2</sup> Cfr. A.M.S. Boetii *Commentarii in librum Aristotelis Περὶ Ἑρμηνείας*, II ed., rec. Meiser, Lipsiae 1877, pp. 370, 373.

non è valida, quando ci sia una qualche forma di opposizione tra le parti componenti della predicazione - *oppositio in adiecto* - oppure quando - parafrasando con una terminologia moderna - si passi da una predicazione con il verbo *esse* in accezione puramente copulativa alla sua accezione esistenziale.

Il testo greco - e sulla sua scia l'esegesi medievale - accomuna dunque due tipi d'inferenza, che, secondo le nostre convinzioni semantiche, appaiono sostanzialmente differenti: ossia l'inferenza da predicazioni complesse come in *A est B et C, ergo A est B et A est C*, e l'inferenza dall'accezione copulativa di *esse* alla sua forma esistenziale (ossia da *A est B* ad *A est*). Nel *De Sophisticis Elenchis*<sup>3</sup> i due schemi non validi d'inferenza vengono di nuovo accomunati e classificati come casi di *fallacia secundum quid et simpliciter*.<sup>4</sup>

Fin dall'esegesi tardo-antica si tende a connettere il passo undicesimo del *De Interpretatione* alla *fallacia secundum quid et simpliciter* degli *Elenchi*, secondo una linea, che tende a sviluppare una tradizione comune alle due opere.<sup>5</sup>

Nel medioevo l'esempio "Homerus est poeta" viene a volte sostituito da "Homerus est in opinione", che è ricondotto a "Homerus est opinabilis". Ciò forse si spiega con la contaminazione tra i due seguenti esempi, forniti nel *De Interpretatione*: "Homerus est poeta, ergo Homerus est" e "Quod non est, est opinabile, ergo est".<sup>6</sup> In ogni modo la trasformazione di "Homerus est poeta" in "Homerus est in opinione/opinabilis" porta ad una maggiore uniformità nella trattazione dei due tipi di inferenza non valida o *fallacia secundum quid*. Sembra infatti che in entrambi i casi sia la natura della determinazione, che funge da predicato ("est opinabilis") o da parte del predicato ("est homo mortuus"), a condizionare la

<sup>3</sup> *De Sophisticis Elenchis* c.5, 167a sgg.

<sup>4</sup> Tuttavia già Occam sente la necessità di precisare che la *fallacia secundum quid et simpliciter* si articola in due modi: un modo, per cui si passa da *est tertium adiacens* ad *est secundum adiacens*; un secondo modo, per cui "a parte eiusdem extremi, vel a compositione sumpta cum determinatione, arguitur ab aliquo sumpto cum addito ad ipsummet sumptum sine addito". (Si veda: Guillelmi de Ockham, *Expositio super libros Elenchorum* in: *Opera Philosophica et Theologica*, III, ed. F. del Punta, St. Bonaventure University 1979, p. 54).

<sup>5</sup> Cfr. S. Ebbesen, "The dead man is alive", in: *Synthese*, 40 (1979), p. 43 e idem, *Commentators and Commentaries on Aristotle's Sophistici Elenchi*, v.I., Leiden 1981, p. 171.

<sup>6</sup> L'esempio di inferenza non valida "Quod non est, est opinabile, ergo est" viene dato talvolta nella versione: "Chimera est opinabilis, ergo est".

possibilità di inferenze *coniunctim-disiunctim* (mentre in "Homerus est poeta" era piuttosto l'uso contestuale a decidere del senso da annettere ad est).

Due nozioni entrano in gioco nella spiegazione dei due tipi non validi d'inferenza: quella di *determinatio diminuens* e quella di *determinatio detrahens* o, più comunemente, *distrahens*. L'idea fondamentale è che in espressioni come "Socrates est homo mortuus", la determinazione *mortuus* alteri (*distrahit*) il significato del termine determinato - *homo* -, mentre in espressioni come "Homerus est in opinione", la determinazione attenua (*diminuit*) o indebolisce il grado di *essere* espresso dalla copula. Si ammette infatti che il verbo *esse*, in presenza di certe determinazioni, perda l'importo esistenziale - almeno nel senso di *esse extra* - e che passi a designare un grado indebolito di essere, quale l'essere mentale, quello immaginato e così via.<sup>7</sup>

A giudicare dai commenti tuttavia, e soprattutto dalle *quaestiones*, l'attenzione è focalizzata sulle determinazioni *distrahentes* - ossia su quelle che implicano un'*oppositio in adiecto* -, poiché pare che esse comportino l'alterazione sostanziale del significato dei termini, cui si uniscono.<sup>8</sup> Se si accetta la tesi, comunemente diffusa nella seconda metà del tredicesimo secolo,<sup>9</sup> per cui il significato dei termini è fisso e l'*impositio* è irripetibile ("voces non cadunt a suis significatis"), diventa assai problematico accettare che, per esempio, nell'espressione *homo*

<sup>7</sup> Nell'esempio originale - "Homerus est poeta" - manca una predicazione, che rimandi al piano mentale o che esprima una qualche nozione di modalità, e dunque lì si preferisce mantenere la spiegazione di Boezio, secondo cui ciò di cui si asserisce l'essere non è quanto è designato dal soggetto, ma dal predicato *poeta*). In altri commenti c'è una netta distinzione tra il caso di *oppositio in adiecto* e quello di predicazione accidentale, poiché entrambi vengono classificati come casi di predicazione con una nozione *diminuens*: come *opinibalis* diminuisce il senso di *est* in "Chimera est opinabilis", così fa *mortuus* nei riguardi di *homo* o *pictus* rispetto ad *homo* o ad *animal* (cfr. Petrus Hispanus, *Tractatus Called Afterwards Summule Logicales*, ed. L.M. de Rijk, Assen 1972, p. 158).

<sup>8</sup> S. Ebbesen, "The dead man is alive", op. cit., pp. 43-7.

<sup>9</sup> Cfr. J. Pinborg, "Some Problems of Semantic Representation in Medieval Logic", in *History of Linguistic Thought and Contemporary Linguistics* a cura di H. Parret, Berlino-New York 1976.

Idem, "The English contribution to the Logic", *Synthese* 40 (1979), pp. 19-42; Ebbesen, "The dead man", cit.; H.A.G. Braakhuis, "Kilwardby versus Bacon? The contributions to the discussion on univocal signification of being and non-being found in a sophisma" in: *Medieval Semantics and Metaphysics*. Studies Dedicated to L.M. de Rijk, a cura di Bos, *Artistarium Suppl.* 2, Niimega, 1985; A. de Libera, "Roger Bacon et le problème de l'appellatio univoca", in: *English Logic and Semantics from the End of the 12th Century to the time of Ockham and Burleigh*. Acts of the 4th European Symposium on Mediaeval Logic and Semantics, a cura di Braakhuis, Niimega 1981.

*mortuus* il termine *homo* perda il suo originario significato, nell'impossibilità di mantenere una delle sue proprietà essenziali - quella di *esse vivum* - in congiunzione con la determinazione *mortuum*.

Se dunque si condivide la tesi della fissità del significato, occorre individuare un'interpretazione semantica, capace di render conto di ciò che avviene in espressioni come *homo mortuus* ed anche, in diversa misura, di ciò che determina l'accezione indebolita di *esse* in espressioni, come "Homerus est in opinione". Tra i sostenitori della tesi "radicale" della permanenza del significato si trovano alcuni esponenti di quella che J. Pinborg ha chiamato *logica modista*: in particolare Pietro d'Alvernia e Simone di Faversham.

In questa sede mi occuperò dell'argomento relativamente ad alcune questioni *In Perihermeneias*<sup>10</sup> di Pietro d'Alvernia; ricorrerò anche ad un passo, tratto dal commento di Tommaso di Erfurt *In Perihermeneias*.<sup>11</sup> Infine attraverso alcune delle argomentazioni tratte da Rodolfo Brito<sup>12</sup> si potrà individuare a larghe linee il nesso tra le scelte semantiche e l'esigenza di garantire le condizioni fondamentali del sapere scientifico, secondo il modello degli *Analitici Posteriori*.

Or dunque è plausibile chiedersi: perché la presenza nel linguaggio di predicazioni con determinazioni *secundum quid* o con *oppositio in adiecto* esige una nuova riflessione sulla teoria del significato?

Il fatto è che considerare il significato di un termine quale *homo* sostanzialmente differente in un'espressione come "x est homo mortuus" da quello in espressioni del tipo "x est homo" equivale ad ammettere che un cambiamento contestuale - quale la presenza della determinazione *mortuum* - o un mutamento di referenza - nel caso di "x est homo mortuus" la variabile *x* varia su un dominio di enti nel passato - non solo, come ci si aspetta, possano cambiare le condizioni di verità, ma la stessa struttura semantica dei termini. Ciò viola la tesi della fissità del significato dei termini ed anche quella della totale indifferenza dei nomi a nozioni di tempo o di modalità, come insegna il secondo capitolo del *De Interpretatione*.<sup>13</sup>

<sup>10</sup> Si sono esaminati il Ms. F = Firenze, il Ms. B Laur. S.Croce Plut. XII Sin.3 e il Ms. P = Paris BN lat. 16170.

<sup>11</sup> Ms. L = UB Leipzig 1356.

<sup>12</sup> Ms. Vat. lat. 2141 e Ms. Vat. lat. 3061.

<sup>13</sup> Cfr. Pietro d'Alvernia, *quaestio* "Utrum signum universale additum terminis communi distribuat ipsum pro suppositis presentibus, preteritis et futuris" (Ms. F, f.10rb



Una soluzione praticabile potrebbe consistere nel mantenere la tesi dell'immutabilità del significato, e nell'analizzare attraverso la tecnica della *suppositio* e delle altre *proprietates terminorum* le espressioni con termini *distrahentes* o comunque contenenti nozioni di *diminutio de ratione essendi*. Tuttavia i modisti sembrano rinunciare ai mezzi della logica terministica<sup>14</sup> sviluppando, a loro volta, una logica di tipo intensionale, la cui struttura portante è appunto costituita dalla connotazione dei termini e non dalla loro funzione denotativa.

Ciò comporta che la spiegazione del comportamento "aberrante" di certe espressioni, in funzione predicativa, o di certe occorrenze del verbo *esse* vada cercata sul piano dei significati e non dei referenti.

La nozione, cui si fa ricorso è quella di *analogia*. Alcuni tipi di termini (tutti i termini di sostanze corruttibili ed il verbo *esse*) vanno considerati analoghi: presi di per sé, essi infatti rimandano a un significato primario (es.: *homo* rimanda a *homo vivus*); mentre uniti a certe determinazioni rimandano ad un significato secondario (*Homo mortuus* - *cadaver*), oppure ad entrambi ("Homo est mortuus": il termine *homo* rimanda tanto al concetto di *homo vivus* che a quello di *cadaver*). Tra il significato primario ed i significati secondari sussiste sempre una qualche forma di somiglianza (*secundum quandam attributionem*): nel caso di *homo* sembra che ciò che mette in una relazione di continuità la nozione di *uomo vivo* con quella di *cadavere* sia la materia: "<homo> dicitur enim de cadavere quod fuit materia hominis".<sup>15</sup> La relazione tra *homo* ed *homo pictus* si fonda invece sulla pura somiglianza pittorica ("Homo pictus, quod est similis homini vero").

I significati dei termini analoghi sono regolati secondo una relazione di *prius-posterius* e, ciò che più conta, tale relazione è fissata dall'*impositio* e rientra, per così dire, nel "programma semantico" del termine. La presenza di un'opportuna determinazione o - nel caso del verbo *essere* - di un opportuno contesto modifica la funzione significativa, secondo una regola, già inscritta nell'atto dell'imposizione, che non

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55-6): "Intelligendum est quod terminus communis substantialis sicut *homo* in ratione sua tempus includit nullum".

<sup>14</sup> "Die Logik der Modistae", *Studia Mediewistyczne*, 16 (1975), pp.39-97; idem, "Some Problems of Semantic Representation in Medieval Logic", cit., pp.263-4.

<sup>15</sup> Pietro d'Alvernia, q. *Si sequatur: Sor est homo mortuus, ergo Sor est homo*, Ms. F, f.10va 20-1.

implica dunque il mutamento del significato e la reversibilità dell'*impositio*.

La nozione di *analogia* offre un altro vantaggio: riconduce ad una trattazione uniforme i due differenti casi di predicazione con *oppositio in adiecto* e di predicazione *secundum quid*. Ciò che muta nelle due predicazioni è il tipo di termine, che viene interessato dall'*analogia*: nell'*oppositio in adiecto* è sempre un nome, che entra a comporre il predicato, ad essere analogo (*homo*), mentre nella predicazione accidentale è analogo il verbo *esse*.

Occorre precisare che la soluzione, che si avvale del criterio di *analogia*, non è adottata da tutti i modisti: mentre alcuni - come vedremo nel caso di Rodolfo Brito - l'accolgono, ma in senso notevolmente diverso da quello esposto, altri, come Sigieri di Courtrai, ripetono il vecchio commento boeziano.<sup>16</sup> Tommaso di Erfurt riporta tanto la spiegazione boeziana che quella fondata sull'*analogia* e dell'invenzione di quest'ultima attribuisce il merito ad Ammonio.<sup>17</sup> Non è possibile in questa sede esaminare tutte le conseguenze di quest'uso della nozione di *analogia*<sup>18</sup>; mi limiterò ad alcune considerazioni. Il modello analogico, applicato al verbo *esse*, ha il vantaggio di garantire una pur tenue forma di unità tra gli usi del verbo; gli ambiti, per esempio, in cui la predicazione è interessata da nozioni di modalità ("Chimera est opinabilis") o da termini di seconda intenzione ("Homerus est in opinione") vengono esaminati alla luce dei significati secondari del verbo *esse*, che rappresentano, per così dire, gradi indeboliti di essere. Il che vuol dire che, per esempio, la falsità di "Chimera est opinabilis, ergo Chimera est" non è dovuta alla netta separazione tra un uso puramente copulativo ed uno esistenziale di *esse*, ma al passaggio illegittimo da un grado forte d'esistenza ad uno debole.

<sup>16</sup> Sigieri di Courtrai inserisce comunque a questo proposito un rimando ad Ammonio. Cfr. *Zeger van Kortrijk, Commentator van Perihermeneias*. Inleidende studie en tekstuitgave door C. Verhaak S.J. Verhandelingen von de koninklijke vlaamse academie voor wetenschappen, letteren en schone kunsten van België. Klasse der Letteren. Jaargang XXVI, 1964, n.52. Brussel 1964, p.143.

<sup>17</sup> Ms. L, f.26ra 80.

<sup>18</sup> Va anche detto che non si tratta di un'idea totalmente originale: era già presente nei testi del dodicesimo secolo.

Inoltre nelle opere biologiche di Aristotele (*De gen.* 726b 24, 734b 25, 735a 8; *De part. an.* 640b 36, 412b 14; ma anche: *Meteor.* IV, c.12 389b 31) si trovano alcuni passi - del resto citati dai modisti - sull'equivocità dei termini di sostanze corruttibili.

La teoria non è comunque priva di ambiguità. Qual è infatti il significato primario di *esse*, che viene genericamente indicato dall'espressione *esse in re extra*? È il suo importo esistenziale (*esse in effectu*) oppure il suo riferimento ad essenze in atto? Alcuni passi della letteratura modista sembrano attribuire al significato primario di *esse* un importo esistenziale.<sup>19</sup> Tuttavia chi sostiene la dottrina dell'analogia, ritiene che il significato secondario di *esse* sia quello che consiste nell'essere pensato o immaginato (es.: "Chimera est opinabilis"), in contrapposizione al significato primario, che designa l'essere extramentale. Pertanto l'*esse extra* non può esaurirsi nel puro *esse* esistenziale o *secundum adiacens*, ma va inteso nella sua contrapposizione alle entità mentali o fantastiche, tanto come *esistere* che come *essere dell'essenza*. L'ipotesi viene confermata da un passo di Tommaso di Erfurt, che, a proposito della fallacia "Homerus est in opinione, ergo Homerus est", afferma:

Omne enim in opinione diminuit de ratione essendi absoluta subiecti ... Et ratio alia est ista: quod secundum quod dicit Armonius hoc verbum "est" est terminus analocus, quia prius supponit pro esse in effectu et essentie et per consequens pro esse in anima et pro quocumque alio esse.<sup>20</sup>

In ogni modo l'applicazione del concetto di analogia al verbo *esse* non fa che rinviare le tradizionali difficoltà, che sussistono nel rapporto tra *secundum* e *tertium adiacens*, alle nuove nozioni di *significato primario* e *secondario* del verbo *esse*.

Notevoli perplessità affiorano anche nell'applicazione dell'*analogia* ai termini di sostanza corruttibile, come *homo*: non solo perché tutti i nomi di sostanze fisiche del mondo sublunare verrebbero a possedere più di un significato, ma anche perché sussiste un'eterogeneità profonda tra i differenti *analogati*. Il termine *homo* annovera, per esempio, secondo Pietro d'Alvernia, tra i suoi significati secondari, individui, che sono in potenza uomini, individui nel passato (=cadaveri), ma anche immagini e sembianze umane (*homo pictus*).<sup>21</sup> Or dunque, in che modo, se non

<sup>19</sup> Si veda la distinzione tra due accezioni di *esse in effectu* nella q. 56 *In An.Pr.* in J. Pinborg, "Bezeichnung in der Logik des XIII. Jahrhunderts", *Misc. Med.*, 8 (1971), pp.260 sgg. L'espressione ricorre più volte nella letteratura modista.

<sup>20</sup> Ms. L, f.26rb 20-3.

<sup>21</sup> Pietro d'Alvernia, Ms. F, f.10va 17-20.

puramente *equivoce* si può parlare di "uomo" per un'immagine o una statua?<sup>22</sup>

La scelta di tradurre in problemi di teoria del significato anche quanto potrebbe trovare una sua comoda interpretazione a livello estensionale di *proprietates terminorum*, finisce con il caricare il significato di aspetti difficilmente riconducibili ad unità.

Alcuni tra i modisti non accettano le conseguenze della tesi radicale e, pur mantenendo il concetto di permanenza della *ratio significandi*, sviluppando una semantica per certi versi più affine agli sviluppi consueti della logica terministica. Uno di questi è Rodolfo Brito. Distinguendo nella *significatio* un elemento formale (*significatum ut significatum*) ed uno materiale (*id quod significatur*), egli ottiene una semantica, che evita la necessità di una continua reimposizione dei nomi, ma che fa dell'esistenza dei *supposita* una condizione imprescindibile per la verità degli enunciati. Ed è quindi naturale che uno dei concetti, che si trova a ridiscutere risulti proprio quello di *analogia*. Nella q. *Utrum terminus analogus stet de virtute sermonis pro primario eius significato*<sup>23</sup> l'Autore separa nettamente due accezioni di *terminus analogus*: una, come nel caso di *sanus*, in cui il termine ha più significati, ma secondo una relazione di *prius-posterius*; la seconda è quella dei termini come *homo*, che hanno un solo significato e che impropriamente sono impiegati per designare individui morti o semplici immagini. Questa seconda non è una vera e propria *analogia*, ma solo una certa forma di *similitudo* o di *attributio*, che viene detta *analogia* solo in senso lato e che non ne possiede le caratteristiche. Pertanto solo una vaga idea di somiglianza *in re* può permettere all'uso linguistico di impiegare termini come *homo* in espressioni come *homo pictus* o *homo mortuus*, dove in verità si ha a che fare con un *homo deminutus*. Si badi che questo *homo deminutus* non coincide con il significato secondario di Pietro d'Alvernia, già "programmato" nell'imposizione; si tratta piuttosto del risultato di un atto linguistico, che non intacca il significato di *homo* preso di per sé, ma che

<sup>22</sup> La regola sui termini analoghi pone qualche difficoltà a Pietro d'Alvernia. Nella q. *Utrum sequatur est homo mortuus, ergo est homo* (Ms. F, f.10ra 71-2) il magister accetta che *ex usu auctorum* un qualsiasi termine analogo, preso per sé, rimandi solo al suo primo significato. Precisa tuttavia che ciò non avviene *de virtute sermonis*: infatti secondo la natura del linguaggio un termine analogo pone tanto il suo significato primario che quello secondario.

<sup>23</sup> Parzialmente edita da Ebbesen, "The dead man...", pp.60-1.



piega l'espressione a designare ciò, di cui in passato il termine era predicabile, ossia un *esse secundum quid* e non un *esse simpliciter*.<sup>24</sup>

L'insistenza con cui l'Autore ribadisce che un nome di sostanza corruttibile può essere usato solo *equivoce* per riferirsi agli individui dopo la loro corruzione, evidenzia la sua convinzione che, al fine di confutare la tesi semantica radicale, occorra ricondurre i presunti usi analogici dei termini a quello che realmente sono: casi di equivocità dei termini. Il luogo in cui ripete questa osservazione è significativo: si tratta del sofisma "Utrum, Sorte non existente, ista sit vera: 'Sortes est homo'",<sup>25</sup> dove si intrecciano due tematiche: quella consueta della teoria del significato e una epistemologica sullo status semantico degli asseriti scientifici e sulla validità di alcune scienze. E' all'autorità di Aristotele che egli fa risalire l'idea della fondamentale equivocità dei nomi riferiti ad individui non più esistenti, poiché nel *De animalibus* si dice che:

Item, secundum Philosophum in *De animalibus*, membrum mortuum non est membrum, nisi equivoce, sicut diceret aliquis statuam regis esse hominem vel etiam ymaginem hominis esse hominem et non est nisi equivoce.<sup>26</sup>

Una dottrina semantica, che leghi il significato alla sussistenza della referenza, se da un lato si libera dalla proliferazione dei significati in primari e secondari, rischia tuttavia di conferire una fondamentale ambiguità al linguaggio: e non solo a quello ordinario, ma a quello scientifico. Infatti, se nelle scienze biologiche i nomi di sostanze corruttibili godono sempre di referenza, secondo quanto dice Aristotele, non così avviene per la scienza contenuta nel *Meteorologica*. In che modo si possono fare dunque asserzioni scientifiche su fenomeni transeunti, come un'eclissi, la pioggia o il tuono?<sup>27</sup>

Nella q. *Utrum rebus corruptis, corrumpatur scientia de rebus*<sup>28</sup> Rodolfo Brito si avvale di una soluzione molto articolata, che nasce da presupposti gnoseologici e semantici ben precisi. Ciò che permette di usare nomi in completa assenza di referenza è la facoltà della memoria, che attraverso i *phantasmata* supplisce all'attualità della percezione:

<sup>24</sup> Ciò si può constatare nella questione *Utrum sequatur homo mortuus, ergo homo*, in Radulphi Briti *Quaestiones in artem veterem*, ed. Venezia 1499, f.18vb.

<sup>25</sup> Ms. Vat. lat. 3061, f.44ra.

<sup>26</sup> Ibidem, f.44ra, 35 sgg.

<sup>27</sup> Cfr. T.K. Scott, "J. Buridan on the Objects of Demonstrative Science", *Speculum* 40 (1965), pp.666-7.

<sup>28</sup> Rodolfo Brito, *Quaestiones In An. Po.*, Ms. Vat. lat. 2141, f.205ra-206ra.



condizione indispensabile è solo che sia avvenuta una percezione nel passato: *dummodo prius habuerit esse*. A ciò corrisponde sul piano semantico la permanenza dell'elemento formale del significato: dunque un termine come *pluvia* rimane garantito almeno dalla sussistenza di un significato formale. La duplice natura del significato permette un duplice modello di scienza; il primo esige, accanto al significato formale, anche l'attualità dei referenti e dà una scienza *qua scitur res esse et ex quibus causis passiones sibi insunt*. L'altro modello si costituisce sui soli elementi formali del significato, prescindendo dal problema della sussistenza di referenti: è la scienza *qua scitur ex quibus causis res potest esse et ex quibus causis passiones sibi possunt inesse*.<sup>29</sup> Questa scienza studia le condizioni del verificarsi dei fatti scientifici, senza presumerne l'esistenza, ma richiede una condizione minimale d'esistenza: che dei fenomeni studiati si sia dato un qualche caso nel passato, in modo da averne un'immagine nella memoria.<sup>30</sup>

La struttura logico-grammaticale degli asserti scientifici, relativi al secondo modello, deve essere probabilmente espressa in forma implicitamente ipotetica e non categorica: sappiamo infatti che un asserto del tipo "Homo est animal" sarebbe falso per Rodolfo Brito, se non esistesse più alcun uomo;<sup>31</sup> modificato in "Si est homo, homo est animal", esso risulta invece sempre vero.

Quest'interpretazione ci viene suggerita da un altro passo:

Cum dicitur: que per se insunt, insunt de omni, verum est, sicut intelligendo: pro quacumque differentia temporis ponitur pro subiectum, ponitur etiam predicatum, sicut Philosophus exponit, si verum est dicere esse hominem, verum est dicere esse animal. Et si verum est dicere nunc esse hominem, verum est dicere nunc esse animal. Ista est sua intentio: pro quocumque tempore ponitur homo, ponitur et animal.<sup>32</sup>

Pertanto un asserto generale su fenomeni transeunti, è sempre costituito nel primo modello di scienza da una proposizione, che risulta essere *per*

<sup>29</sup> Ibidem, f.205rb 45-va 5.

<sup>30</sup> Ibidem, f.205va 2-28: "Dico quod, corrupta re, non corrumpitur scientia de re, qua scitur ex quibus et qualibus causis res potest esse et passiones sibi possunt inesse ... si res non sit, dummodo prius habuerit esse, potest esse scientia de ipsa, qua scitur ex quibus et qualibus causis possit esse."

<sup>31</sup> Rodolfo Brito, *Quaestiones in An. Po.*, Ms. Vat. lat. 2141, q. *Utrum ista sit per se: "Sor est homo"*, f.189vb 13-5.

<sup>32</sup> Ibidem, f.198vb 22 sgg.

se, ma non sempre vera, mentre nel secondo modello è costituito da una proposizione *per se* e sempre vera.<sup>33</sup>

A conclusione ci si potrebbe chiedere quali sia la struttura semantica, sottesa a questo secondo modello di scienza. E' mia convinzione che in qualche modo riappaia la nozione di *analogia* presa in senso lato, poiché li termini, come *tonitrus*, *eclipsis*, *pluvia etc.*, sono usati senza alcuna relazione all'*esse attuale* del fenomeno, ma solo in relazione alla loro possibilità d'essere. Inoltre la condizione gnoseologica, che rende possibile, il sapere scientifico su insiemi di oggetti, che non siano sempre esistenti, è data dalla presenza dei *phantasmata*: e Rodolfo Brito osserva che l'*esse in anima* delle cose è sempre un *esse deminutum et secundum quid*. Detto altrimenti, nel secondo modello i termini subiscono un'ampliamento, in modo da stare per supposita non attuali, ma possibili: e questo è per Rodolfo Brito un uso *analogice* del linguaggio.<sup>34</sup>

La duplicità delle componenti - formale e materiale - della funzione significativa dei termini rende comunque plausibile la teoria dei due modelli di scienza, anche se il tipo di scienza, che presuppone l'esistenza attuale dei referenti, pare - in osservanza al capitolo iniziale del secondo libro degli *Analytica posteriora* - privilegiato rispetto al modello "ipotetico"; di fatto però è quest'ultimo a garantire i caratteri di universalità, di necessità e di onnitemporalità, che sono tipici del sapere scientifico.

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<sup>33</sup> Una posizione per certi versi affine è quella di Boezio di Dacia: si veda J. Pinborg, "Zur Philosophie des Boethius de Dacia: ein Überblick", *Studia Mediewistyczne*, 15 (1974), pp.165-85.

<sup>34</sup> Cfr. *In Topica*, q. 6 *Utrum terminus communis distribuat aequaliter et unica ratione pro suppositis praesentibus, praeteritis et futuris*, in: Pinborg, "Bezeichnung", cit., pp.274-75.

JOEL BIARD

Verbes cognitifs et appellation de la forme  
selon Albert de Saxe

Les *Sophismata* d'Albert de Saxe contiennent plusieurs sophismes, au demeurant classiques dans leur formulation, qui comprennent dans leur énoncé le verbe «savoir». De manière générale, ces sophismes sont traités grâce à la distinction du sens composé et du sens divisé<sup>1</sup>. Albert y fait appel systématiquement pour résoudre les sophismes 20, 32 et 33 de la troisième partie du recueil. Bien évidemment, cette distinction est familière à tous ses contemporains. Jean Buridan l'évoque à propos des propositions modales, par exemple dans le livre II des *Consequentia*<sup>2</sup>. Mais elle n'est pas pour autant mise en rapport avec l'étude des propositions comportant un verbe cognitif. Lorsqu'il examine les problèmes sémantiques soulevés par des verbes signifiant des actes de l'esprit, Jean Buridan retrouve bien la division du sens composé et du sens divisé, mais n'en fait pas le principal moyen de résolution des difficultés; il utilise pour ce faire un concept forgé à cet effet: l'appellation de raison.

Curieusement pour quelqu'un qui a étudié puis enseigné à Paris à l'époque de Buridan, Albert n'évoque pas cette notion, pourtant promise à un certain succès. En revanche, il fait un usage qui au premier abord peut paraître curieux de l'«appellation de la forme». C'est pour tenter de déterminer ce qu'il entend par cette expression, et pour préciser à travers cela comment Albert se situe par rapport à ses prédécesseurs ou à ses contemporains que je voudrais étudier ici le sophisme 34 de la III<sup>ème</sup> partie: «Sortes patrem suum credit esse asinum».

On suppose que le père de Socrate est revêtu d'une peau d'âne et marche à quatre pattes. Le sophisme se prouve de la manière suivante: «Hoc Sortes credit esse asinum, hoc est pater suus, ergo patrem suum

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<sup>1</sup> Cf. J. Biard, «Les sophismes du savoir. Albert de Saxe entre Jean Buridan et Guillaume Heytesbury», à paraître dans *Vivarium*. Albert de Saxe, *Sophismata*, Paris, 1490, sophismes 33, 34 et 47 de la II<sup>ème</sup> partie, et sophismes 20, 32 et 33 de la III<sup>ème</sup> partie.

<sup>2</sup> Cf. Jean Buridan, *Tractatus de consequentiis*, livre II, chapitre 2, ed. H. Hubien, Louvain - Paris, 1976, pp. 56-57.

credit esse asinum<sup>3</sup>.» L'*improbatio*, c'est-à-dire la démonstration de la fausseté de la proposition, procède quant à elle de la manière suivante: «Sortes patrem suum credit esse asinum, ergo Sortes credit quod pater suus est asinus; hoc est falsum»; la fausseté de l'antécédent résulterait de la fausseté du conséquent. Mais le sophisme est tenu pour vrai, et l'*improbatio* est réfutée grâce à la non-validité d'une conséquence qui inférerait le sens composé du sens divisé. Dans son principe, le mode de résolution proposé par Albert de Saxe est identique à celui qu'il a mis en oeuvre pour les sophismes contenant le verbe «savoir»: il repose sur la thèse selon laquelle on ne peut pas systématiquement convertir l'une en l'autre une proposition prise au sens composé et une proposition comportant les mêmes termes, mais prise au sens divisé - principe longuement développé par Guillaume Heytesbury<sup>4</sup>.

Un sophisme semblable est examiné par Jean Buridan: «Tu credis te esse asinum<sup>5</sup>.» En dépit d'une formulation initiale un peu différente qui accentue le paradoxe, le *casus* permet de rapprocher les deux sophismes. Car si tu crois que tu es un âne, c'est parce que tu crois que ton père est un âne. La *probatio* est voisine de celle proposée par Albert. L'*improbatio* est plus expéditive: tu ne crois pas que tu es un âne parce que tu sais que tu n'es pas un âne. Mais si les sophismes paraissent voisins, la résolution diffère. Tout d'abord, le sophisme doit être nié, c'est-à-dire que la proposition initiale est *fausse*, alors que chez Albert elle était *vraie* - ce qui est une différence notable. Sans doute est-ce à cause de l'évidence de l'*improbatio* telle qu'elle a été ici formulée, reposant sur l'intuition immédiate du savoir de soi et de sa propre nature humaine. Reste alors à réfuter la *probatio*. En admettant le *casus*, on peut aller jusqu'à concéder: «patrem meum credo esse asinum<sup>6</sup>». Pour quelle raison? Jean Buridan reste ici assez elliptique: «quia patrem meum credebam esse asinum, sed non secundum hanc propositionem "Pater meus est asinus" sed secundum istam "Hoc est asinus".» Ainsi, contrairement à Albert, il ne fait aucunement appel à la distinction du sens composé et du sens divisé, qui aurait pu être ici pertinente. Il est vrai qu'il n'explicite

<sup>3</sup> Albert de Saxe, *Sophismata*, XXXIV, sign. m II vb.

<sup>4</sup> Cf. Guillaume Heytesbury, *Tractatus de sensu composito et diviso, Regule eiusdem cum Sophismatibus*, Venise, 1494, en part. f° 2ra et f° 13ra.

<sup>5</sup> Jean Buridan, *Sophismata*, IV, 11, ed. Th. K. Scott, Stuttgart -Bad Cannstatt, 1977, p. 73.

<sup>6</sup> Id., *ibid.*, p. 81.

guère son raisonnement, mais il suffit de replacer celui-ci dans son contexte pour l'éclairer.

Pour résoudre toute la série de sophismes dans laquelle celui-ci prend place, Jean Buridan juge nécessaire de faire appel à ce qu'il nomme l'«appellation de raison»<sup>7</sup>. Cette dernière, résultant de la présence de verbes comme «comprendre», «connaître», «savoir», ne doit être prise en compte que si le terme suit un tel verbe. Selon la théorie buridanienne, la différence entre «patrem meum credo esse asinum» et «credo patrem meum esse asinum» vient du fait que dans la première proposition, le terme *patrem* n'appelle pas la raison selon laquelle cet individu est compris et signifié comme père - pour que la proposition soit vraie, il suffit donc que je croie que «ceci», de manière indéterminée, est un âne - tandis que dans la seconde proposition, le terme appelle sa raison. Par là s'éclaire la formulation buridanienne: «de mon père, je croyais que c'était un âne, non pas selon la proposition "mon père est un âne" mais selon la proposition "ceci est un âne".»

Rien de tel ne se retrouve chez Albert de Saxe. Le sophisme 33 paraît bien s'approcher de cette idée, mais il s'y agit en vérité de tout autre chose. A l'argumentation qui a été présentée plus haut, l'auteur ajoute ceci:

Quando enim li a sequitur hoc verbum «scit», appellat suam formam. Et ideo hec est falsa «a Sortes scit esse idem ipsi a». Quando enim precedit hoc verbum «scit», tunc non appellat suam formam. Et ideo hec bene conceditur: «Sortes a ipsi a scit esse idem»<sup>8</sup>.

Puisque cette appellation de la forme vient de ce qu'une expression suit un verbe intentionnel, on pourrait au premier abord faire l'hypothèse qu'il s'agit d'une reformulation de la doctrine buridanienne. Mais il faudrait alors attribuer à Albert un grossier contresens, revenant à confondre ce que précisément Jean Buridan différencie, à savoir l'appellation d'un terme pour sa forme - c'est-à-dire le renvoi d'un terme, dans une proposition, à

<sup>7</sup> Cf. id., *ibid.*, pp. 73-74: «Propter ista sophisma sciendum est quod ista verba 'intelligo', 'cognosco', 'scio' et huiusmodi, de quibus post dicemus, et participia et nomina inde descendencia [...] faciunt in terminis cum quibus construuntur quosdam modos speciales appellationum. [...] Talia verba faciunt terminos cum quibus construuntur appellare rationes secundum quas imposita sunt nomina ad significandum, et non solum res cognitatas ad extra, sicut faciunt alia verba»; à propos de cette notion, cf. J. Biard, «Le cheval de Buridan. Logique et philosophie du langage dans l'analyse d'un verbe intentionnel», in *Die Philosophie im 14. und 15. Jahrhundert*, in memoriam K. Michalski, O. Pluta, ed., Amsterdam, 1988, pp. 119-137 - où l'on trouvera également des références à de nombreux articles antérieurs sur le même sujet.

<sup>8</sup> Albert de Saxe, *Sophismata*, XXXIV, sign. m.II. va.



ce qu'il connote, donc signifie, et pour quoi cependant il ne suppose pas<sup>9</sup> - et l'appellation de raison qui seule caractérise, selon le maître de Béthune, les verbes signifiant des actes de l'esprit. On peut avancer une hypothèse différente.

L'exemple n'est pas nécessairement emprunté à Buridan, car il ne lui est pas propre et la formulation d'Albert est un peu différente. En revanche, on trouve une fois de plus le même énoncé chez Guillaume Heytesbury, parmi les exemples relevant du huitième mode de division et de composition: «Patrem tuum credis esse asinum, igitur credis patrem tuum esse asinum<sup>10</sup>.» Mais ici encore, Heytesbury se contente d'opposer le sens composé et le sens divisé. Il reste donc à expliquer l'usage qu'Albert fait de l'appellation.

La *Perutilis logica* comprend un chapitre portant sur les appellations. L'existence d'un tel chapitre, dans un oeuvre à bien des égards très proche de la *Summa logicae* de Guillaume d'Ockham, traduit la place prise par ce concept d'appellation dans les discussions propres au milieu parisien, et l'importance nouvelle qui lui a été conférée par Jean Buridan. Mais en ce qui concerne le contenu du chapitre, Albert s'écarte de son maître. En vertu du vieil adage selon lequel le prédicat appelle sa forme, l'appellation est présentée comme une propriété du prédicat. Mais il ne s'agit ni de réduire immédiatement l'appellation à une espèce de la supposition (comme le faisait Guillaume d'Ockham), ni de nommer appellation tout renvoi à des choses que le terme signifie et pour lesquelles il ne suppose pas (comme chez Jean Buridan), ni à plus forte raison (comme c'était le cas avec Guillaume de Sherwood), de penser par là le renvoi à une forme commune. Que le prédicat appelle sa forme signifie simplement que dans la forme mentale ou vocale selon laquelle un terme se trouve prédiqué dans une proposition, il peut se vérifier, dans une autre proposition au présent, du pronom démonstratif qui renvoie à ce pour quoi suppose le sujet de la première<sup>11</sup>. Autrement dit, si «l'homme est un animal» est vraie, je peux dire «ceci est un animal» en montrant un homme, le prédicat devant conserver la «forme» qu'il a dans la proposition initiale.

<sup>9</sup> Cf. par ex. Jean Buridan, *Summulae dialecticae*, IV (*Tractatus de suppositionibus*), V, ed. M. E. Reina in *Rivista critica di storia della Filosofia*, 1957, fasc. II & III, p. 343.

<sup>10</sup> Guillaume Heytesbury, *Tractatus de sensu composito et diviso*, f° 3va.

<sup>11</sup> Cf. Albert de Saxe, *Perutilis logica*, Venise, 1522, f° 16rb.

Ceci est très proche des passages où Guillaume d'Ockham fait allusion à cette formule traditionnelle. Le *Venerabilis Inceptor* l'évoque à trois reprises dans la *Somme de logique*. Le plus important de ces passages se trouve dans le chapitre 72 de la première partie. Il vient à la suite d'un développement qui a précisé que dans une proposition contenant, par exemple, un verbe au passé, il faut introduire une distinction selon que le terme suppose pour des choses qui existent ou pour des choses qui ont existé. Mais, ajoute l'auteur, cette distinction ne concerne que le terme qui est sujet et non pas celui qui est prédicat puisque «le prédicat appelle sa forme»<sup>12</sup>. A cette occasion, Guillaume d'Ockham explique comment il comprend cette formule:

Quod est sic intelligendum: non quod supponat pro se vel pro conceptu, sed quod per talem propositionem denotatur quod propositio in qua ipsummet praedicatum sub propria forma, hoc est ipsummet et non aliud, praedicatur de illo pro quo subiectum supponit fuit vera, si talis propositio sit de praeterito; vel quod erit vera si talis propositio sit de futuro; vel quod sit possibilis si prima propositio sit de possibili...<sup>13</sup>.

Après avoir écarté une hypothèse selon laquelle l'appellation de la forme serait le renvoi au terme lui-même ou au concept (donc la supposition matérielle ou simple), Guillaume propose quelques éléments d'explication. En premier lieu, le terme doit être considéré *sub propria forma*. Autrement dit, dans les propositions que l'on va reformuler pour expliciter cette appellation, on doit trouver ce terme et non pas autre chose, si bien que la «forme» nous oriente ici vers la matérialité du terme lui-même, et au premier chef vers la configuration ou la morphologie du signifiant. En même temps, il est indiqué par là qu'une proposition dans laquelle ce terme est prédiqué, sous cette forme propre, de ce pour quoi suppose le sujet, a été vraie, si le verbe de la proposition initiale est au passé; autrement dit, si «Sortes fuit albus», l'appellation de la forme par le prédicat implique qu'il fut vrai de dire, *sub propria forma*, «Sortes est albus» - et pareillement pour les autres temporalités ou modalités. Par conséquent, cette formule implique également une relation sémantique, qui se traduit comme c'est souvent le cas par une prédication, ainsi que le respect des temporalités, le privilège donné au présent dans la formulation de la relation de prédication/supposition se traduisant par une indexation temporelle de la

<sup>12</sup> Cf. Guillaume d'Ockham, *Summa logicae*, I, chap.72, p. 216.

<sup>13</sup> Id., *ibid.*, p. 216, l. 61-68.

valeur de vérité de la proposition. Des considérations semblables se retrouvent dans les deux autres passages de la *Somme de logique* qui font allusion à l'appellation de la forme par le prédicat<sup>14</sup>.

Tous ces éléments sont bien ceux par lesquels Albert de Saxe explique l'appellation de la forme par le prédicat dans son chapitre - lequel toutefois est beaucoup plus complet sur l'appellation que ne l'était l'oeuvre ockhamiste.

Jean Buridan, il est vrai, évoque lui aussi l'énoncé commun selon lequel le prédicat appelle sa forme<sup>15</sup>. Mais en dépit de certaines convergences, l'interprétation de cet adage - dont il précise qu'«il n'est pas vrai au sens propre des mots<sup>16</sup>» - est quelque peu différente. Il se propose d'analyser les causes de vérité de propositions comportant des termes «appellatifs», qui signifient ou cosignent des choses pour lesquelles ils ne supposent pas. Si le terme en question est sujet, il appelle «sa chose», selon l'expression de l'auteur, non seulement en relation au temps du verbe mais selon une disjonction de ce temps et du temps présent. Par exemple, le blanc qu'appelle le terme *album* lorsqu'il est sujet d'une proposition au futur, peut être signifié comme étant présentement *ou* dans un temps futur adjacent au supposé. On peut ainsi considérer comme équivalente à «album erit nigrum», la disjonction «quod est vel erit album erit nigrum». Pour qu'une proposition au futur soit vraie, il n'est pas requis que dans le futur la proposition au présent correspondante soit vraie. Il faut simplement qu'une certaine réduction au présent puisse s'opérer. Mais dans ce cas, l'appellation doit disparaître et le sujet doit être transformé en terme non appellatif. Il suffira en effet qu'il ait été vrai de dire «hoc est album», en montrant le sujet de la proposition actuelle, qui à ce moment-là sera noir. Il en va différemment pour le prédicat car celui-ci appellant «sa chose» en relation déterminée et exclusive au temps du verbe de la proposition, il doit toujours, si l'on opère de telles transformations ou réductions, conserver la même forme: «... debet manere in propria forma quantum ad appellationes<sup>17</sup>». On retrouve ainsi l'ambivalence de cette notion de «forme» qui indique que le terme doit rester le même quant à la matérialité du signifiant, mais

<sup>14</sup> Cf. id., *ibid.*, II, chap. 7, p. 271; et III-1, chap. 43, p. 473.

<sup>15</sup> Cf. Jean Buridan, *Sophismata*, chap. IV, p. 64.

<sup>16</sup> Id., *ibid.*, p. 64.

<sup>17</sup> Id., *ibid.*, p. 63.

comporte en même temps une indéniable composante sémantique puisque la forme est aussi l'objet même de l'appellation telle que l'a définie Buridan. De là résulte l'interprétation que Buridan propose de l'adage classique: en réalité tout terme, dès lors qu'il est appellatif, appelle par définition sa forme et ceci vaut également pour le sujet; mais comme il ne l'appelle pas exclusivement en relation au temps du verbe, il n'est pas indispensable, dans la formulation des causes de vérité, qu'il reste *sub propria forma cum appellatione*, alors que ce doit être le cas du prédicat<sup>18</sup>.

Dans ces développements de Buridan, on retrouve des questions évoquées par Albert, puisqu'il s'y agit, identiquement, des termes appellatifs. De même, on peut déceler une façon identique de désigner la «forme propre» du terme. Cependant, le développement de Buridan s'insère sans équivoque dans une conception de l'appellation de la forme (comme type de renvoi signifiant contredistingué de la supposition) qui est absente de l'exposé d'Albert. En revanche celui-ci met sur le même plan les questions liées aux déterminations temporelles et leur effet sur le prédicat d'une part et les problèmes particuliers suscités par des verbes intentionnels d'autre part, avec comme dénominateur commun une idée de «forme» réduite au seul aspect qu'indiquait déjà Guillaume d'Ockham. Si donc les deux champs que Buridan traite à l'aide des notions d'appellation de forme et d'appellation de raison sont de ce fait rassemblés, il ne s'agit pas pour autant de confondre indûment les deux concepts buridaniens; il s'agit plutôt de les remplacer par un concept d'appellation de la forme qui, d'une certaine façon, est plus vague que la notion buridaniennne et qui est plus proche de l'usage ockhamiste.

En effet, après avoir énuméré des règles qui concernent l'appellation dans une proposition au présent, au passé, au futur puis à la modalité du possible, Albert ajoute une cinquième règle qui prend en compte les verbes tels qu'*intelligo*, *scio*, *cognosco*. Ils sont caractérisés par le fait que lorsqu'ils sont suivis d'une *complexio*, et non pas seulement d'un adjectif ou seulement d'un substantif, l'adjectif n'appelle pas seulement sa forme - au sens qui a été précisé plus haut - mais également sa *complexio* - donc ici union, sa conjonction - avec un substantif. Ce n'est pas le cas, en revanche, si le terme précède le verbe. Par exemple, il est vrai que «*Deum trinum et unum cognovit Aristoteles*»; cette proposition équivaut à «*hoc cognovit Aristoteles*», où «*hoc*»

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<sup>18</sup> Id., *ibid.*, p.64.



renverrait à Dieu. Mais «Aristoteles cognovit Deum unum et trinum» est faux, parce que cela impliquerait que non seulement le Philosophe ait connu Dieu, ce qui était le cas, mais encore qu'il l'ait connu comme un et trine, ce qui n'était pas le cas<sup>19</sup>. On retrouve encore une fois des phénomènes voisins de ceux qui étaient étudiés par Jean Buridan. Mais Albert se garde d'introduire l'idée d'appellation de raison, là même où Buridan y faisait appel, par exemple à propos de l'énoncé canonique, d'inspiration aristotélicienne, «Sortem venientem tu cognoscis».

Cette démarche s'étend aux cas où la *complexio* qui suit le verbe est une proposition. Supposons par exemple que *a* signifie la proposition «Deus est» mais que tu l'ignores. «*a* scis esse verum» doit être tenue pour vraie: il suffit pour cela que «hoc scias esse verum», «hoc» renvoyant au sujet de la proposition «*a* scis esse verum». En revanche, d'aucune chose vraie tu ne sais que c'est *a*, puisque par hypothèse tu ignores que «Deus est» est la proposition *a*. On peut donc estimer que dans les cas où la proposition suit le verbe, elle appelle sa forme, ce qui à l'évidence implique ici que le savoir ou la croyance porte sur la proposition «Deus est» elle-même, ou plus précisément que l'on sache que *a* signifie «Deus est». La forme n'est donc pas simplement ici l'identité à soi matérielle du terme, bien qu'elle l'implique, ni un renvoi sémantique d'un type spécifique, qui devrait être distingué des relations habituelles de signification et de supposition, mais l'identité du terme signifiant comme tel, qu'il soit simple ou complexe.

Même si dans *Perutilis logica*, Albert de Saxe reste assez allusif concernant ce dernier exemple, cela suffit pour éclairer les quelques phrases des *Sophismata* qui avaient initialement retenu notre attention. Le sophisme XXXIII précise: «Quando enim li a sequitur hoc verbum "scit", appellat suam formam<sup>20</sup>»; et le sophisme XXXIV: «Sortes in dicto casu in universali patrem suum scit esse hominem sed ignorat hoc in propria forma et in particulari...<sup>21</sup>» En effet, Socrate sait de manière générale que son père est un homme - il tient, à juste titre, cette proposition pour vraie -, mais d'après le *casus*, la forme propre de la croyance de Socrate à ce moment est «ceci est un âne», le pronom «ceci» renvoyant à un individu qui est son père, alors même qu'il ignore cette identité. Toute

<sup>19</sup> On peut noter au passage qu'on trouve le même exemple chez Guillaume Heytesbury, attribué à Averroès.

<sup>20</sup> Albert de Saxe, *Sophismata*, XXXIII, sign. m II, va.

<sup>21</sup> Id., *ibid.*, m II, vb.



proposition qui suit le verbe «croire» ou «savoir» appelle sa forme, ce qui fonde la non-substituabilité d'expressions de référence équivalente, pour peu qu'elles soient de «forme» différente. Le sens exact de cette notion est assez difficile à préciser mais elle est sensiblement différente de la *ratio* buridaniennne. Non seulement elle concerne aussi bien des termes mentaux que des termes vocaux, mais elle implique à la fois le respect de la littéralité du terme et une portée sémantique qui peut se traduire par des propositions du genre «ceci est un *x*». Il est clair en tout cas qu'il ne s'agit pas d'une simple confusion entre les deux types d'appellation distingués par Jean Buridan. Albert cherche à élaborer, en intégrant les phénomènes sémantiques que son aîné expliquait grâce à l'appellation de raison, donc les problèmes suscités par les verbes cognitifs, une théorie de l'appellation qui s'appuie sur la seule notion de forme, et il se démarque ainsi consciemment de la théorie buridaniennne.

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**Medieval Rules of Consequences and the Idea  
of Demonstrative Science\***

*Introduction.* Medieval logic may be said to have been basically a logic of rules. The rules in question are metalinguistic devices indicating what inferential moves are such that they will help us in our rational search for truth, i.e., such that they will never lead from truth to falsity; and what seemingly correct inferential moves are faulty, e.i., of the sort which can lead from truth to falsity. While truth of propositions was sharply distinguished from correctness of inferences, the rules of consequence were nevertheless conceived semantically and, in the case of obligational and epistemic logic, they essentially involved a pragmatic relation or reference to a user of language signs.

Logic was always listed as one of the liberal arts and more specifically as one of sermocinal arts. But medieval authors also characterized it as a science. Occasionally, they would make a distinction between *logica utens* and *logica docens*, the former concept stressing the nature of logic as an *ars* and the latter suggesting the nature of logic as a system of correct principles which can be learned so as to enable us "to speak truly". Obviously, the relation of logic to grammar which enables us "to speak congruously" was never quite coincidental.

In their investigations on the nature of logic medievals were led to two related questions. One was primarily ontological: If logic is a science in the sense of an enterprise of formulating a set of true propositions, it must have its proper object. But then, what is this object? Philosophers who spoke of second-intentional being were ontologically inclined

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philosophers of logic who tried to answer this first question. The present paper does *not* concern itself with this line of discussion.

The second question in the discussion of the nature of logic became prominent soon after the recovery in the Latin West of Aristotle's *Posterior Analytics* in the first half of twelfth century when it was translated into Latin by James of Venice.<sup>1</sup> The question now was: Does logic itself conceived as a science meet the Aristotelian requirements of strict demonstration? If so, in what sense? Is demonstrative science limited to categorical syllogistics? It is the impact of the recovery of *Posterior Analytics* on the conception of logic that interests us in this study. The paper has two parts. The first one deals with the rules of consequence considered as the very core of medieval logic. The second part relates the systems of consequences to the idea of demonstrative knowledge as formulated in the *Posterior Analytics*. A concluding section summarizes the findings.

*Part One.* Some sixty years of progressively intensified research in the history of medieval logic, from pioneering work of H. Scholz, I.M. Bocheński, and P. Boehner, through the studies and editions by E.A. Moody, L.M. De Rijk, J. Pinborg, S. Ebbesen, N. Kretzmann, A. Maierù, V. Muñoz Delgado, E.J. Ashworth, etc., and through a long and expanding list of other prominent investigators and editors, there can be no doubt about the centrality of rules of consequence in any comprehensive medieval logical treatise. Nor can there be any doubt that the idea of consequence itself and of its types developed significantly through the centuries from the seeds found in Aristotle's *Topics* and *Prior Analytics* and possibly from other sources. One can also observe a progressive extension of areas brought under the umbrella of a comprehensive system of rules of consequence, culminating, perhaps, in the treatise entitled *Consequentiae* by Ralph Strode. This English logician collected rather eclectically, twenty four general rules of consequence among which one could find rules of propositional logic, of alethic modal logic, of a "logic of quality", of obligational disputations, and of epistemic and doxastic

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<sup>1</sup> Cf. E. Serene, "Demonstrative Science", in *The Cambridge History of Later Medieval Philosophy*. Ed. N. Kretzmann *et al.*, Cambridge: University Press, 1982, pp. 496-517.

logic. The only notable absence from the set is that of deontic and axiological rules.<sup>2</sup>

The earlier systems of consequences such as that of Walter Burley, or the "mature" system of John Buridan's *Consequentiae* developed in the mid-1300s on the Continent,<sup>3</sup> were indeed more perfect than the system of Strode if we consider them simply as quasi-axiomatic structures. There is a clear distinction made in Burley and Buridan between the principal and the derived rules of propositional logic and the proofs of the latter from the former are consciously and carefully worked out; while in Strode all 24 general rules seem to be treated as "principal", even though some of them are shown to be "reducible" to another. This shows, of course, that they are not independent and that from a strictly axiomatic point of view Strode could have done with fewer than 24 principal rules. Strode's admirers and critics such as Alexander Sermoneta, Paul of Pergula, Cajetan of Thiene, and Frachantianus of Vicenza,<sup>4</sup> as well as other great logicians such as Peter of Mantua and Paul of Venice continued Strode's work by raising many interesting questions about various problematic points of his text.

The medieval rules of consequence are descriptive of what can correctly be done and what should be avoided in considering inferential relations in various areas of discourse. This comes out especially vividly in the controversies over the definition of consequence and in the implied or even explicit attitude toward certain problematic rules. Everyone, of course, agreed that no consequence could be sound unless it rules out the case where the antecedent obtains but the consequent not. While keeping in mind the distinction between the so-called material implication, strict implication, and relevant entailment, and stipulating a new symbol  $\Rightarrow$

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<sup>2</sup> This is not to say that medievals did not pursue deontic logic at all, but only that deontic rules have not yet been integrated into a comprehensive quasi-axiomatic system. For developments in this area, see the pioneering work of Simo Knuuttila: "The Emergence of Deontic Logic in the Fourteenth Century", in *New Studies in Deontic Logic*. Ed. R. Hilpinen, Dordrecht: D. Reidel 1981, pp. 225-248; and S. Knuuttila & M. Yrjönsuuri, "Norms and Action in Obligational Disputations", in *Die Philosophie im 14. und 15. Jahrhundert* (Bochum Studien zur Philosophie 10). Ed. O. Pluta, Amsterdam: B.R. Grüner, 1988, pp. 191-202.

<sup>3</sup> Cf. *Tractatus de Consequentis*. Ed. H. Hubien (Philosophes Médiévaux 16). Louvain, 1976.

<sup>4</sup> For relevant texts, see *Consequentiae Strodi cum commento Alexandri Sermonetae, Declarationes Gaetani in easdem Consequentias, Dubia Magistri Pauli Pergulensis, Obligationes eiusdem Strodi ... Quaestiones in Consequentias Strodi peritiles ... Antonii Frachantiani Vicentini*. Venice 1517.

(read 'ergo') to represent *systematically-ambiguously* all the consequential structures of medievals, we can say that everyone agreed that if  $P \Rightarrow Q$  is to be sound, then at least  $\sim(P \ \& \ \sim Q)$  if not even  $\sim\Diamond(P \ \& \ \sim Q)$  must be satisfied as *necessary conditions*. Whether these conditions were also sufficient conditions for soundness of  $P \Rightarrow Q$  seems to have remained a matter of some dispute throughout the ages. The *Ex impossibili quodlibet* and the *Ex falso quodlibet* rules which come along with the acceptance of  $\sim(P \ \& \ \sim Q)$  or  $\sim\Diamond(P \ \& \ \sim Q)$  as sufficient conditions for the soundness of  $P \Rightarrow Q$  also remained a source of perplexity.

We should stress that medieval rules of consequence, especially when there is a question of the whole system of them, are not "constitutive" of the intellectual structures (or "games"): that is, they do not formally constitute them in the way in which, say, the rules of chess may be said to constitute the game of chess, or in the way in which the formation rules and definitions may be said to constitute certain systems. Rather, they take the intellectual structures or "games" as already given. They merely bring out explicitly the most general features inherent in or tacitly assumed in those structures, and they help to organize and possibly reorganize the materials. They also provide a theoretical framework for the comparison and contrast of various deductive fields. Thus, the mutual consequential rule which in fact allows us to use  $P \Rightarrow Q$  and  $\sim Q \Rightarrow \sim P$  interchangeably may be seen to be operative in the system of alethic modalities, e.g., allowing for interchange of  $\Box P \Rightarrow \Box Q$  and  $\sim\Diamond Q \Rightarrow \sim\Diamond P$ , with the possible proviso that  $\Box(P \Rightarrow Q)$ ; and in the system of obligational disputation e.g., allowing for interchange of  $C_a^m P \Rightarrow C_a^m Q$  and  $N_a^m Q \Rightarrow N_a^m P$  (with the proviso that  $K_a(P \Rightarrow Q)$ ).

The general consequential rules, such as 'If a consequence is sound [ $P \Rightarrow Q$ ] and known by  $a$  to be sound [ $K_a(P \Rightarrow Q)$ ], then if  $P$  is to be conceded by  $a$  [ $C_a^m P$ ], then  $Q$  must also be conceded by  $a$  [ $C_a^m Q$ ]', should not be confused with *constitutive* rules of the game of obligation such as the following three rules from Paul of Pergula's *Obligaciones*: 'Everything which is possible and posited to you and known by you to be such must be admitted by you'; 'Everything which is possible and posited to you, and admitted by you is to be conceded by you for as long as the *obligatio* lasts'; 'Everything which follows from what has been posited and admitted from it alone or from it together with some thing which has been conceded, or some things which have been conceded, is to be conceded'. The constitutive rules are sufficient to play the game, while



the general rules of consequence help to explicate the logical force of to-be-conceded, to-be-denied, etc., and to understand the conceptual or theoretical underpinnings of various types of *obligationes*.

*Mutatis mutandis*, one could make parallel remarks about the rules of epistemic logic, such as Strode's Rule 13, 'If a consequence is sound [ $P \Rightarrow Q$ ] and *a* knows it to be sound [ $K_a(P \Rightarrow Q)$ ], then if he knows the antecedent [ $K_a P$ ], then he also knows the consequent [ $K_a Q$ ]', in relation to our first order knowledge, opinion, and justification claims in various areas of human endeavor.

*Part Two.* We will now explore some medieval views on the relation of logic in general and of the theory of consequence in particular to the ideal of demonstrative science as expressed in the newly recovered *Posterior Analytics*.

As already noted, the medievals since Boethius characterized logic loosely as both art and science. It was cultivated together with grammar, rhetoric and other liberal - as opposed to mechanical arts, and also as opposed to the "real" arts and sciences, i.e. mathematics, natural philosophy, metaphysics, and theology. The recovery of *Posterior Analytics* in the mid-twelfth century changed greatly the discussions of the nature of these disciplines. Arguments were set up to establish the status of demonstrative science for all these disciplines, - a status which seems to have become a high desideratum.

As for logic, two remarkable phenomena should be observed. On the one hand there was a progressive development by logicians such as Abelard, Peter of Spain, and others, of certain ideas on inference found in Aristotle's *Prior Analytics* and *Topics* (and possibly in the Stoic-Megaric tradition), culminating in a formulation of quasi-axiomatic systems of consequences.<sup>5</sup> On the other hand, and concomitantly with this development, there appeared - under the influence of the *Posterior Analytics* - a rising tendency to claim for logic itself the status of a strict demonstrative science. This tendency became especially strong by the first half of the 13th century when Robert Grosseteste wrote a

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<sup>5</sup> On the relation of topics to consequence see E. Stump, "Topics: their development and absorption into consequences", in *The Cambridge History of Later Medieval Philosophy*. Ed. N. Kretzmann *et al.*, Cambridge: University Press, 1982, pp. 273-299. See also N.J. Green-Pedersen, *The Tradition of Topics in the Middle Ages*, München: Philosophia Verlag, 1984.

detailed commentary on every aspect of the *Prior Analytics*, and in particular on its central concept, i.e., that of scientific demonstration.

The requirements of scientific demonstration as understood by medievals were rather restrictive and stringent. Scientific knowledge was supposed to consist of syllogisms in *Barbara* whose premisses are true, universal, and necessary, as well as immediate, and more certain and better known than the conclusion to be demonstrated. While restrictions to categorical syllogism seem to have been incorporated into the very definition of science and while scientific demonstration was originally thought to be a model to explain natural phenomena and to establish certain metaphysical propositions, the concept of science and of scientific demonstration was soon extended to cover other disciplines such as geometry and arithmetic, as well as grammar and logic.

But although the criteria of demonstrative science were in a sense relaxed, there were still some definite criteria to be met. Thus, the anonymous author of a mid-14th century treatise *Quaestiones in tractatus Petri Hispani I-III* emphatically denies that logic is a mere collection of rules, "for in logic all requisites of its being a science are found". The requisites he listed are three, viz.

the subject of which a property is being demonstrated, the property which has been demonstrated of the subject, and the principle (*dignitas*) or the *per se* known proposition which serves as the means of demonstration that the property belongs to that subject.

More concretely,

logic has a subject, such as syllogism ... it also has properties, such as 'demonstrative', 'probable' and 'apparent' (as are the enthymeme, the induction, and many other things). Moreover, it has principles (*dignitates*), e.g. 'if that which appears less to inhere inheres, then that which appears more [to inhere] also inheres', or 'to whatever fits the definiens, the definiendum also', and many others, as is evident from *Topics* and from the fifth treatise of this book [i.e., *Summulae Petri Hispani*].<sup>6</sup>

Several centuries later, John Versor is concerned with the same question of whether logic can itself claim to be a demonstrative science. He first points out that (etymologically) '*Analytics*' have to do with "analysis", and that in Latin this means "resolutio". Then he goes on to explain that there is the "first resolution" when one points out both the material principles of syllogism, i.e. terms and propositions, as well as the

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<sup>6</sup> Cf. Jan Pinborg, "Anonymi Quaestiones in Tractatus Petri Hispani I-III", *CIMAGL* 41 (1982), pp. 1-170; pp. 12f.

formal principles, i.e., the mode and figure and the regulative principles, i.e. the *dictum de omni* and the *dictum de nullo*. But after this first resolution there is the second one which is a resolution of the consequent or of the thing concluded into the principles and causes of that consequent, these causes being signified by the premisses." It should be remarked that Versor is fully aware of the possible charge of circularity and of infinite regress, as seen from the initial paragraph of his commentary on *Prior Analytics* where he says:

Every science is a firm possession of a conclusion acquired by demonstration; now demonstration is a syllogism; therefore, if there be knowledge of syllogism, it too must be through syllogism. Thus, such a syllogism is either known or not known. Not the first, because then it would be known by another syllogism, and that one by another, and so there would be a process in infinitum. Nor could one say the second, because then there would be no principle on the basis of which to come to knowledge of syllogism.<sup>7</sup>

Versor's escape from both circularity and the infinite regress consists in a recourse to the distinction between the two senses of 'knowledge by resolution'.

There is no doubt that medieval authors were fully conscious of the significance of the structure of their systems of consequences and of the procedures of deriving some rules from others. Four cases should suffice to illustrate the point.

[1] Walter Burley (1275?-1345?), explaining his procedures in the *De puritate artis logicae: Tractatus longior*, he says: "In the first chapter [i.e., 'De regulis generalibus consequentiarum'] are laid down the general rules which ought to be assumed as the principles in this art", together with the rejection of incorrect rules which lead to the fallacy of consequent ...; in the second chapter ['De modo arguendi enthymematice in conditionalibus'] it will be explained in what way one ought to argue on the basis of these rules in the realm of enthymematic consequences.<sup>8</sup>

[2] John Buridan (1295/1300 - d.after 1358), in the opening sentence of his *Consequentiae*, states his aim as follows:

In this book I wish to discuss *consequences, dealing as much as I can with their causes*, about which many things have sufficiently been proved by others in an *a posteriori* manner, although perhaps they were not reduced [by them] to the first causes in virtue of

<sup>7</sup> Cf. Johannes Dorp, *Super omnes libros nove logice*, Köln, 1503, a2 rA.

<sup>8</sup> Ed. P. Boehner, p. 60.

which they are said to hold. Now it will be necessary to put forward some assumptions.<sup>9</sup>

[3] Johannes Dorp (fl.c.1400), in his discussion of the question whether logic can establish its own principles or only those of other sciences, points out that, first of all, logic does not establish principles of other sciences at all, but only shows how one can correctly derive conclusions from premisses in any science. Having said that, Dorp adds that "in this sense logic also provides a method in respect of its own principles, because it teaches how to form argumentation from these [i.e. from its own principles]."<sup>10</sup> The use of logic in a deduction of derived rules from the principal ones is closely analogous to the deduction of conclusions from principles of particular sciences.

[4] Alexander Sermoneta (d.1486), in the Prologue to his commentary on Strode's *Consequentiae*, speculates on the proper location which a tract on consequences should have in a systematically ordered textbook on logic:

I say that this book [*Consequentiae*] is the most universal part of the *Prior Analytics*, or else is introductory to it; and therefore it should be placed immediately after the *De Interpretatione*, and before the *Topics*, *Sophistical Refutations*, and *Posterior Analytics*. This order is evident, because this book is concerned with consequence as its subject, and this is more universal than any special kind of argumentation or syllogism, with which the *Prior Analytics* is concerned.<sup>11</sup>

*Conclusion.* Medieval rules of consequence can be seen as metalinguistic formulations of the logic of propositions and also of the most general principles of particular sub-branches of logic. The principal rules are *analogous* to axiom-rules, and the derived rules are *analogous* to theorems in our natural deduction systems. The function of the rules of consequence was not only to provide a logical tool for reasoning in any subject-matter and in all sciences and speculative arts, but also to make explicit the most general logical presuppositions in any inferential area. The recovery of the *Posterior Analytics* stimulated the subsequent

<sup>9</sup> Ed. H. Hubien, p. 17. Cf. also P. King, *Jean Buridan's Logic: The Treatise on Supposition; The Treatise on Consequences*. Dordrecht: D. Reidel, 1985.

<sup>10</sup> Johannes Dorp, Commentary on Buridan's *Dialectica*; quoted in E.A. Moody, *Truth and Consequence in Mediaeval Logic*. Amsterdam: North-Holland, 1953, pp. 14f.

<sup>11</sup> Alexander Sermoneta, in the Prologue to his Commentary on Strode's *Consequences*, 1493.

discussions on the nature of logic itself. Medievals did come to believe that logic is itself a demonstrative knowledge, but this was possible only because they in fact re-defined and extended the concept of science.

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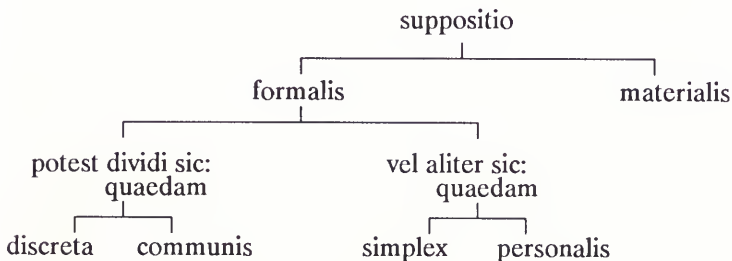


HARTMUT BRANDS

Die zweifache Einteilung der formalen  
Supposition bei William of Sherwood

Von den Anfängen bis heute hat man die verschiedenen Einteilungen der Supposition in ihre Arten und Unterarten durch sogenannte porphyriatische Bäume darzustellen versucht. Es verdient eine gewisse Beachtung, daß ein solches, im Prinzip triviales und auch unproblematisches Unternehmen für die von William of Sherwood gegebene Einteilung bis heute nicht adäquat gelungen ist. Der Grund hierfür ist ohne Zweifel, daß William of Sherwood bei der formalen Supposition eine zweifache Einteilung vornimmt. Diese wird nämlich einerseits in die einfache und personale, andererseits in die diskrete und allgemeine eingeteilt.

Es gibt zwei Modelle, diese zweifache Einteilung in die stammbaumartige Darstellung zu integrieren. Das erste findet sich bereits als Marginalie in der Pariser Handschrift und faßt die zweifache Einteilung selbst als eine Zweiteilung auf. Dies hat zur Konsequenz, daß aus zwei Zweiteilungen eine Vierteilung wird. Da das genannte Schema in keiner der beiden Editionen<sup>1</sup> der *Introductiones in logicam* des William of Sherwood enthalten ist, führe ich es hier an:<sup>2</sup>



<sup>1</sup> *Die Introductiones in logicam des Wilhelm von Shyreswood*. Literarhistorische Einleitung und Textausgabe von Martin Grabmann, München 1937.

William of Sherwood, *Introductiones in logicam: Critical Text*. By Charles H. Lohr with Peter Kunze and Bernhard Mussler. New York 1983. (Edition Lohr)

<sup>2</sup> MS Paris Bibliothèque Nationale, lat. 16617, fol. 14r.

Die weiteren Einteilungen schließen an die personale Supposition an und sollen hier übergangen werden. Im Prinzip gleiche Darstellungen finden sich in neueren Arbeiten bei Enders<sup>3</sup> und Marenbon<sup>4</sup>.

Das zweite Modell ist denkbar einfach: die Einteilung der formalen Supposition in eine diskrete und allgemeine wird weggelassen. Dieser Umstand wird von Kneale/Kneale allerdings angemerkt: "Apart from one pair to be noticed later, all the varieties of suppositio distinguished by William of Shyreswood are shown in the (...) table."<sup>5</sup> Bei de Rijk<sup>6</sup> und Heyer<sup>7</sup>, die wohl auf Kneale/Kneale zurückgreifen, wird die Unvollständigkeit des Schemas indessen nicht vermerkt. Möglicherweise ist das Schema bei Kneale/Kneale deshalb unvollständig geblieben, weil ihnen das Verhältnis der einen Zweiteilung zur anderen nicht hinreichend klar erschien, denn sie monieren: "... he does not explain in detail how the one distinction is related to the other."<sup>8</sup>

Ich meine allerdings, daß William of Sherwood dieses Verhältnis keineswegs gänzlich unerklärt läßt, merkt er doch eigens an, daß es sich bei beiden Einteilungen um vollständige Disjunktionen handelt. "Et nota, quod *utraque* divisionum *totaliter* comprehendit sub se suppositionem, formalem dico. Omnis enim dictio supponens *aut* est communis *aut* discreta. Item. *Aut* accipitur pro forma significata et tunc est simplex suppositio, *aut* pro re deferente formam et tunc est personalis."<sup>9</sup> Insofern muß man Jacobi<sup>10</sup> zustimmen, daß mit dieser zweifachen Einteilung der formalen Supposition eigentlich eine Kreuzklassifikation vorliege, wenn er

<sup>3</sup> H. Enders, *Sprachlogische Traktate des Mittelalters und der Semantikbegriff*, München 1975, S. 81.

<sup>4</sup> J. Marenbon, *Later Medieval Philosophy*, London/New York 1987, S. 44.

<sup>5</sup> W. Kneale and M. Kneale, *The Development of Logic*, Oxford 1962, S. 253. (Kneale/Kneale)

<sup>6</sup> Peter of Spain, *Tractatus*. First Critical Edition of the Manuscripts with an Introduction by L.M. de Rijk, Assen 1972. Introduction, S. LXXVIII.

Vgl. hierzu: K. Jacobi, Rez. von 'Peter of Spain, Tractatus', in: *Philosophische Rundschau* 22 (1976), S. 48 - 64; bes. S. 58: "In dem Diagramm, das de Rijk von der Einteilung bei Wilhelm von Shyreswood gibt, kommt die Unterteilung 'suppositio communis - discreta' gar nicht vor. Dies ist jedoch unrichtig."

<sup>7</sup> G. Heyer, *Generische Kennzeichnungen*, München 1987, S. 68.

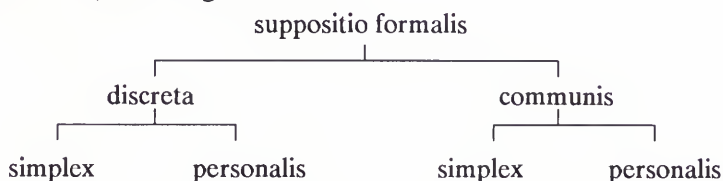
<sup>8</sup> (Kneale/Kneale), S. 256.

<sup>9</sup> (Edition Lohr), S. 266.

<sup>10</sup> K. Jacobi, *Die Modalbegriffe in den logischen Schriften des Wilhelm von Shyreswood*, Leiden - Köln 1980, S. 414, Anm. 127.

auch bei der schematischen Darstellung<sup>11</sup> von dieser Einsicht keinen Gebrauch macht.

Alle genannten Darstellungen der Einteilung der Supposition des William of Sherwood in Stammbaumform müssen als wesentlich unvollständig angesehen werden, weil keine von ihnen die von William of Sherwood eigens hervorgehobene und thematisierte *suppositio simplex discreta* enthält. Außerdem wird Williams kritischer Vergleich seiner Einteilung mit anderen aus diesen Schemata nicht verständlich. Eine schematische Darstellung, die den vorgebrachten Einwänden nicht ausgesetzt ist, hätte folgende Form:



Hierauf bezogen wird unmittelbar verständlich, was William of Sherwood an anderen Einteilungen verwirft, und es erscheint die Annahme gerechtfertigt, daß William of Sherwood die zweifache Einteilung der formalen Supposition gerade wegen der *suppositio simplex discreta* vorgenommen hat. "Volunt enim quidam, quod haec divisio, alia simplex, alia personalis, sit divisio communis suppositionis, quia non cadit haec diversitas in discreta suppositione."<sup>12</sup>

Für diese diskrete und einfache Supposition gibt William of Sherwood einen Beispielsatz, zu dessen Verständnis es sinnvoll erscheint, zunächst die hier in Betracht kommenden Definitionen der einzelnen Suppositionsarten durchzugehen. Ein formal supponierender Terminus supponiert immer signifikativ. Supponiert er einfach, so supponiert er unmittelbar für sein Signifikat (und nicht, wie bei der personalen Supposition, mittelbar für eine unter dieses fallende Sache). Gemäß der Definition von *significatio*, worunter William of Sherwood die begriffliche Vergegenwärtigung bzw. Darstellung einer Form versteht, bedeutet einfach zu supponieren auch, für eine Form - *pro forma significata* - zu supponieren. Denn: "Omne enim nomen significat solam formam ..." <sup>13</sup> Diskret schließlich supponiert

<sup>11</sup> K. Jacobi, a.a.O., S. 163.

<sup>12</sup> (Edition Lohr), S. 267.

<sup>13</sup> (Edition Lohr), S. 268.

ein Terminus, sofern es sich um einen diskreten bzw. singulären Terminus handelt wie 'Sokrates' oder 'dieser Mensch'.

Das sich hier stellende Problem ergibt sich offensichtlich gerade aus der Kreuzklassifikation der beiden Einteilungen der formalen Supposition, d.h. speziell aus der Kombination von einfacher und diskreter Supposition. Was soll darunter verstanden werden, daß ein singulärer Terminus, insbesondere ein Eigenname *eine Form bezeichnet*? Genau dies, nämlich eine Form zu bezeichnen, behauptet William of Sherwood vom Subject 'Sokrates' seines für die einfache und diskrete Supposition gegebenen Beispielsatzes. "Cum dico 'Socrates est praedicabile de uno solo', respicitur pro forma significata per nomen."<sup>14</sup> Dem Verständnis dessen, was es heißt, daß ein Eigenname eine Form bezeichnet, kommt man wohl ein Stück näher, wenn man sich um ein Verständnis des von William of Sherwood angeführten Beispielsatzes bemüht.

Kneale/Kneale erscheint offensichtlich sowohl die von William of Sherwood postulierte *suppositio simplex discreta* und die damit verbundene Annahme, daß singuläre Termini eine Form bezeichnen, als auch Williams Beispielsatz abwegig: "... he insists very strangely that a proper name can be said to signify a form and that this is essential to its having suppositio. As Aristotle rightly remarked in his doctrine of primary substance, Socrates is not predicabile of anything. If William's last example means anything at all, it must mean either that being-called-Socrates is predicabile of only one thing or that being-identical-with-Socrates is predicabile of only one thing, and in neither case is a form of Socraticity involved."<sup>15</sup>

Die kritische Interpretation von Kneale/Kneale leuchtet ein, wenn man das *esse praedicabile* als Prädikat-(in einem Urteil)-sein auffaßt. Wenn Aristoteles sagt, daß erste Substanzen weder in etwas sind noch von etwas ausgesagt werden, so besagt dies in logischer Terminologie, daß singuläre Termini in einer Aussage niemals an Prädikatsstelle stehen können. Folglich rekonstruieren Kneale/Kneale 'Sokrates' als einen auf genau ein Objekt zutreffenden *allgemeinen Terminus*, und zwar in Form einer Relation zu Sokrates (als Person) bzw. zu 'Sokrates' (als Namen), in der nur Sokrates selbst steht. Daß Sokrates nur von einem einzigen ausgesagt wird, besagt dann, daß die als offene Schemata dargestellten

<sup>14</sup> (Edition Lohr), S. 267.

<sup>15</sup> (Kneale/Kneale), S. 257.

Prädikate 'x ist identisch mit Sokrates' bzw. 'x wird 'Sokrates' genannt' nur von einem einem einzigen Objekt, nämlich Sokrates selbst, erfüllt werden.

Es erscheint mir zweifelhaft, ob mit dieser Interpretation die Intention Williams getroffen wird. Es bietet sich nämlich ein anderes Verständnis des *esse praedicabile* und damit auch des von William of Sherwood gegebenen Beispielsatzes an, da der Ausdruck *esse praedicabile de uno solo* als Definiens im Prädikabilien-Kapitel der *Introductiones* vorkommt, und zwar als Definiens des Definiendums 'Individuum': "Et est *individuum*, quod de uno solo est praedicabile, ut est nomen proprium et pronomen et dictio communis cum pronomine. Dicitur enim *individuum*, eo quod non dividitur in partes subiectivas."<sup>16</sup>

Die Erläuterungen, die William of Sherwood der Definition hinzufügt, erleichtern zunächst das Verständnis des Satzes nicht. Dennoch kann man einen Schritt weiter kommen: Der angeführte Beispielsatz darf offensichtlich in den äquivalenten 'Socrates est individuum' transformiert werden. In dieser Form bietet er für die Kritik von Kneale/Kneale keine Ansatzpunkte mehr. Ferner ergibt sich eine Parallele zu Aussagen wie 'Homo est species', insofern *species* zu sein bedeutet, daß 'homo' von mehreren ausgesagt werden kann. "Species autem est, quod praedicatur de pluribus ..." <sup>17</sup> Weiterhin kann gesagt werden, daß wegen der angeführten Parallele der *erste Modus* der einfachen Supposition auch im Falle von 'Socrates' innerhalb des transformierten Beispielsatzes vorliegt. Historisch und systematisch ist hier von Interesse, daß W. Burleigh im gleichen Kontext die Beispielsätze 'Homo praedicatur de pluribus' und 'Socrates est individuum' verwendet.<sup>18</sup>

Wenn nun in dem Satz 'Socrates est individuum' der Eigenname 'Socrates' einfach supponieren soll, so kann er nicht für die Person Sokrates supponieren. Folglich kann 'individuum' nicht als solcher Begriff verstanden werden, der auf Personon zutrifft. Die Erläuterung 'ut est nomen proprium ...' kann aber auch nicht wörtlich genommen werden, weil sonst 'Socrates' material supponieren würde. Vorläufig bleibt der von William of Sherwood für die *suppositio simplex discreta* angeführte Beispielsatz in beiden Versionen problematisch. Zur Vorbereitung eines

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<sup>16</sup> (Edition Lohr), S. 237.

<sup>17</sup> (Edition Lohr), S. 238.

<sup>18</sup> W. Burleigh, *De puritate artis logicae tractatus longior*, edited by Ph. Boehner, St. Bonaventure, N.Y., 1955, S. 17 u. 18.



angemessenen Verständnisses gehe ich einen kleinen Umweg und kehre vorläufig zu der Frage zurück, was es heißt, daß ein diskreter Terminus eine Form bezeichnet.

Ein Wort supponiert einfach, wenn es weder für sich selbst (material) noch für Gegenstände (personal) supponiert. Dasjenige, was von etwas ausgesagt wird, sind nun aber auch weder Wörter ('Sokrates') noch - entgegen der bei Aristoteles üblichen Ausdruckweise - Gegenstände (Sokrates). Ausgesagt werden in der Regel Eigenschaften bzw. Begriffe. Beide sind Kandidaten für dasjenige, was als Bedeutung eines Terminus im Unterschied zu seiner Referenz in Betracht gezogen wird. Die Person Sokrates ist das Referenzobjekt des Eigennamens 'Sokrates'.

Es dürfte keine großen Schwierigkeiten bereiten, die Theorie der Supposition als eine Referenztheorie aufzufassen.<sup>19</sup> Für William of Sherwood gilt offensichtlich die weitergehende Auffassung, daß die Referenz eines Terminus *ausschließlich* eine Sache seiner Supposition sei. Hiervon zu trennen ist die Signifikation: die Bezeichnungsfunktion eines jeden - auch des singulären - Terminus ist die Darstellung einer Form. So kann sich auch durch den jeweiligen Satzkontext immer nur die Supposition d.h. Referenz eines Terminus wandeln, nicht aber seine Signifikation.<sup>20</sup> Was wir somit bei William of Sherwood vorfinden, ist eine konsequent durchgeführte, d.h. die singulären Termini einbeziehende *dualistische Semantik*. Derartige Semantiken sind uns in der Gegenwartsphilosophie wohl vertraut. "Wenn wir die Trennung zwischen Bedeutung und Referenz richtig beachten, spalten sich die Probleme dessen, was so leichthin Semantik genannt wird, in zwei Gebiete, die so fundamental verschieden sind, daß sie einen gemeinsamen Namen nicht mehr verdienen. Wir können von der *Theorie der Bedeutung* und der *Theorie der Referenz* sprechen."<sup>21</sup> Dieser modernen Sicht kommt William of Sherwood sehr nahe, denn er trennt in der Sache übereinstimmend die *significatio* ('Bedeutung') von der *suppositio* ('Referenz').

Wendet man diesen Dualismus auf singuläre Termini, speziell Eigennamen an, dann muß eine Entität benannt werden, die als Bedeutung

<sup>19</sup> P.V. Spade, "The Semantics of Terms", in: *The Cambridge History of Later Medieval Philosophy*, Cambridge 1982, S. 192: "The theory of supposition proper is a theory of reference."

<sup>20</sup> Vgl. (Edition Lohr), S. 267 (1. Dubitatio); ferner: (Kneale/Kneale), S. 254.

<sup>21</sup> W.V.O. Quine, "Anmerkungen zur Theorie der Referenz", in: ders., *Von einem logischen Standpunkt*, Frankfurt 1979, S. 125.

singulärer Termini in: Unterschied zu ihrer Referenz fungiert. Hierbei handelt es sich, so vermute ich, um diejenigen Entitäten, die nur von einem einzigen ausgesagt werden können: *die Individua*. Diesen möchte ich mich nun in Form eines kleinen Exkurses in die Semantik der Gegenwart zuwenden. Von den verschiedenen dualistischen Semantiken der Gegenwart wähle ich die von R. Carnap in *Bedeutung und Notwendigkeit*<sup>22</sup> entwickelte Theorie von Extension und Intension.

Carnap führt die semantischen Begriffe der Extension und Intension per Abstraktion ein. Dabei handelt es sich um das präzisierende Verfahren der Begriffsexplikation, bezogen auf bekannte Begriffspaare wie 'Umfang und Inhalt' oder Freges 'Bedeutung und Sinn'. Der Begriff der Intension wird vor allem im Hinblick auf die Modallogik eingeführt und ist nicht identisch mit dem umfassenden Begriff der *Bedeutung* in Abgrenzung zur Referenz. Nicht nur aus diesem Grunde sind Analogisierungen zwischen dem Begriff der *significatio* bei William of Sherwood und dem der 'Intension' wenn überhaupt nur *cum grano salis* zulässig.<sup>23</sup>

Bevor 'Wesenheiten' gesucht werden, die als Extension bzw. Intension in Frage kommen, wird die Gleichheit, bzw. allgemein die Äquivalenz von Extension und Intension festgelegt. Ich beschränke mich hier auf die von Carnap so genannten 'Individuenausdrücke', d.h. auf die singulären Termini. Zwei Individuenausdrücke sind extensionsgleich gdw. der Satz 'a=b' wahr ist; sie sind intensionsgleich gdw. dieser L-wahr ist. Ein Satz soll 'L-wahr' heißen, wenn über seine Wahrheit unabhängig von Tatsachenwissen allein aufgrund semantischer Regeln entschieden werden kann. Da der Satz 'a=b' genau dann wahr ist, wenn 'a' und 'b' auf dasselbe Objekt referieren, kommt als Extension eines singulären Terminus nur das jeweilige Referenzobjekt in Frage.

Der Begriff der L-Wahrheit ist an sich umstritten. Davon unabhängig bereitet es gewisse Schwierigkeiten, sich einen L-wahren Satz der Form 'a=b' vorzustellen, vor allem wenn 'a' und 'b' echte Eigennamen sein sollen. Dementsprechend bieten sich auch keine Wesenheiten unmittelbar an, die als Intensionen singulärer Termini in Frage kämen. Das hiermit angedeutete Problem scheint mir demjenigen analog zu sein, welches sich als Frage nach der durch einen singulären Terminus bezeichneten Form darstellte. Da bei den anderen Designatoren als jeweilige Intensionen sich

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<sup>22</sup> R. Carnap, *Bedeutung und Notwendigkeit*, Wien - New York, 1972, insbes. Kap. 1 und 9.

<sup>23</sup> Vgl. P.V. Spade, a.a.O., S. 188.

solche Wesenheiten ergaben, die gewöhnlich als Bedeutungen oder Begriffe bezeichnet werden, führt Carnap in Entsprechung dazu den Ausdruck 'Individuenbegriff' zur Bezeichnung der Intension eines singulären Terminus ein.

In Ansehung der Analogie, aber auch im Bewußtsein der Differenzen zwischen den dualistischen Semantiken William's of Sherwood und R. Carnaps möchte ich vorschlagen, den von William of Sherwood eingeführten Terminus 'Individuum' durch 'Individuenbegriff' im Sinne Carnaps zu übersetzen. Williams Erläuterung wäre danach wie folgt zu verstehen: Ein Individuenbegriff ist dasjenige, was nur von einem einzigen ausgesagt werden kann, wie dies bei der Verwendung singulärer Termini der Fall ist. Sie werden Individuenbegriffe genannt, weil sie (im Unterschied zu Allgemeinbegriffen) keine untergeordneten Begriffe haben. Entsprechend wäre 'species' in dem Satz 'homo est species' durch 'Artbegriff' wiederzugeben.<sup>24</sup>

Die hiermit vorgeschlagene Interpretation, welche ihren Ausgang von der durch William of Sherwood eingeführten *suppositio simplex discreta* genommen hat, kann selbstverständlich nicht ohne Folgen für ein Verständnis der *suppositio simplex* im allgemeinen bleiben. Es hat den Anschein angesichts der verschiedenen, für einfach supponierende Termini angeführten Beispielsätze, als wenn diese Suppositionsart auch ganz verschiedene Gebrauchsweisen von Termini abdecken würde, welche der personalen oder materialen Supposition nicht zugeordnet werden können. Feststeht, daß ein an Subjektstelle einfach supponierender Terminus durch ein bestimmtes Prädikat determiniert sein muß, und daß unter diesem Subjektterminus ein *descensus ad singularia* generell nicht möglich ist. Die Gründe für die Unmöglichkeit eines Descensus sind allerdings andere als bei der immobilen Supposition.

Angesichts der Frage nach dem quantitativen Status von Sätzen mit einfach supponierendem Subjekt, weist William of Sherwood die Auffassung, derartige Sätze seien singulär, deshalb zurück, weil sie eine mit seiner dualistischen Semantik unvereinbare Deutung der einfachen Supposition voraussetzt. Diese faßt nämlich 'homo' in dem Satz 'homo est species' als Eigennamen einer Art auf, also als singulären Terminus. Diese Interpretation muß für William of Sherwood unakzeptabel erscheinen, weil der Terminus 'homo', indem er nicht mehr als konkreter allgemeiner

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<sup>24</sup> So z.B. Kant, *Logik*, A 150.

Terminus sondern als abstrakter singulärer Terminus<sup>25</sup> fungieren würde, seine Signifikation ändern würde. Dann aber würde 'homo' ohne Zweifel personal und diskret supponieren. Die gleiche Konsequenz ergäbe sich übrigens, wenn man einen material supponierenden Terminus durch Hinzufügen von Anführungszeichen modifizieren würde.

Es hat den Anschein, als würden Kneale/Kneale die einfache Supposition als mißliche Folge des Umstands verstehen, daß wir zwischen abstrakten, singulären und konkreten, allgemeinen Termini im gewöhnlichen Sprachgebrauch nicht hinreichend scharf unterscheiden: "For if we use the word *homo* as a substitute for the word *humanitas*, we give it a new sense. But William refuses to admit this, and produces instead an incoherent account of two kinds of *suppositio*."<sup>26</sup> Da sich dieses Verständnis der einfachen Supposition offensichtlich mit der dualistischen Semantik Williams nicht vereinbaren läßt, könnte man eine andere erwägen, welche den Vorzug hat, daß sie sich aus unserer Interpretation von Williams semantischem Dualismus ergibt und zugleich erklärt, warum ein derart einfach supponierender Subjekterminus keinen Descensus zuläßt.

Wenn es so ist, daß ein Terminus in einfacher Supposition für sein Signifikat, nach unserer Interpretation für einen Begriff steht und dies durch den spezifischen Charakter des Prädikats bewirkt wird, dann liegt es nahe, derartige Prädikate im Sinne Freges als Begriffe zweiter Stufe aufzufassen. *Individuum*, *species*, und *praedicabile de uno solo* sind solche Begriffe, welche immer nur auf andere Begriffe zutreffen. Nun sind allerdings die durch solche Begriffe zweiter Stufe Begriffen erster Stufe zugesprochenen Eigenschaften nicht auch schon deshalb Eigenschaften der unter diese fallenden Gegenstände. Das ist der Grund dafür, daß ein Descensus in diesem Fall nicht möglich ist. Die Beziehung der Unterordnung eines Begriffs unter einen anderen, wie in dem Satz 'homo est animal', ist transitiv, diejenige des Fallens eines Begriffs unter einen anderen, wie in dem Satz 'homo est species', ist dies nicht.

Zum Abschluß möchte ich noch auf ein Problem am Rande hinweisen. Faßt man, wie dies die Ausführungen Williams nahelegen, beide Zweiteilungen der formalen Supposition als vollständige Disjunktionen auf, erhält man einen Stammbaum der Arten und Unterarten der

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<sup>25</sup> Vgl. hierzu: W.V.O. Quine, *Grundzüge der Logik*, Frankfurt 1969, S. 262 f.

<sup>26</sup> (Kneale/Kneale), S. 255.

Supposition, der den Intentionen von William of Sherwood zumindest dahingehend entspricht, daß er die *suppositio simplex discreta* enthält. Nun ist es zweifellos so, daß William dann auch die *suppositio personalis discreta* schon aus Abgrenzungsgründen, wie das Schema ausweist, einführen muß. Das führt aber zu Schwierigkeiten mit der nachfolgend vorgenommenen Zweiteilung der personalen Supposition in eine determinierte und eine konfuse. Konfuse Supposition liegt vor, "quando dictio supponit pro multis".<sup>27</sup> Dies kann aber keine echte Unterart der diskreten Supposition sein, da ein diskreter Terminus *per definitionem* nicht für mehreres supponieren kann.

Ich hoffe gezeigt zu haben, daß die zweifache Einteilung der formalen Supposition bei William of Sherwood mit einer Reihe nicht nur formaler Probleme verbunden ist. Die Einbeziehung der modernen Semantik hatte nicht nur den Sinn, diese Probleme besser zu verstehen, sondern auch zu zeigen, wie 'modern' William of Sherwood ist.

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<sup>27</sup> (Edition Lohr), S. 266.



MARCIA L. COLISH

Mathematics, the Monad, and John the Scot's Conception of *Nihil*<sup>\*</sup>

The importance of John the Scot in the history of medieval thought has always rested squarely on his transmission and use of Neoplatonism.<sup>1</sup> To the extent that scholars have sought to bring the Latin school tradition to bear on their assessment of John's philosophy they have turned to logic, as the discipline which he applied the most consistently as a conceptual tool.<sup>2</sup> There is, however, a key juncture in John's thought, his analysis of the term *nihil* in *Periphyseon* 3, at which he distances himself both from the Neoplatonic tradition and from the discipline of logic. As with other medieval authors confronted with the task of explaining the idea of creation *ex nihilo*, John canvasses the liberal arts and the philosophy available to him for assistance. But, in this case, he finds the help he seeks in the science of arithmetic, as it had come down to him in the works of Boethius and Martianus Capella, whom John and his associates studied and glossed. The critical point at which John appeals to school arithmetic is the definition of monad, the abstract foundation of all numbers. Can the monad be equated with the deity, as the later Neoplatonists had argued? Can the monad be defined as *nihil*?

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<sup>1</sup> The best overall conspectus on John and his relation to his Neoplatonic sources is provided by Stephen Gersh, *From Iamblichus to Eriugena: An Investigation of the Prehistory and Evolution of the Pseudo-Dionysian Tradition* (Leiden, 1978) and *Middle Platonism and Neoplatonism: The Latin Tradition*, 2 vols. (Notre Dame, 1986). For earlier literature see Marcia L. Colish, "John the Scot's Christology and Soteriology in Relation to His Greek Sources," *Downside Review*, 100 (1982), 138-51. For the influence of Marius Victorinus in particular see Gustavo A. Piemonte, "L'expression 'quae sunt et quae non sunt': Jean Scot et Marius Victorinus," *Jean Scot écrivain: Actes du IV<sup>e</sup> colloque international, Montréal, 28 août-2 septembre 1983*, ed. G.-H. Allard (Montréal/Paris, 1986), pp. 81-113; "'Vita in omnia pervenit': El vitalismo eriugeniano y la influencia de Mario Victorino," *Patristica et Mediaevalia*, 7 (1986), 3-48. I would like to thank Dr. Piemonte for making offprints of these two papers available to me.

<sup>2</sup> See, especially, John Marenbon, *From the Circle of Alcuin to the School of Auxerre: Logic, Theology and Philosophy in the Early Middle Ages* (Cambridge, 1981); Gangolf Schrimpf, *Das Werk des Johannes Scottus Eriugena im Rahmen des Wissenschaftsverständnisses seiner Zeit: Eine Hinführung zu Periphyseon*, Beiträge zur Geschichte der Philosophie und Theologie des Mittelalters, n.F. 23 (Münster, 1982).

Can *nihil* be viewed as the privation of essence, species, or *habitus*? Can it be defined as the logical opposite of *aliquid*, which it excludes? All of these possibilities and more had been ventilated by earlier and contemporary Carolingian masters, as well as by their ancient and patristic sources.<sup>3</sup> In the *Periphyseon* John rejects all these options and grounds his argument instead on the arithmetical notion of the monad.

It should be noted that *Periphyseon* 3 is not the only place where John addresses the idea of *nihil*. He does so as well in his homily on the prologue to St. John's Gospel, where he uses a much simpler line of argument, and one fully in tune with the Boethian logic of opposition. In explicating the line "Sine ipso factum est nichil quod factum est," John observes that nothing was created except through the Word because the Word includes all things. Further, it is impossible to envision anything coeternal and coessential with the Word except the other Persons of the Trinity. Since the Word is the *logos* of creation, "nothing at all remains that was not made in Him and through Him."<sup>4</sup> *Nihil* here is *nihil omnino*, nothing at all, the conceptual opposite of the *omnia* created in and through the Word, which *omnia* logically negates. The Boethian logic of mutually exclusive opposites is sufficient for John's task in this homily, but this is not the case in *Periphyseon* 3, where he sets for himself a much more complicated assignment. For it is here that John develops his doctrine of the primordial causes. It is largely for this reason that he invokes the mathematical idea of the monad in his handling of *nihil* in *Periphyseon* 3.

Before we proceed to the *Periphyseon* it must be stressed that ancient Greek mathematicians had developed a standard notion of the monad, on which the later Neoplatonists rang their own changes. The mathematical definition of the monad as the abstract substratum of all numbers, to which all numbers can be reduced, was first formulated by the Pythagoreans. While the Pythagoreans were not averse to number symbolism in other areas, their treatment of the monad was straightforward and strictly mathematical. This perspective was continued by the Neopythagorean mathematicians, whose most influential exponent was

<sup>3</sup> A detailed investigation focusing on Fredegisus of Tours and Ratramnus of Corbie is provided by Marcia L. Colish, "Carolingian Debates over *Nihil* and *Tenebrae*: A Study in Theological Method," *Speculum*, 59 (1984), 757-95.

<sup>4</sup> John the Scot, *Homélie sur le Prologue de Jean* 8, ed. Édouard Jauneau, Sources chrétiennes, 151 (Paris, 1969), p. 240: "nichil omnino relinquit quod in ipso et per ipsum factum sit." For the whole argument see pp. 238-40.

Nicomachus of Gerasa. Written in the second century A.D., his *Introduction to Arithmetic* summed up the main currents of Neopythagorean teaching and remained the classic textbook in the field for centuries. Nicomachus' debt to the Pythagoreans can be seen especially in his conception of the monad.<sup>5</sup> Eschewing any cosmological applications of the idea, he treats number as the structure of reality. The monad and the dyad, the two most primitive elements of number, refer not to "one" and "two" as actual numbers but to the metaphysical principles of unity and alterity underlying them. According to Nicomachus, all actual numbers derive their essential natures from the monad, which is a pure intelligible in the mind of God, primary, simple, and alone incomposite, and constituted "in accordance with itself, not by any other but by itself."<sup>6</sup>

When Boethius was preparing his translations of the quadrivium textbooks it was to Nicomachus that he turned as the authority on arithmetic. His treatment of the monad, which he renders as *unitas* or *aequalitas* in Latin, is more abbreviated than that of Nicomachus, but he preserves the essentials of Nicomachus' teaching. Numbers, Boethius agrees, are diverse in themselves. They can be reduced to the concepts of "odd number" and "even number," which in turn "come forth from one source."<sup>7</sup> This source is equality, from which all inequalities are derived and in which they are all resolved.<sup>8</sup> With these definitions in hand, Boethius propels the strictly mathematical Neopythagorean view of the monad firmly on its course in the Latin school tradition.

The later Neoplatonists, however, were dissatisfied with this Neopythagorean handling of Plato's doctrine of the one and the many. For their part, they sought to explore the broader metaphysical and

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<sup>5</sup> On Nicomachus and his place in the arithmetical tradition see Frank Egleston Robbins and Louis Charles Karpinski, "Studies in Greek Mathematics," the intro. to Nicomachus of Gerasa, *Introduction to Arithmetic*, trans. Martin Luther d'Ooge (New York, 1926), pp. 16-17, 35, 37-38, 99-102; Janine Bernier, intro. to her trans. of Nicomachus of Gerasa, *Introduction arithmétique* (Paris, 1978), pp. 16, 24-25.

<sup>6</sup> Nicomachus of Gerasa, *Introduction to Arithmetic* 1.6.1-4, 1.7.1, 1.16.9-10, 2.1.1, trans. d'Ooge, pp. 190, 192, 211-12. The quotation is at 1.6.4, p. 190.

<sup>7</sup> Boethius, *De institutione arithmetica* 1.2, ed. Godofredus Friedlein (Leipzig, 1867), p. 13: "ex una tamen genitura profluunt." There is a translation by Michael Masi, *Boethian Number Theory: A Translation of the De institutione arithmetica* (Amsterdam, 1983), p. 76.

<sup>8</sup> *De inst. arith.* 2.1, p. 77: "Tota inaequalitatis substantia a principe sui generis aequalitate processerit. Sed quae rerum elementa sunt, ex hisdem principaliter omnia componuntur, et in eadem rursus resolutione facta solvuntur." The translation is mine. The same point is also found at 1.32, p. 66.

cosmological implications of the monad, a concern we can document especially in Proclus and Dionysius the Areopagite. Since they saw the monad as the opposite of all plurality, these Neoplatonists held it to be analogous to, or even as identical with, a higher hypostasis of being. Proclus envisions each order of being, not merely numbers, as starting from a monad and as being reducible to the monad at the top of its particular order of being. He does not hesitate to equate the monad with the deity.<sup>9</sup> A similar view is found widely among the late Neoplatonists, and is further elaborated by Dionysius. Recasting the problem of the one and the many in numerical terms, he moves the monad up from its status as the archetype of each order of being to the level of the supreme unity that stands above all the archetypes. God becomes the monad of all levels of creation, directly or indirectly. Creation contains beings that are simple and beings that are composite. But God alone shares with the monad the quality of radical and indivisible unicity. As Dionysius puts it, "Every number is unified in the monad, but inasmuch as it proceeds from the monad it is distinguished and multiplied,"<sup>10</sup> having transferred the concept of number in its more restricted sense to the creation as a whole. In Stephen Gersh's words, Dionysius has also recast God as "the monad in relation to which creation is the number."<sup>11</sup> Other Christian Neoplatonists gave this idea a warm welcome, treating the deity as the monad in relation to the angelic and physical worlds. They seized on this notion as a useful way of conceptualizing the emanation of plurality from unity that harmonized with the additions and revisions they imported into the pagan Neoplatonic view of the spiritual order.<sup>12</sup>

While the Neoplatonic and Neopythagorean theories of the monad are manifestly different, they were sometimes combined by authors in

<sup>9</sup> Proclus, *Theologia Platonis* 138, 231, ed. H.D. Saffey and L.G. Westerink (Paris, 1968- ); *In Timaeum* 3.106.1-17, ed. E. Diehl (Leipzig, 1903-06); *Institio theologica* 24.1-3, 2nd ed., ed. E.R. Dodds (Oxford, 1965). On this whole development see Gersh, *From Iamblichus to Eriugena*, pp. 63, 99, 141 n. 81, to whom this account is much indebted; also A.C. Lloyd, "The Later Neoplatonists," *The Cambridge History of Later Greek and Early Medieval Philosophy*, ed. A.H. Armstrong (Cambridge, 1970), p. 307; Philip Merlan, "Zur Zahlenlehre im Platonismus (Neuplatonismus) und im *Sefer Yezira*," *Journal of the History of Philosophy*, 3 (1965), 175-76.

<sup>10</sup> Dionysius the Areopagite, *De divinis nominibus* 5.6, ed. B. Cordier, *PG*, 3: 820D-821A. The trans. is that of Gersh, *From Iamblichus to Eriugena*, p. 140.

<sup>11</sup> Gersh, *From Iamblichus to Eriugena*, p. 140. On Dionysius and other late Neoplatonists more generally see *ibid.*, pp. 140-41.

<sup>12</sup> *Ibid.*, pp. 175-77.



late antiquity. Favonius Eulogius, a pupil of Augustine, produced a *Disputatio de Somnio Scipionis* in the late fourth century which reflects a blend of this sort. On the one hand, Favonius describes the monad as an indivisible unity which generates all numbers<sup>13</sup> and, on the other, as the first and final causes manifested as God,<sup>14</sup> mind,<sup>15</sup> or soul.<sup>16</sup> As with Dionysius later on, he thinks that the monad can be viewed as the deity because of its primordial incapacity to suffer division. The reasons leading him to extend this idea to the mind or soul are far from clear. A much more influential commentator on the dream of Scipio, Macrobius, follows suit. Consistent with his generally Neoplatonic outlook, Macrobius defines the monad as that "which is the beginning and end of all things but itself knows neither beginning nor end, is applied to the highest God and distinguishes our understanding of Him from the plurality of things and powers subsequent to Him."<sup>17</sup> But, in the same passage, Macrobius goes on to say that the monad can also be found in the ranks of creatures below God, which He generates, including intellect, soul, and the innumerable forms of things.<sup>18</sup>

Also open to some confusion is an author even more central than Macrobius to the educational enterprise of John the Scot and his associates, Martianus Capella. In the seventh book of his *Marriage of Mercury and Philology*, devoted to arithmetic, Martianus offers both the crisp, unambiguous, Neopythagorean definition of the monad as the principle of numbers, the source from which all numbers proceed and to which they return,<sup>19</sup> and a Neoplatonic definition of the monad as the creator God, in contrast with matter in a state of generation.<sup>20</sup> Even

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<sup>13</sup> Favonius Eulogius, *Disputatio de Somnio Scipionis* 3.1, 4.1-2, 5.12, 6.1-2, ed. L. Scarpa (Padova, 1974). On this author see Gersh, *Middle Platonism*, 2:739.

<sup>14</sup> *Disp.* 5.4.

<sup>15</sup> *Ibid.* 6.3, 7.3.

<sup>16</sup> *Ibid.* 5.2.

<sup>17</sup> Macrobius, *In Somnium Scipionis* 1.6.8, ed. J.A. Willis (Leipzig, 1963), 2:19: "Haec monas initium finisque omnium, neque ipsa principii aut finis sciens, ad summum refertur deum eiusque intellectum a sequentium numero rerum et potestatum sequestrat, nec in inferiore post deum gradu frustra eam desideraveris." The translation is that of Gersh, *Middle Platonism*, 2:525.

<sup>18</sup> *In Som. Scip.* 1.6.8-9, Willis, 2:19-20.

<sup>19</sup> Martianus Capella, *De nuptiis Philologiae et Mercurii* 7.732, 7.743, 7.745, ed. J.A. Willis (Leipzig, 1983), pp. 263, 269, 270.

<sup>20</sup> *Ibid.* 7.733, p. 264.



more problematic is the way Martianus lumps these disparate notions together in the speech of *Arithmetica* which opens Book 7:

Before all things, let the monad be called sacred; numbers coming after it and associated with it have taught that before everything the monad is the original quickener. For if form is an accident of anything that exists, and if that which numbers is prior to that which is numbered, it is fitting to venerate the monad before that which has been called 'the beginning.' Then too, I shall not neglect to point out to those who examine the matter that because the monad is unity, it is alone self-sufficient. From it other things are generated; it alone is the seminal force of all numbers; it alone is the measure and cause of increases and the extent of losses. The monad is everywhere a part, and everywhere the whole; it endures through all things. For that which is prior to things existing and which does not disappear when they pass away, must be eternal. Rightly is the monad called Father of All, and Jove - a conclusion corroborated by the causative force of its ideal and intelligible form. ... Some have called the monad Concord, others Piety or Friendship, because it is so compact that it is not cut into parts. But more properly is it called Jupiter, because it is the head and father of the gods.<sup>21</sup>

Richard Johnson and E.R. Burge, in their commentary on Martianus' arithmetic, acknowledge the eclectic character of his treatment of the monad. But, they stress, despite his comparisons between the monad, the deity, and various benevolent attitudes, in practice Martianus tends to confine his application of the monad more rigorously to the abstract function of undergirding all numbers, from the dyad on down, in the less rhapsodic manner of the Neopythagoreans.

Given this array of possibilities, from Neoplatonic theology to Neopythagorean mathematical literalism to texts that freely mingle these approaches, how did John the Scot come to grips with the monad? Was he able to dismiss as an allegorical fancy the theologizing of the monad and to use it as a strictly mathematical concept, or did he tread the

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<sup>21</sup> Ibid. 7.731, pp. 262-63: "Prae cunctis igitur affata sacra monas esto, quam ante cuncta vibrantem sociati postmodum numeri principia docuerunt. Quae si species est accidens cuilibet extantium primo, priusque est quod numerat quam illud numerandum, rite eam ante ipsum, quem principem dixere, veneramus. Nec dissimulabo ex eo, quod monas, retractantibus unum solum ipsam esse ab eaque cetera procreari omniumque numerorum solam seminarium esse solamque mensuram et incrementorum causam statumque detrimentorum. Quae tamen ubique pars est, ubique totum, dum per cuncta perpetua; neque enim, quae est ante extantia et quae post absumpta non absconditur, potest non esse perpetua. Hanc igitur patrem omnium Iovem rite esse nominatam, quod quidem idealis illius intellectualisque speciei vis causativa testatur. ... Hanc quoque alii Concordiam, hanc Pietatem Amicitiamque dixere, quod ita nectatur, ut non secetur in partes; tamen rectius Iuppiter nuncupatur, quod sit idem caput ac pater deorum." The translation is by William H. Stahl et al., *Martianus Capella and the Seven Liberal Arts* (New York, 1977), 2:276-77.

Neoplatonic path, equating the monad with the deity? John's work both as a pedagogue and as a philosopher affords an unambiguous answer. In *Periphyseon* 3 he adheres expressly to the Neopythagorean concept of the monad. As was suggested earlier, his inspiration here was the need to distinguish the primordial causes from God. But even before John came to address that problem, he and his circle of educators had taken a solidly Neopythagorean stand on the monad in their commentaries on Martianus Capella.

There is some scholarly debate on the relationships among these commentaries and their authorship, which is not likely to be resolved until a complete critical edition of all the known manuscripts has been made.<sup>22</sup> None the less, a scholarly consensus has been achieved on two main points: First, while it was Alcuin who first mapped out the systematic study of the liberal arts, in whose service the Martianus glosses were produced, the program was not activated until the middle of the ninth century under the leadership of Martin of Laon, John the Scot, and other Hiberno-Latin masters. Second, while the literary form of the commentary is by nature somewhat fluid, making attribution within a group of scholars joined in a common pedagogical pursuit rather difficult, it is agreed that the glosses contained in a Paris manuscript published by Cora Lutz,<sup>23</sup> and those preserved in an Oxford manuscript, Book 1 of which has been published by Édouard Jeauneau,<sup>24</sup> may be read as authentic indices to the learning, and the point of view, which John brought to the text of Martianus.<sup>25</sup> In addition, the first continental

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<sup>22</sup> On the status of this question and the scholarly literature pertaining to it, see Gersh, *Middle Platonism*, 2:799 n. 100; Michael Herren, "The Commentary on Martianus Attributed to John Scottus: Its Hiberno-Latin Background," *Jean Scot écrivain*, pp. 265-71; Claudio Leonardi, "Martianus Capella et Jean Scot: Nouvelle présentation d'un vieux problème," *ibid.*, pp. 196-207; Schrimpf, *Das Werk des Johannes Scottus Eriugena*, pp. 21-23, 35-36, 37-48, 133-34. Authors not discussed by these scholars include Cora E. Lutz, "Martianus Capella," *Catalogus Translationum et Commentariorum*, ed. P.O. Kristeller and F.E. Cranz (Washington, 1971), 2:367-78, who at that point attributed to Martin of Laon the commentary she had earlier published and assigned to Dunchad; and M.L.W. Laistner, "Martianus Capella and His Ninth-Century Commentators," *Bulletin of the John Rylands Library*, 9 (1925), 130-38, who attributes to Martin the Paris MS. 12960 which was later edited by Lutz and which subsequent scholars have agreed in assigning to John.

<sup>23</sup> John the Scot, *Annotationes in Marcianum*, ed. Cora E. Lutz (Cambridge, MA, 1939).

<sup>24</sup> Édouard Jeauneau, *Quatre thèmes érigéniens* (Montréal/Paris, 1978), pp. 91-166.

<sup>25</sup> Herren, "The Commentary on Martianus," pp. 269, 271, 272, 274, 285; Schrimpf, *Das Werk des Johannes Scottus Eriugena*, pp. 21-23, 35-36, 37-48, 133-34; "Zur Frage

master to gloss Martianus, Remigius of Auxerre, shows a close dependence on both the Paris and the Oxford stages of the Eriugenian project,<sup>26</sup> and, as we will see, he shares and expands on John's treatment of the monad in particular.

One of the leading scholars now at work on these texts, Claudio Leonardi, has argued that this outlook is decidedly Neoplatonic. John, he asserts, made Dionysius his guide to Martianus, in whose work he sought to recover the Platonic cast of mind.<sup>27</sup> With respect to the monad, however, exactly the reverse is the case. Not only does John avoid lemmatizing the portion of *Arithmetica's* speech that would have allowed him to expatiate on the Neoplatonic description of the monad as the deity, he also takes a strictly Neopythagorean line dependent on Boethius in those glosses where he does discuss the monad. He proceeds in a non-sense and non-metaphorical manner. The monad, he states, is the abstract mathematical substratum underlying all numbers, and "the principle of all numbers."<sup>28</sup> Whatever their capacity for subdivision and composition, he continues, "all numbers are likewise reducible to the monad, which alone is irreducible."<sup>29</sup> Finally, he notes, "once all numbers have been reduced, the monad endures ... because above it there is nothing, since the end of all numbers is constituted in it."<sup>30</sup>

In the line last cited John does not speculate on what the *nihil* may be that lies above the monad, or how they are related. This theme is one to which he devotes extended attention in the *Periphyseon*. By the time John had moved to the composition of that work he had had the opportunity to acquire a more Platonic theory of the monad thanks to his Greek translations, and he was able to consider its merits side by side

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der Authentizität unserer Texte von Johannes Scottus' *Annotationes in Martianum*," *The Mind of Eriugena*, ed. J.J. O'Meara and Ludwig Bieler (Dublin, 1973), pp. 125-39; "Johannes Scottus Eriugena und die Rezeption des Martianus Capella im karolingischen Bildungswesen," *Eriugena: Studien zu seinen Quellen*, ed. W. Beierwaltes (Heidelberg, 1980), pp. 135-48.

<sup>26</sup> Herren, "The Commentary on Martianus," p. 272.

<sup>27</sup> Leonardi, "Martianus Capella et Jean Scot," pp. 202-03.

<sup>28</sup> John the Scot, *Annotationes in Marcianum*, Musica 490.14, ed. Lutz, p. 202: "omnium numerorum principium." Similarly *Arithmetica* 366.20, 367.18; Musica 490.15, pp. 155, 202.

<sup>29</sup> *Ibid.*, *Arithmetica* 367.13, p. 155: "quando resolvuntur numeri ad monadem pervenitur quae non potest resolvi."

<sup>30</sup> *Ibid.*, *Arithmetica* 367.15, p. 155: "postquam omnes numeri consummantur, monas remanet ... quia supra eam nihil est, quia finis omnium in ea constat."

with the Neopythagorean understanding of the monad which he reflects in his Martianus glosses. In *Periphyseon* 2, the first point in the work where he refers to the monad,<sup>31</sup> he holds up these two alternatives almost as parallels. He cites the notion of the monad as the cause and end of all numbers as one instance of the general philosophical maxim that a single cause can have many effects.<sup>32</sup> He also quotes Dionysius' yoking of the mathematical understanding of the monad to the monad as the first cause,<sup>33</sup> and Maximus Confessor's similar analysis in his commentary on Gregory Nazianzus, whom Maximus reports as teaching "the monadic principle that no difference should be admitted into the First Cause."<sup>34</sup>

It is not until Book 3 of the *Periphyseon*, in the context of defining *nihil* and explaining creation *ex nihilo*, that John makes a preclusive choice between these contrasting approaches. His ultimate goal in this section of the work is to dismiss one Neoplatonic conception of *nihil* in favor of another. As he initially poses the question of *nihil*, he asks "whether it is the complete privation of essence or substance or accident, or the excellence of the divine superessentiality."<sup>35</sup> The Neoplatonism of both the latter position, which John supports, and of the privative theory, which he rejects, has been noted by previous commentators on John's doctrine of *nihil*, as well as the fact that he is responding to recent Carolingian discussions of the subject in addition to older debates.<sup>36</sup> What

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<sup>31</sup> Cf. I.P. Sheldon-Williams, "Johannes Scottus Eriugena," *Cambridge History of Later Greek and Early Medieval Philosophy*, p. 522, who claims that John adverts to the monad and identifies it with God as the first cause in *Periphyseon* 1.1, a passage which, however, does not mention the monad at all.

<sup>32</sup> John the Scot, *Periphyseon* 2.602B, ed. and trans. I.P. Sheldon-Williams, *Scriptores Latini Hiberniae*, 9 (Dublin, 1972), p. 174.

<sup>33</sup> *Ibid.* 2.618B-C, p. 210. This passage has been noted by Gersh, *From Iamblichus to Eriugena*, p. 140 n. 76.

<sup>34</sup> *Periphyseon* 2.615B, p. 202: "de monade rationem ut non separatio in primo causali introducatur." The trans. is at p. 203.

<sup>35</sup> *Ibid.* 3.634B, ed. and trans. I.P. Sheldon-Williams and Ludwig Bieler, *Scriptores Latini Hiberniae*, 11 (Dublin, 1981), p. 60: "utrum privatio totius essentiae vel substantiae vel accidentis an divinae superessentialitatis excellentia." The trans. is at p. 61.

<sup>36</sup> The fullest study to date of John's doctrine of *nihil* in the *Periphyseon* is Gustavo A. Piemonte, "Notas sobre la creatio ex nihilo en Juan Escoto Eriugena," *Sapientia*, 23 (1968), 37-58; see also Donald F. Duclow, "Divine Nothingness and Self-Creation in John Scotus Eriugena," *Journal of Religion*, 57 (1977), 110-15 and Sheldon-Williams, intro. to his ed. of *Periphyseon* 3, pp. 5-11. Briefer accounts are given by Henry Bett, *Johannes Scotus Eriugena: A Study in Medieval Philosophy* (New York, 1964 [repr. of 1925 ed.]), p. 97 and Maïeul Cappuyns, *Jean Scot Érigène: Sa vie, son oeuvre, sa pensée* (Bruxelles, 1964 [repr. of 1933 ed.]), pp. 344-50. The first scholar to note that John was respond-



has not been appreciated is his use of the Neopythagorean view of the monad to exclude the Neoplatonic identification of the monad with the deity and the monad with *nihil*, preserving *nihil* as a denomination for God alone. In contrast with his handling of *nihil* in his Johannine homily, where he treats it as the opposite of *omnia*, in *Periphyseon* 3 John equates the divine *nihil* with *omnia*, seen as the opposite of *aliquid*, here identifying *aliquid* with essence and *nihil* and *omnia* with superessence. In arriving at that destination, John also has to define the nature of the primordial causes, which are created by God and which remain eternal in the mind of God once created, but which are not themselves God. For this purpose as well, the strictly mathematical notion of the monad supplies him with conceptual tools that help him to obtain the desired result.

John presents the idea of *nihil* as the privation of being as the major traditional position he needs to refute, including under this heading *nihil* as the absence of species, accidents, and *habitus* as well as the absence of essence itself. He insists that there is a difference between the privation of being, on the one hand, and the apophatic method as an epistemic approach to God, on the other. With respect to the latter, he agrees, it is appropriate to predicate negations of God, for they reflect our awareness of His transcendence and they do not denote any privation of substance on His part.<sup>37</sup> *Nihil*, however, is not acceptable when it means the privation of being or any function or aptitude of being. Such a view, says John, would involve the removal from a being of something it already possesses. But, the *nihil* that requires explanation is the nothingness present before the creation, when there were no created beings yet in existence that could be deprived of their essences or of anything else.<sup>38</sup> A second definition of *nihil* which John rejects, although there is less support for it in the exegetical tradition than he claims, is the identification of *nihil* with unformed matter. "For He Who made the

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ing to his Carolingian predecessors and contemporaries and not just to a remoter past was J.A. Endres, *Forschungen zur Geschichte der frühmittelalterlichen Philosophie*, Beiträge zur Geschichte der Philosophie des Mittelalters, 17:2-3 (Münster, 1915), pp. 12-13, although this forerunner is not acknowledged by Piemonte, "Notas," pp. 41-42 n. 6. For more details on the Carolingian background see Colish, "Carolingian Debates," *Speculum*, 59 (1984), 757-95. None of the scholars mentioned above has noticed the mathematical and anti-Neoplatonic aspects of John's treatment of *nihil*.

<sup>37</sup> *Periphyseon* 3.634C-D, 3.663C, pp. 60-62, 128.

<sup>38</sup> *Ibid.* 3.634C-D, 3.686A-687B, pp. 60-62, 178-80.



world out of unformed matter made unformed matter out of nothing at all,<sup>39</sup> he plainly states, backing up this idea with a number of familiar arguments.<sup>40</sup>

Having cleared the decks of these alternatives, John turns to two other theories, one of which he plans to refute and the other of which he intends to support. The first is the idea that the monad can be equated with *nihil*. In the section of Book 3 where he considers this possibility John does not mention Martianus specially, although he cites Boethius as an authority on arithmetic, summarizing and applying the Boethian doctrine of the monad, which we also find in the Martianus glosses.<sup>41</sup> Numbers, John notes, are themselves pure concepts, which can be reduced to the monad, "for the monad ... is the beginning and the middle and the end of all numbers."<sup>42</sup> While they may explain the nature of changeable realities in act and operation, numbers remain eternal in their condition as pure intelligibles and share, in the monad, its attribute of abstract unity and indivisibility. Given that status, can the monad be regarded as the *nihil* out of which number was created and, through number, the phenomenal world that number can describe? After due consideration, John rejects this idea, and with it any attempt to equate the monad with the first cause. In thus de-Neoplatonizing the monad, John may well have had in mind his remark in the Martianus gloss that *nihil* lies above the monad. This clear decision to bring his doctrine of the monad into line with a purely mathematical understanding of it is reflected later, and still more pointedly, in Remigius' commentary on Martianus. Remigius expressly abandons the philosophical, that is, the Neoplatonic, monad in favor of the exclusively mathematical monad.<sup>43</sup>

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<sup>39</sup> Ibid. 3.636D, p. 66: "Qui enim fecit mundum de materia informi ipse fecit informem materiam de omnino nihil." The trans. is at p. 67.

<sup>40</sup> Ibid. 3.637C-638C, 3.650B-651A, pp. 68-70, 98-100.

<sup>41</sup> For the whole passage see *ibid.* 3.652B-663A, pp. 102-10. References to Boethius in this section of the *Periphyseon* have been noted by Goulven Madec, "Jean Scot et ses auteurs," *Jean Scot écrivain*, p. 166, who emphasizes the fact that John cites Boethius primarily as a mathematician; and Alison White, "Boethius in the Medieval Quadrivium," *Boethius: His Life, Thought and Influence*, ed. Margaret Gibson (Oxford, 1981), pp. 169, 195 n. 51, who emphasizes John's quotations from Boethius on the monad at *De inst. arith.* 1.32 and 2.1.

<sup>42</sup> *Periphyseon* 3.652C, p. 102: "est enim principium et medium et finis omnium numerorum monas." The trans. is at p. 103.

<sup>43</sup> Remigius of Auxerre, *Commentum in Martianum Capellam*, 365.9, 365.15, 367.4, 367.6, 367.7, 367.9, 367.13, 367.15, 376.9, 377.10, 377.18, 378.5, 378.12, ed. Cora A. Lutz

Remigius offers no reasons for that choice. But John's reasons for making it in the *Periphyseon* are quite specific. He has two aims in mind. First, he wants to deprive the monad of any unique metaphysical status by treating it as one of the primordial causes. And second, he wants to use the monad as a model for explaining the primordial causes and for showing why they are not *nihil* either.

The primordial causes, John agrees, are eternal, and they are the agents through which the Word brings all things into being.<sup>44</sup> Yet, they are not *nihil*, and they are not identical with God Himself. They have several limitations. While they are eternal once created, they are created. Hence, the primordial causes have the capacity to be and not to be, which is not true either of God or of *nihil*. Further, before God ordained the creation of the phenomenal world, the capacity of the primordial causes to act as causes was only potential.<sup>45</sup> The actualizing of this capacity occurred not through their own autonomous power but through a seminal force (*vis seminalis*) implanted in them by God.<sup>46</sup> Thus, the primordial causes cannot be called *nihil*. Nor, since they are created, are they identical with God, even though they dwell in the mind of God. The *nihil* out of which the world was created in the Word, John says, must be consubstantial with the Word, a status that no creature can possess, even those causes that occupy the second, or created and creative, subdivision of nature.<sup>47</sup>

With this reasoning in place, John arrives at his final conclusion, his positive definition of *nihil* as the superessential God, the opposite of *aliquid*, the *nihil-as-omnia* that denotes God's superabundant goodness. *Nihil-as-omnia*, John stresses, refers not to a being that is infra-real but to a being that is hyper-real, "beyond all things that are and that are not."<sup>48</sup> In John's terms the divine nothingness is the direct antithesis of the idea of *omnino nihil*, and it is the only conceivable *nihil* out of which

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(Leiden, 1962-65), 2:177, 178, 180-82, 196-99. At 367.16-368.18, pp. 182-84, Remigius tackles the association of the monad with Jupiter by Martianus, and argues vigorously that his remarks here are merely allegorical and that they in no way are to be understood literally.

<sup>44</sup> *Periphyseon* 3.641C-D, p. 78.

<sup>45</sup> *Ibid.* 3.642C-644A, 3.663B-670D, pp. 80-82, 126-44.

<sup>46</sup> *Ibid.* 3.672A-C, 3.679B-C, pp. 146-48, 162-64.

<sup>47</sup> *Ibid.* 3.679C-680B, p. 164.

<sup>48</sup> *Ibid.* 3.681C, p. 168: "ultra omnia quae sunt et quae non sunt." The trans. is at p. 169.

the world can have been created. As the name of God, *nihil* is thus an accurate denotation of a divine nature that admits of no privations and is an adequate reflection of the divine transcendence which makes the *via negativa* apposite to the deity.<sup>49</sup>

This conclusion is, of course, perfectly compatible with the Neoplatonic theology which John derived from his Greek sources. But, as this paper has sought to show, in the argument John develops enroute to that conclusion he displays a willingness to dissociate himself from the Neoplatonic tradition, not only by rejecting a privative view of *nihil* but also by detaching himself from the Neoplatonic doctrine of the monad. For it he substitutes the Neopythagorean understanding of the monad, mediated by Nicomachus, Boethius, and the Latin transmitters and accepted by John himself as a way of teasing the purely mathematical idea of monad out of the tangled eclecticism of Martianus Capella's arithmetic. After observing how he applies this principle to the metaphysical problems he addresses in *Periphyseon* 3, we may draw two conclusions of our own. First, John was no mere imitator or passive conduit of his Greek Neoplatonic sources; rather, he wields them with independence and discrimination. Second, in investigating the intellectual principles that informed John's philosophy, we need to widen our perspective to include the science of school arithmetic, which is clearly at work in the case just examined.

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<sup>49</sup> Ibid. 3.684C-685A, pp. 174-76.

ANGEL D'ORS

### On Stump's Interpretation of Burley's *De obligationibus*

In her valuable contribution to the important reader *The Cambridge History of Later Medieval Philosophy*<sup>1</sup> Elconore Stump has looked into the doctrine on obligations according to Walter Burley (ca. 1275-1344/5)<sup>2</sup> and specifically into one of the apparently paradoxical examples analyzed by Burley which the present paper will focus upon. In her work, E. Stump does the following: a) tend to the interpretation of two texts by Burley (in which he respectively formulates and solves the paradox); b) reject the solution offered by Burley; and c) propose a new solution to the paradox. In my opinion, both the rejection of Burley's solution as well as the new solution proposed by Stump come about by means of an incorrect interpretation of Burley's texts. Burley's solution can be defended. This is the object of this paper, and along with it a greater comprehension of the nature and history of the doctrine on obligations can, in my view, be obtained.

#### 1. *On the Interpretation of Burley's texts*

The texts by Burley to which Stump tends are the following:

- 3.21: Item, probatur quod non omne sequens exposito et opposito bene negati sit concedendum. Et ponatur ista: "tu es Romae vel

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<sup>1</sup> E. Stump, "Obligations: A. From the beginning to the early fourteenth century", in N. Kretzmann, A. Kenny & J. Pinborg (eds.), *The Cambridge History of Later Medieval Philosophy*, Cambridge, 1982, pp. 315-334. E. Stump has also gathered together a large part of the analyses carried out in this work in a later work: "The Logic of disputation in Walter Burley's Treatise on obligations", *Synthese* 63 (1985), pp. 355-374, to which we can apply everything said in this paper.

<sup>2</sup> Burley's Treatise *De obligationibus* is the topic of a doctoral dissertation, as yet unpublished, by R. Green at the Catholic University of Louvain: *An Introduction to the logical Treatise De obligationibus. With critical texts of William of Sherwood (?) and Walter Burley*. Unfortunately I have not been able to consult this work and therefore for the analysis of Burley's texts I have stuck exclusively to the texts offered in Stump's work. For a complete reference of Burley's life and works see Uña Juárez, A., *La Filosofía del siglo XIV. Contexto cultural de Walter Burley*, Biblioteca "La Ciudad de Dios", Real Monasterio del Escorial, Madrid, 1978.

'te esse Romae' est concedendum". Deinde, proponatur: "'te esse Romae' est concedendum". Haec est falsa et impertinens, igitur neganda. Deinde, proponatur: "'te esse Romae' sequitur exposito et opposito bene negati". Haec est necessaria, quia haec conditionalis est necessaria: "si tu es Romae vel 'te esse Romae' est concedendum, sed 'te esse Romae' non est concedendum, igitur tu es Romae". Concessa ista "'te esse Romae' sequitur exposito et opposito bene negati", proponatur ista: "'te esse Romae' est concedendum". Si concedas, idem concessisti et negasti, igitur male. Si neges, cedat tempus, negasti sequens per regulam. Quia si regula sit bona, tunc sequitur: "'te esse Romae' sequitur exposito et opposito bene negati, igitur 'te esse Romae' est concedendum".

- 3.22: Dicitur quod haec est neganda: "'te esse Romae' sequitur exposito et opposito bene negati". Nec haec est necessaria. Et, si sit necessarium 'te esse Romae' sequi ex disiunctiva, quae ponitur, cum opposito alterius partis, tamen non est necessarium istam disiunctivam poni.

E. Stump analyzes the first text - in which the paradox is formulated - in the following terms:<sup>3</sup>

<i>Oponens</i>	<i>Respondens</i>	<i>Ratio</i>
(1) <i>tu es Romae vel 'te esse Romae' est concedendum</i>	(1a) T	(1b) <i>est positum</i>
(2) <i>'te esse Romae' est concedendum</i>	(2a) F	(2b) <i>est falsa et impertinens</i>
(3) <i>'te esse Romae' sequitur eposito et opposito bene negati</i>	(3a) T	(3b) (3) follows from the truth of (1) and the falsity of (2)
(4) <i>'te esse Romae' est concedendum</i>	(4a) ?	

The paradox resides in the fact that the respondent can not in (4a) either concede (4) because it is the same proposition (2) which he has already denied, or deny (4) because from (3) which has been conceded there follows the truth of (4).

In my opinion, in this analysis we can already find the root of the incorrect interpretation which Stump makes of Burley's treatment of this paradox. This is so for at least three reasons: first, because she analyzes the answers given by the respondent in terms of truth (T) and falsehood (F) whereas in the text they are presented in terms of concession and negation; second, because (3b) does not constitute an adequate analysis of

<sup>3</sup> P. 323. In the presentation of these analyses I have recuperated the Latin version of the enunciations translated into English by E. Stump.



the reason explicitly given in this text in favor of the concession of (3); and third, because by introducing within the analysis as a third column the reasons given in favor of the respondent's answers, it seems - inadequately in my opinion - as though these reasons come to be part of the dialogue maintained between the opponent and the respondent. By interpreting in her analysis the concession of (3) in terms of truth (T), Stump is then taken to interpret the negation of (3), which Burley proposes as the solution to the paradox, as a declaration of the falsehood (F) of (3), against what I believe to be Burley's intention. On the other hand, the reason Burley gives in his text in favor of the concession of (3) is not the one to be found in Stump's analysis, but rather the necessity of a determined conditional proposition whose consequent is not (3) but rather the first part of the disjunctive (1). If we analyze (1) in the form of  $(p \vee q)$ , the reason alleged in Burley's text in the ultimate instance in favor of (3) is the necessity (validity) of the conditional  $((p \vee q) \wedge \neg q) \rightarrow p$ . Finally, the reasons given in favor of the respondent's answers must not be interpreted as part of the dialogue which is initially maintained between the opponent and the respondent but rather as part of a metadialogue which both maintain around the initial dialogue with the object of determining if the respondent has answered correctly or not and which does not obey the rules of the obligations but rather strict considerations of truth or falsehood; the distinction between either dialogue is made to be even more urgent when the very initial dialogue bears upon the conditions of the dialogue, and a same enunciation can be presented as a proposed enunciation and as the reason for one of the respondent's answers in that dialogue, as in the paradoxical case being analyzed in which an enunciation which in the metadialogue would be recognized as being true is denied in the dialogue in spite of its truth by reason of its repugnance with regard to what has previously been conceded. The relevance of these three observations will be made more clearly manifest when we analyze Stump's interpretation of the solution offered by Burley.

Stump offers two interpretations of the second text in which Burley formulates his solution to the paradox: one, more immediate, according to which Burley's solution would be, in her opinion, extravagant, and a second more elaborated solution which is, according to her opinion, also

logically inadequate although apparently more reasonable.<sup>4</sup> According to the first of these two interpretations, Burley would have maintained in this text that the answer given to (3) is incorrect given that (3) must not be conceded but rather denied and this by virtue of the fact that (3) is not necessary, a fact which according to Stump Burley would have concluded by virtue, in turn, of the fact that premise (1), from which (3) is derived, is not necessary.<sup>5</sup> If this happened to really be the meaning of Burley's text such a solution would effectively be, as Stump points out,<sup>6</sup> completely extravagant and completely do away with doctrine on obligations. But what is the textual fundament of this first interpretation?

In the face of the extravagance to which this first interpretation leads, Stump attempts a second interpretation which allows a reasonable meaning to Burley's solution, but this interpretation, in her opinion, makes an important confusion to become manifest.<sup>7</sup> This interpretation is based upon a new analysis of the paradox in the following terms:<sup>8</sup>

<i>Oponens</i>	<i>Respondens</i>	<i>Ratio</i>
(1') $p \vee q$	(1'a) T	
(2') $q$	(2'a) F	
(3') <i>p sequitur exposito et opposito bene negati</i>	(3'a) T	(3'b) (3) follows from the truth of (1) and the falsity of (2)

The previously mentioned confusion would be found, according to Stump,<sup>9</sup> that it is  $p$  and not (3') what follows from the truth of (1') and the falsehood of (2'), against what is sustained in (3'b) as the reason in favor or the concession of (3'); in such a case, according to Stump's interpretation,<sup>10</sup> (3) has to be considered as impertinent and, in

<sup>4</sup> Pp. 324-325.

<sup>5</sup> "On the face of it, then, Burley is saying that (3) is to be denied because it is not necessary, and his reason for claiming that (3) is not necessary is that one of the premisses it is derived from, namely (1), is not necessary" (p.324).

<sup>6</sup> P. 324.

<sup>7</sup> P. 324.

<sup>8</sup> P. 324.

<sup>9</sup> P. 324.

<sup>10</sup> "Suppose we then consider (3) irrelevant and judge it on its own merits. According to Burley, we ought to judge it false. If (3) had read "That you are in Rome follows from the conjunction of this disjunction - namely, "You are in Rome or that you are in Rome is to be granted" - with the denial of the second disjunct', then Burley would, I

agreement with Stump's reading of Burley, to be considered as false. This requires that we do not interpret (3) as if meant «"tu es Romae" follows from "tu es Romae vel 'te esse Romae' est concedendum" and "'te esse Romae' non est concedendum"», in which case Burley would have to concede (3), but rather in its literal sense in which case the expression "exposito" would not necessarily refer to the disjunctive (1), (3) would be false and, in agreement with Burley as to Stump's interpretation, (3) has to be denied (for what reason I fail to understand).

In my opinion, neither of these two interpretations is capable of ascertaining the true meaning of Burley's texts. Underlying both are the three confusions previously mentioned. As for the first interpretation, in my opinion, if we stick to the literal meaning of the texts, Burley does not say that (3) must be denied because (3) is not necessary, but rather he says that (3) has to be denied and that (3) is not necessary; neither does he say that (3) is not necessary because premise (1), from which (3) derives, is not necessary, but rather that the necessary proposition alleged in favor of the concession of (3) does not communicate its necessity to (3), and this is so not because (1) is not necessary but rather because the (metadialogue's) enunciation which says that (1) is the *positum* is not necessary because it is contingent that such an enunciation (1) should be posited.

As for the second interpretation, whose meaning I fail to completely grasp - since I fail to understand, as I have already stated, the value and meaning of the alleged reason in favor of the falsehood of (3) - it can be said, in my opinion and for reasons I shall soon put forth, that Burley does not try to defend that (3) should be impertinent and false but rather, on the contrary, and here is the key to the solution proposed by him, that in the metadialogue from the moment that (2) is denied both (3) and (4) are true but repugnant with regard to the opposite of the enunciation (2) already negated; for this in the dialogue by virtue of rule 2 of the obligations (*omne repugnans opposito bene negati est negandum*), although they are true they must be negated. The reason for which Burley has recourse to the non-necessary nature of (3) is not the defense

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think, agree that (3) had to be granted. But (3) does not read that way; and if we are considering (3) as it stands, on its own merits, then Burley seems to think we should deny it because the phrase 'from the *positum*' need not refer to the particular disjunction which just happens to be the *positum* in this particular case of obligations. It could refer to some other *positum*; but unless it refers to *this* one, (3) is false. Therefore, on Burley's view, it is a mistake to grant (3)" (pp. 324-325).

of the falsehood of (3), but rather of its contingency, a needed condition in order for it to be repugnant with regard to some other enunciation, because what is necessary is not repugnant to anything. From whence (3) can (because it is not necessary) and should be (since it is repugnant to the opposite of (2)) negated. In the proposed interpretations it can be seen how by virtue of the inadequate analysis of the reason alleged in favor of (3) there is no adequate separation of the conditions of the dialogue and of the conditions of the metadiologue, and that there comes about an undue transposition of questions relative to the concession or the negation of enunciations in the dialogue to questions relative to the truth or falsehood of enunciations in the metadiologue.

In my opinion, in order to adequately comprehend Burley's texts we need to tend to the global meaning of the stated question:<sup>11</sup> that which is pretended with the paradox is - by means of a procedure of reduction to the absurd which furthermore is a dialogue - to make problematic the value of one of the parts of rule 1 of the obligations: *quicquid sequitur exposito et opposito bene negati est concedendum*, which can also be expressed in the following terms:

$\wedge x(x \text{ sequitur exposito etc.} \rightarrow x \text{ est concedendum}),$

which has the form of a universal enunciation, one of whose singulars is:

$(p \text{ sequitur exposito etc.} \rightarrow p \text{ est concedendum}).$

The argument around which the question revolves is the elemental *ponendo ponens* (which I shall call argument A1):

R1  $(p \text{ sequitur exposito etc.} \rightarrow p \text{ est concedendum})$   
 (3)  $p \text{ sequitur exposito etc.}$

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(4)  $p \text{ est concedendum}$

from which it is argued (an argument I shall call A2) that given that (4) follows from (3) and R1, and that (3) has been conceded, if R1 were and admissible rule (4) would have to be conceded (by virtue of the other part of this same Rule 1 which states: *quicquid sequitur exposito et concessio est concedendum*); now, since (4) is the same enunciation (2) which before has been denied we can now not concede it but rather we

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<sup>11</sup> E. Stump does not tend to the question in a global manner and this is probably what is at the root of her incomprehension; even in the English translation which she offers of Burley's texts she omits the initial enunciation in which the main question is formulated (p. 323).

must negate it and therefore we either have to conclude that (3) should not have been conceded (this is what Burley concludes) or that R1 is not an admissible rule (which is what the objection pretends), and since (3) is (supposedly) necessary and therefore must be conceded, it is concluded that R1 is not an admissible rule. Both arguments, A1 and A2, are in my opinion logically impeccable.

The key to Burley's solution, as has been indicated, lies in the denial of the supposed necessity of (3) which is held in the final part of argument A2. Now, why does Burley deny the necessity of (3)? In the paradox, the argument put forth in favor of the concession of (3) is its necessity and the argument put forth in favor of its necessity is the following argument (which I shall call argument B1):

$$(3'b) \quad \frac{p \text{ sequitur ex } (p \vee q) \text{ et } \neg q}{}$$

$$(3') \quad p \text{ sequitur ex posito et opposito bene negati}$$

from which it is argued (an argument I shall call B2) that given that (3'b) is true and necessary since the conditional  $((p \vee q) \wedge \neg q) \rightarrow p$  in which it is fundamented is necessary (valid), (3') is also true and necessary, and given that (3') is necessary, (3') has to be conceded. Burley rejects argument B1: the conclusion does not follow from this premise only but rather requires two complementary premises; argument B1 must be transformed into the following argument (which I shall call argument C1):

$$(3'b) \quad \frac{p \text{ sequitur ex } (p \vee q) \text{ et } \neg q}{\begin{array}{l} \text{i) } (p \vee q) \text{ est positum} \\ \text{ii) } \neg q \text{ est oppositum bene negati} \end{array}}$$

$$(3') \quad p \text{ sequitur ex posito et opposito bene negati}$$

from which it is argued (an argument I shall call C2) that given that the three premises are true, the conclusion is also true but that although (3'b) is necessary given that both i) and ii) are not necessary but rather contingent, we can not conclude that (3') is necessary and is in fact contingent.

This is, in my opinion, the true meaning of the texts and of the problem put forth by Burley. Argument B1 is what lies beneath the second interpretation offered by Stump but however it does not come to the fore in her interpretation because she does not approach the matter from the theory of argumentation but rather from the theory of signification. She considers - incorrectly in my opinion - that (3'b) and (3') are two possible equivocal meanings of (3), and that Burley got them confused



(only in this sense can I understand the already mentioned confusion to which Stump alludes). But, in my opinion, this is not the analysis which Burley's text, completely removed from such a confusion, requires. Burley clearly distinguishes between (3'b) and (3') and he considers that both are true. What Burley denies is there should exist between the two a relation of consequence and hence he denies the truth of the second premise and therefore the truth of the conclusion of argument B2.

## 2. Critique of Burley's Solution

Whatever the meaning of Burley's texts, whatever his reasons for denying (3) as the solution of the paradox, Stump maintains that Burley's solution does not solve the paradox since the paradox reproduces itself regardless of (3), in spite of the negation of (3), because with just (1) and (2) we would be obliged to concede (4).<sup>12</sup> Her argument (which I shall call D1) in favor of this thesis is the following: Burley has accepted that if (3) is conceded we also have to concede (4), that is (4) follows from (3); and it is a condition, in order to admit this, that one also admit the following argument (which I shall call D2):

p  


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p est concedendum

and, for the same reason, the following argumentation as well:

p est concedendum  


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'p est concedendum' est concedendum.

E. Stump further considers that there are reasons within the art of obligations in order to admit this argumentation and she presupposes that Burley admits it.<sup>13</sup> In this manner, if instead of (3) we were to propose the enunciation p (*tu es Romae*), this enunciation would have had to be conceded, and if later we were to propose (4) once more, in virtue of D2,

<sup>12</sup> "He seems to have in mind the mistaken notion that if (a) is false, (c) is false-hence we can deny (4) and the paradox is solved. But of course, he has not solved the paradox by such means since (c) can be true even if (a) is false. Furthermore, if Burley is willing to accept the *inference* from (a) to (c), we can show him that on his own views (c) must be true" (p. 325). (a) is here enunciation (3) and (c) enunciation (4).

<sup>13</sup> "The inference from (a) to (c) depends on accepting as valid the inference from (b) 'You are in Rome' to (c) 'That you are in Rome must be granted'; and there is some reason for accepting the inference from (b) to (c) in an obligations disputation" (p. 325).

it would also have to be conceded, with the resulting reproduction of the paradox regardless of the primitive enunciation (3).<sup>14</sup>

There is however here a clear error. If Burley admits that (4) follows from (3) as is said in argument D1, it is only by virtue of the argument I have called A1 whose first premise, for being precisely a rule of obligations, is presupposed and whose fundament is none other than the *ponendo ponens*. Why would argumentation D2 also have to be admitted? On the contrary, there are very good reasons making us think that D2 is an inadmissible argument within the framework of obligations. To admit D2, in the strict sense, would lead us to absolutely concede all true enunciations, and the rules on obligations not only allow us but even force us to deny true enunciations which are repugnant with regard to previously conceded enunciations or with regard to the opposite of previously denied enunciations. D2 can not be admitted and therefore the paradox is not reproduced. Burley's solution, therefore, can be defended.

### 3. E. Stump's Solution

Upon the supposition that the paradox put forth by Burley happens to not be solved by him and that it reproduces itself regardless of (3), in virtue of argument D2, Stump proposes her own personal solution to the paradox. In order to do this she relies on both argumentation D2 as well as on its inverse (which I shall call D3):

*p est concedendum*

p

from which she concludes the equivalency of both parts, p and q, of the disjunctive (1) which for the same reason would be equivalent to  $(p \vee q)$  or to  $(q \vee p)$  and, in virtue of the idempotency of the disjunctive, also to

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<sup>14</sup> "Even with the denial of (3), however, from the truth of (1) and the falsity of (2), it follows that you are in Rome. And so, given the validity of the inference from (b) to (c), from 'You are in Rome' it follows that 'You are in Rome' is to be granted. Hence even with the denial of (3), we are committed, on Burley's own views, to the truth of (4). And so, even if we give Burley all he wants, the falsity of (3) and the validity of the inference from (a) to (c), we can demonstrate that the paradox remains. The respondent is committed to the truth of (4) although he has correctly denied the same proposition at (2a)" (pp. 325-326).

p, or to q.<sup>15</sup> In such a case, it is clear that p (or q) are not impertinent with respect to  $(p \vee q)$  but rather pertinent, equivalents, and that they follow from that disjunction and therefore (2), which is none other than q, insofar as it follows from (1), should not have been denied but rather conceded. This not only would have solved the paradox but indeed it would have impeded its very apparition.<sup>16</sup> This is Stump's proposed solution. Obviously, once D2 is rejected, and for analogous reasons D3 (since the art of obligations allows to concede something which is false when it follows from something already conceded), we can no longer admit such an equivalency between the parts of the disjunctive, nor can we admit Stump's proposed solution. Burley's solution, in my opinion, is the only admissible solution, given the general rules on obligations.

#### 4. Conclusion

Having seen the foregoing analyses, I believe to have clearly shown the insufficiencies of Stump's interpretation of Burley's texts and to have come closer to the real meaning of those texts. As a result I do believe that some of the consequences to which Stump comes from her analysis of the nature of the rules on obligations within Burley's work have to be revised, but such a task would require a more detailed study of the whole of Burley's work and of course goes beyond the scope of this paper.

These analyses, however, do not merely pretend to rectify the interpretations made by Stump concerning these texts by Burley, but rather hope, above all, to shed some light on the nature and history of the doctrine on obligations. In my opinion, the distinctions established between the dialogue and the metadialogue, between the conditions of truth and falsehood in the metadialogue and the conditions of concession and negation in the dialogue, which allow us to deny in the dialogue an enunciation which in the metadialogue is recognized as true, lies at the

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<sup>15</sup> "And we can also show the converse, that if q is true, p is true. If you grant q, you are granting that p is to be granted. But if you grant that p must be granted, you cannot consistently deny p, and so you must also grant p. Hence, if q is true, so is p. Consequently, p and q are equivalent!" (p. 326).

<sup>16</sup> "Hence, in this case, it is a mistake to consider (2) in the schematisation as irrelevant. In fact, it follows from the *positum* and the implicit logical relationship between p and q. And so (2) ought to be granted. In this way, I think, the paradox is really solved; or, more accurately, in this way the paradox fails to arise in the first place" (p. 326).

root of the "revolution" brought about by Swyneshed within the rules of obligations and which P.V. Spade speaks of in his contribution to the same reader.<sup>17</sup>

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<sup>17</sup> P.V. Spade, "Obligations: B. Developments in the fourteenth century", *op. cit.*, pp. 335-341.

ALVIN P. DOBSEVAGE

### De Guillelmi Occamensis dialectica

Salvete omnes, domini dominaeque, professores, cultores studiorum philosophiae et certe sodales litteris fovendis latinis.

Hodie argumenta renovare volo utrum nominalista aut conceptualista sit noster Inceptor Venerabilis.

Et responsum facile in mentem evenit. Sunt qui aiunt Guillelmum esse antecedentem illorum Renati Descartes et Emmanuelis Kant et delatorem philosophiae scholasticae. Est nobis *Summam Logicae* investigare ad haec omnia noscenda.

Cum de tempore et loco compositionis *Summae Logicae* non habeamus nisi coniecturam... Londinii in Anglia fuisse compositam (notat G. Gal). Ibi amicos Chatton et Wodeham ex ordine Fratrum Minorem et socios Provinciae Angliae habuit. Et Ockham et Wodeham erant quoque socii Custodiae Londiniensis. Chatton *Summam Logicae* legit (Gal p. 55-56).

Sed in "Prologo" *Summae Logicae* fratris et magistri Adam de Anglia notatur:

Quam magnos veritatis sectatoribus afferat fructus sermocinalis scientia, quam logicam dicimus, multorum peritorum docet auctoritas, ratioque et experientia liquido comprobatur et convincit. Unde Aristoteles, auctor praecipuus huius scientiae, nunc introductoriam methodum, nunc sciendi modum, nunc scientiam omnibus communem et viam veritatis appellat, dans ex his intellegere quod nulli ad sapientiam patet accessus nisi in scientia logica erudito. Averroes quoque, Aristotelis interpres, in *Physicis* dialectam dicit esse "instrumentum discernendi verum a falso". Ipsa namque cuncta dubia definit, cunctas Scripturarum difficultates dissolvit et penetrat, ut testatur doctor egregius Augustinus.

Et deinde in "Epistola Prooemialis" Ockham ipse notat:

Logica enim est omnium artium aptissimum instrumentum, sine qua nulla scientia perfecte sciri potest, quae non more materialium instrumentorum usu crebro consumitur, sed per cuiuslibet alterius scientiae studiosum exercitium continuum recipit incrementum. Sicut enim mechanicus sui instrumenti perfecta carens notitia utendo eodem recipit plenioram, sic in solidis logicae principiis eruditus dum aliis scientiis operam impendit sollicito simul istius artis maiorem acquirit peritiam. Unde illud vulgare "ars logica labilis ars est" in solis sapientiale studium negligentibus locum reputo obtinere.



In scriptis eorum Swineshead, Heytesbury, Gerson et d'Ailly, Ockham est nominalista et cum conditorem scholae suae credunt. Ockham Aristotelem a Scotistis male interpretari credit et hanc male venit partim ex auctoritate St. Augustini, partim Avicennae. Porphyrius quoque partim huius problematis erat. In libello suo *Isagoge* (sive introductione in *Categorias* Aristotelis) notat Porphyrius a. Genera et species suntne substantia aut mentis notiones? b. Si, fortasse, in se constant, suntne vel corporalia vel incorporalia? c. Si modo sunt incorporalia, suntne in rebus sensibus percipi vel eis rebus separata?

Ens horum disputationum Medii Aevi erat logicam et doctrinam scientiae per metaphysicam philosophiam et theologiam interpretari. Ockham sequens Aristotelem logicam e metaphysica philosophia et e theologia disiungere incepit.

Primum de divisione terminorum scribit, et notat "voces esse signa subordinata conceptibus seu intentionibus animae". In cap. 4 ad metam venit dicens:

... quia terminorum quidam sunt categorematici, quidem syncategorematici. Termini categorematici finitam et certam habent significationem, sicut hoc nomen 'homo' significat omnes homines et hoc nomen 'animal' omnia animalia, et hoc nomen 'albedo' omnes albedines.... Termini autem syncategorematici, cuiusmodi sunt tales 'omnis', 'nullus', 'aliquis', 'totus', 'praeter', 'tantum', 'inquantum' et huiusmodi, non habent finitam significationem et certam, nec significant aliquas res distinctas a rebus significatis per categorēmata. (p. 25)

Per se 'omnis' nihil significat, sed ante nomen 'hominem' est classis omnium hominum. Hic videtur logica esse instrumentum ad philosophiam naturalem fovendam. Philosophia naturalis est de rebus. Logica est de sentiis mentis, est de terminis universalibus. Et omne universale est de multis praedicabile. Cum de scientia humana loquitur universalia apud Ockham numquam sunt individualia. Et logica universali post rem refert.

... universalis non sunt res extra animam. Propter quod non sunt de essentia rerum nec partes rerum extra, sed sunt quaedam entia in anima, distincta inter se et a rebus extra, quarum aliqua sunt signa rerum extra, aliqua sunt signa illorum signorum. Sicut hoc nomen 'universale' est commune ad omnia universalis, et per consequens est signum omnium aliorum universalium a se. Et ideo potest concedi quod illud universale quod est praedicabile de quinque universalibus, non tamen pro se sed pro universalibus, est genus ad universalis; sicut aliqua dictio praedicabilis de omnibus dictionibus est nomen, et non verbum, nec participium, nec coniunctio etc. (p. 83)

Qui vult pleniorē notitiā de universalibus et proprietatibus eorum habere, legere poterit Porphyrii librum. Sed Porphyrius duabus sellis sedet

ut notat Boethius. Est inter Platonem et Aristotelem. Dicit Pater Boehner et alii Ockham scripsisse logicam Aristoteleam reapse formalem et universe certam.

Ex quidditate (signum universale) et ex haecitate (signum individuale), aut connotatione et denotatione, ut hodie dicimus, Duns Scotus viam ad nominalisticam philosophiam logicam discipulo suo Ockham offert. Et in animo illius Ockham est omnia in quaestionem vocare. Amor Ecclesiae Catholicae eum contra Papam et pro et Philippo et Ludovico movit. Logicus erat qui salutem Ecclesiae promovere voluit. Sed hoc modo contra Papam et pro regibus ille ex ordine fratrum minorum optavit.

Praecepta Ecclesiae Catholicae in toto per fidem, non per philosophiam noscuntur. Creatio ex nihilo non demonstratur sed sentitur. Multum de rebus externis individualibus quas videmus, tangimus, olfacimus, audimus et gustamus ut res particulares notantur. Universalia sunt signa mentis, sunt nomina.

Benigne Guillelmo Ockham et Scoto philosophia scholastica fracta est.

Et fortasse Ockham fundamentum logicae modernae mathematicae formulare incepit cum terminis syncategorematicis. Necesse esset hoc raturum facere per logicos huius temporis ut Quine, Hiz, et al. (Aliquid de theoria Occamensi 'quantificationis terminorum et propositionum' et quoque 'de logica modali' notatur ab Alfredo J. Freddoso: *Ockham's Theory of Propositions*. Part II of the *Summa Logicae*, pp. 19-28. Ille hodie est unus qui logicam Occamensem terminis logicae hodiernae investigat et describit.)

Hoc loco necesse sit, credo, tacere. Sed non sine mentione horum logicorum hodiernorum et eruditorum historiae philosophiae naturalis qui non multum de Venerabilis Inceptoris scriptis logicis investigant. Satinest, si vobis acroasin meam ita dedi expolitam, ut improbare non multum quiretis? De me quidem vestrum erit iudicium. Valete et plaudite.

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SILVIA DONATI

**Ancora una volta sulla nozione di *quantitas materiae* in Egidio Romano \***

Il tema di questa comunicazione è la nozione di *quantitas materiae* elaborata da Egidio Romano. La dottrina egidiana ha già in passato attirato l'attenzione degli studiosi; A. Maier fu la prima a sottolineare che la nozione quantitativa introdotta da Egidio, distinguendosi dall'estensione, si avvicina al concetto moderno di massa.<sup>1</sup> Il merito di Egidio starebbe nell'aver fatto oggetto di analisi e riconosciuto come un concetto quantitativo una nozione che, come vedremo, anche altri autori medievali presuppongono e utilizzano nella loro descrizione dei mutamenti quantitativi senza però darne una precisa definizione.

E' stato anche osservato che le maggiori innovazioni medievali sulla nozione di quantità si sono avute in un contesto teologico;<sup>2</sup> basti pensare alle numerose discussioni connesse con il problema dell'Eucarestia. Un'altra occasione di riflessione per i pensatori medievali è costituita dalla questione della creazione di Eva, questione che viene affrontata in genere nel corso dei commenti al secondo libro delle *Sentenze*. Ora, è appunto dell'applicazione della nozione egidiana di *quantitas materiae* al problema della creazione di Eva che intendiamo occuparci in questa comunicazione.

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<sup>1</sup> Cfr. A. Maier, "Das Problem der *quantitas materiae*", in; *Die Vorläufer Galileis im 14. Jahrhundert*, Roma, Edizioni di Storia e Letteratura, 1966<sup>2</sup>, p.26-52; cfr. inoltre, J.A. Weisheipl, "The Concept of Matter in Fourteenth Century Science", in: *The Concept of Matter in Greek and Medieval Philosophy*, E. McMullin ed., Notre Dame, Indiana, The University of Notre Dame Press, 1963, p.147-169; E. Sylla, "Godfrey of Fontaines on Motion with Respect to Quantity of the Eucharist", in: *Studi sul XIV secolo in memoria di Anneliese Maier*, a cura di A. Maierù e A. Paravicini Bagliani, Roma, Edizioni di Storia e Letteratura, 1981, p.105-141.

<sup>2</sup> Cfr. E. Sylla, "Godfrey of Fontaines...", p.107.

Secondo la *Bibbia*,<sup>3</sup> Eva fu prodotta da Dio a partire da una costola di Adamo. Pietro Lombardo, nel secondo libro delle *Sentenze*, si attiene a un'interpretazione letterale: l'intero corpo di Eva fu prodotto a partire dalla sola costola, senza alcuna aggiunta estrinseca. In caso contrario, infatti, si dovrebbe dire che Eva fu prodotta anche a partire dal materiale aggiunto.<sup>4</sup> Il problema teorico che si pone ai teologi successivi è dunque quello di un aumento non accompagnato da nessuna aggiunta.

Parlando di un aumento non dovuto ad alcuna addizione, i teologi medievali vogliono escludere sia l'ipotesi che la materia aggiunta esistesse in precedenza sotto altra forma, sia l'ipotesi che essa venga creata *ex novo* da Dio, giacché anche nel caso della creazione di nuova materia il corpo di Eva conterrebbe della materia che non era contenuta nella costola. In effetti, il nocciolo della discussione è proprio se Dio può trasformare la materia contenuta in una costola in una quantità di materia sufficiente a un intero corpo umano senza creare altra materia. La formazione di Eva rappresenta allora un caso limite di aumento, in cui, una certa quantità di materia, senza alcuna addizione estrinseca, grazie a una sorta di espansione, cresce fino a diventare una quantità maggiore. Per riformulare la questione nei termini tecnici adottati dagli autori medievali, si tratta di un aumento quantitativo da parte di una certa porzione di materia che in se stessa rimane sostanzialmente identica.

Questo processo appare chiaramente in contrasto con le norme che regolano l'aumento in natura. Nella filosofia della natura medievale vengono distinti due tipi di aumento, l'aumento vero e propria e la rarefazione. Ora, comunque la nozione di quantità di materia venga intesa, gli autori medievali sembrano distinguere i due tipi di mutamento sulla base della coppia di concetti 'quantità di materia' e 'estensione'. Nell'aumento propriamente inteso, la variazione delle dimensioni è accompagnata da un aumento della quantità di materia. La rarefazione, invece, non è un aumento reale, giacché, se l'estensione aumenta, la materia rimane invariata.<sup>5</sup> Ora, l'aumento reale in natura è sempre un aumento *per additionem*; l'agente naturale, che non ha il potere di

<sup>3</sup> Cfr. *Genesi*, Lib.I, cap.2, vv.21-22.

<sup>4</sup> Cfr. Petri Lombardi *Sententiarum libri quatuor*, Lib.II, dist. XVIII, cap.5, in: *Patrologiae cursus completus, series secunda (latina)*, accurante J.P. Migne, t.192, Parisiis, 1880, col.688.

<sup>5</sup> Sulla distinzione medievale tra i due tipi di aumento cfr. E. Sylla, "Godfrey of Fontaines...", p.105-107.



trasformare poca materia in molta né di creare nuova materia, può far crescere un corpo solo aggiungendo della materia già esistente sotto altra forma.

Sulla possibilità da parte di Dio di causare un tipo di aumento diverso sia dall'addizione che dalla rarefazione, un aumento cioè in cui la quantità di materia aumenta senza alcuna aggiunta estrinseca, si registrano nel tredicesimo secolo opinioni discordanti. Pensatori come S.Tommaso escludono questo tipo di aumento come teoricamente impossibile e di conseguenza respingono l'interpretazione letterale della *Genesi* data da Pietro Lombardo. Altri autori, come per esempio Egidio Romano, pur negando la possibilità di un tipo di aumento *sine additione et sine rarefactione* in natura, lo ritengono possibile per Dio.

Il problema viene chiaramente impostato da S.Tommaso. Nel commento al secondo libro delle *Sentenze* egli respinge la posizione di Pietro Lombardo definendola inintelligibile. S.Tommaso distingue due modi in cui la materia può aumentare: o *secundum quantitatem tantum* oppure *secundum essentiam*. Nel caso di un aumento solo *secundum quantitatem*, cioè relativo soltanto alle dimensioni, una certa materia, numericamente identica, ad un certo momento avrà una data estensione e in seguito acquisterà un'estensione maggiore. Ora, questo tipo di mutamento, che comporta soltanto la variazione delle dimensioni, non è altro che un processo di rarefazione. Se invece la materia aumenta anche *secundum essentiam*, allora nel corpo, dopo l'aumento, ci sarà altra materia oltre a quella che c'era all'inizio. In altri termini, sarà stata aggiunta nuova materia, non importa se creata *ex novo* o preesistente. Un terzo tipo di aumento, diverso da questi due per S.Tommaso non è possibile.<sup>6</sup>

Questo passo rappresenta un tipico esempio del modo di procedere che si è menzionato prima: se da una parte S.Tommaso distingue un

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<sup>6</sup> Cfr. Thomas Aquinas, *In II Sent.*, dist. XVIII, q.1, a.1, in: *Scriptum super libros Sententiarum*, ed. P. Mandonnet - M.F. Moos, Parisiis, Lethielleux, 1929-1947, vol.II, p.448: "Si enim per multiplicationem materiae hoc factum dicant, oportet multiplicationem hanc aut secundum quantitatem tantum attendi, aut secundum essentiam materiae. Si primo modo, sic oportet ut eadem materia numero quae fuit primo sub parvis dimensionibus, postmodum majores dimensiones recipiat: hoc autem idem est quod rarefieri... Si vero multiplicatio essentiam materiae attingat, cum nihil aliud sit multiplicari quam aliquid fieri quod prius non erat, oportet quod aliquid materiae sit sub forma corporis mulieris quod prius sub forma costae non erat...". Cfr. inoltre *Summa Theologiae*, Pars I, q.92, a.3, Taurini-Romae, Marietti, 1952, p.452.

aumento della sola estensione da un aumento della quantità di materia,<sup>7</sup> dall'altra, egli non introduce alcun concetto quantitativo diverso da quello di estensione. Per descrivere l'aumento della quantità di materia Tommaso parla di *multiplicatio secundum essentiam materiae*, usa cioè un concetto non quantitativo. D'altronde, poiché l'aumento della quantità di materia è concepito da S.Tommaso come una moltiplicazione della materia in se stessa e come sostrato, è evidente che l'idea di una medesima porzione di materia che aumenta quantitativamente pur rimanendo sostanzialmente identica gli appare inintelligibile.

Il problema della creazione di Eva viene discusso da Egidio Romano più volte. A questo argomento è dedicata una questione del secondo *Quodlibet*; più tardi il problema viene trattato nuovamente nel commento al secondo libro delle *Sentenze*.<sup>8</sup> In questi testi troviamo una sostanziale continuità dottrinale: in polemica con S.Tommaso, egli accetta l'interpretazione di Pietro Lombardo. La soluzione del problema si fonda su un'applicazione della nozione egidiana di *quantitas materiae*. Infatti, è proprio grazie a un concetto quantitativo diverso da quello di estensione che Egidio può difendere l'idea di un tipo di aumento diverso sia dall'addizione che dalla rarefazione.

Consideriamo brevemente la nozione egidiana di *quantitas materiae*.<sup>9</sup> Come è noto, Egidio, accanto alla tradizionale nozione di estensione, introduce una nozione non spaziale di quantità. Egli distingue la quantità in virtù della quale la materia occupa un certo spazio dalla quantità in virtù della quale la materia è molta o poca. Infatti, se la medesima materia, in condizioni diverse, può assumere volumi differenti, estensione e *quantitas materiae* sono caratteristiche diverse. In che cosa consiste la novità di Egidio? Osservando che nella descrizione dei mutamenti quantitativi, accanto alla nozione di volume, compaiono anche espressioni

<sup>7</sup> A questo proposito cfr. anche Thomas Aquinas, *In II Sent.*, dist.XXX, q.2, a.1, ed.cit., p.778-779.

<sup>8</sup> Cfr. Aegidii Columnae Romani *Quodlibeta*, II, q.11, Lovanii, 1646, rist. anast. Minerva, Frankfurt a.M., 1966, p.76-79; *In II Sent.*, dist.XVIII, q.1, a.3, in: Aegidii Columnae Romani *In secundum Librum Sent. Quaestiones*, Venetiis, 1581, vol.II, rist. anast. Minerva, Frankfurt a.M., 1968, p.68-73. A questi due testi può essere aggiunto un terzo documento, gentilmente segnalatoci dal Dr.R. Wielockx (Albertus Magnus-Institut, Bonn), cioè una prima versione del commento al secondo libro delle *Sentenze* di Egidio tramandataci da Goffredo di Fontaines nel ms. Paris, Bibl.Nat., lat. 15819, f.311ra-312ra (la questione sulla creazione di Eva si trova al f.311va-b). Su questi estratti cfr. Aegidii Romani *Apologia*, Edition et commentaire par R. Wielockx (Aegidii Romani *Opera Omnia*, III, 1), Firenze, Olschki, 1985, p.13, nota n.35, p.75-76, nota n.3.

<sup>9</sup> Sulla dottrina egidiana cfr. le opere citate alla nota n.1.

come 'molta materia' o 'poca materia', Egidio, a differenza di S. Tommaso e di altri autori, cerca di analizzarle. Egli sottolinea, quindi, che i termini 'molto' e 'poco' si riconducono a determinazioni quantitative. Accanto all'estensione, allora, si deve presupporre nella materia l'esistenza di un altro tipo di quantità che non varia al variare dell'estensione e che giustifica l'uso di termini quali 'molto' e 'poco'.

L'introduzione di questo nuovo concetto quantitativo consente a Egidio, come si è detto, di salvare l'ipotesi di un aumento *sine additione et sine rarefactione*. Nel commento al secondo libro delle *Sentenze*, trattando del problema della creazione di Eva, egli riporta la posizione di S. Tommaso. La conclusione di S. Tommaso, secondo il quale non è possibile un tipo di aumento diverso dalla rarefazione o dall'aggiunta, osserva Egidio, è perfettamente corretta per quanto riguarda gli agenti naturali, i quali non possono trasformare poca materia in molta o viceversa.<sup>10</sup> Per quale motivo? La ragione risiede nel modo di agire proprio degli agenti naturali. Essi agiscono tramite l'alterazione e il moto; di conseguenza, possono mutare il volume di un corpo tramite processi di rarefazione e di condensazione, ma non possono modificare la quantità di materia; questo tipo di quantità, a differenza dell'estensione, inerisce alla materia più intrinsecamente di qualsiasi qualità e della stessa forma sostanziale, oltre la quale l'azione degli agenti naturali non può estendersi.<sup>11</sup>

Non esiste però alcuna ragione per escludere come logicamente impossibile un tipo di aumento quale quello descritto da Pietro Lombardo. L'aver ricondotto caratteristiche quali 'molto' e 'poco' nell'ambito quantitativo ne fa anche delle determinazioni accidentali della materia: la materia non è tanta o poca in virtù della propria essenza, ma in virtù della quantità. Allora, nulla vieta che una certa porzione di materia diventi da poca molta pur rimanendo sostanzialmente identica. La conclusione di S. Tommaso, sottolinea ancora Egidio, sarebbe corretta se la materia fosse tanta o poca in virtù della sua essenza, osservazione che sembra una precisa allusione all'idea tomista di una *multiplicatio secundum*

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<sup>10</sup> Cfr. Aeg. Rom., *In II Sent.*, p.69: "Sed quidam hoc dictum Magistri et etiam Hugonis, tamquam impossibile et contradictionem implicans reputantes, improbant... Sed isti optime concludunt de actione naturali creaturae...".

<sup>11</sup> *Ibidem*, p.70: "Ergo, nullum agens creatum potest agere nisi localiter movendo vel quale faciendo. Et quia qualitas supponit quantitatem per quam materia est multa vel pauca et motus localis etiam hoc supponit, quia per motum localem non potest de materia parum fieri multum nec e converso, nullum agens naturale poterit de pauca materia facere multam nec e converso". Cfr. inoltre *Quodl.* II, q.11, p.77-78.

*essentiam materiae*. In questo caso, infatti, l'aumento o la diminuzione della quantità di materia comporterebbero necessariamente un cambiamento della materia in se stessa e come sostrata, consicché in ogni caso di variazione quantitativa si dovrebbe effettivamente postulare un'aggiunta o una sottrazione di materia. Ma poiché la quantità è una determinazione estrinseca della materia, qualsiasi porzione di materia è in potenza a qualsiasi quantità. Se la materia di un grano di miglio e la materia di una montagna fossero considerate in se stesse, facendo astrazione da ogni forma, esse non differirebbero l'una dall'altra e all'una non competerebbe una quantità maggiore che all'altra. Di conseguenza, Dio, che a differenza degli agenti naturali, può agire direttamente sulla materia, può far sì che la stessa materia, sostanzialmente identica, diventi da poca molta o viceversa.<sup>12</sup>

La posizione di Egidio sul rapporto tra materia e quantità presenta tuttavia una certa ambivalenza. Se da un lato la quantità viene vista come una determinazione accidentale della materia, dall'altro, quando viene considerata nel suo ruolo di principio di individuazione, essa acquista il carattere di una determinazione intrinseca. Infatti, come sottolinea lo stesso Egidio, in un certo senso, parti di materia differenti sono sostanzialmente differenti, così come lo sono individui diversi. Allora, quando la materia aumenta quantitativamente, *ex consequenti* essa viene ad essere moltiplicata anche in se stessa, sebbene solo *per accidens*.<sup>13</sup> Ora, queste considerazioni servono a Egidio per dimostrare ancora una volta che gli agenti naturali, non potendo agire sull'essenza della materia, non possono agire nemmeno sulla sua quantità. Sulla base di questo argomento egli può concludere che la facoltà di agire sulla quantità della materia compete solo all'agente che ha la capacità di creare e di annichilare la materia medesima.<sup>14</sup> Tuttavia, gli si potrebbe forse obiettare che, considerando le cose sotto questo punto di vista, non appare più molto netta la distinzione tra variazione puramente quantitativa e creazione di

<sup>12</sup> Aeg. Rom., *In II Sent.*, p.71: "Miramur enim de dicentibus quod oporteat creare novum subiectum sive novam materiam vel addi aliquid ipsi materiae ut suscipiatur ibi virtute divina quodcumque sit illud ad quod essentia materiae est in potentia. Si enim essentia materiae de se esset multa vel pauca, tunc forte non posset minorari nisi absunderetur vel annihilaretur aliquid de ipsa materia...".

<sup>13</sup> Aeg. Rom., *Quodl.* II, q.11, soprattutto p.78: "...quantitas autem, licet per se non diversificet essentiam materiae, quia essentia materiae per se diversificari non potest, diversificat tamen ipsam per accidens. Vel, ut clarius loquamur, licet materia secundum essentiam non sit diversa, est tamen alia et alia sub diversis partibus quantitatis".

<sup>14</sup> *Ibidem*, p.77.



nuova materia.<sup>15</sup> In effetti, in questa prospettiva, l'idea di una porzione di materia che varia quantitativamente pur rimanendo sostanzialmente identica non sembra esente da difficoltà.

Può non essere privo di interesse osservare che, se la nozione di *quantitas materiae* è la chiave che consente a Egidio di giustificare teoricamente l'idea di un aumento *sine additione et sine rarefactione*, altri autori non giungono alla stessa conclusione. Un esempio è costituito da Giovanni Quidort. Quidort è uno dei pochi a far propria la distinzione egidiana tra i due tipi di quantità,<sup>16</sup> distinzione che sembra suscitare tra i contemporanei di Egidio più critiche che consensi.<sup>17</sup> Nell'adottare la dottrina egidiana, Quidort conia anzi un nuovo termine per designare il concetto di 'quantità di materia'; egli distingue, infatti, l'estensione e la *tantalitas*, sottolineando così la differenza tra un concetto spaziale e un concetto non spaziale di quantità.<sup>18</sup>

Ora, Quidort concede, con Egidio, che Dio, a differenza degli agenti naturali, ha la capacità di agire sulla quantità della materia, tuttavia, questo significa per lui creare nuova materia. L'idea di un aumento della quantità di materia senza l'aggiunta di alcuna materia è per questo autore contraddittoria così come lo era per S. Tommaso.<sup>19</sup>

La ragione di questa posizione? Essa sembra risiedere nel fatto che la *tantalitas*, pur essendo una proprietà distinta dalla materia, tuttavia è concepita come una proprietà *per se* di questa. Per Quidort, allora, una data porzione di materia, non è, come per Egidio, indifferente a qualsiasi quantità, anzi, essa ha una quantità certa e fissa, cosicché nemmeno Dio può modificarla.<sup>20</sup>

<sup>15</sup> Egidio sembra prendere in esame un'obiezione di questo genere in *In II Sent.*, p.71.

<sup>16</sup> Cfr. *In II Sent.*, dist.XVIII, q.2 e q.4, in: Jean de Paris (Quidort) O.P., *Commentaire sur les Sentences*. Reportation, Livre II, ed. J.P. Muller (Studia Anselmiana, LII), Roma, Herder, 1964, p.144-148, 149-151.

<sup>17</sup> Sulle critiche alla dottrina egidiana, cfr. A. Maier, "Das Problem..."; E. Sylla, "Godfrey of Fontaines...".

<sup>18</sup> Cfr. Jean de Paris, *In II Sent.*, p.150.

<sup>19</sup> *Ibidem*, p.146-147.

<sup>20</sup> *Ibidem*, p.144, 147-148: "Item, materia prima non determinat sibi aliquem gradum quantitatis. Ergo sine mutatione sua potest fieri maior et minor... Ad aliud dico quod differunt quantitas materiae et dimensio, quia materia habet certam quantitatem, qua non est maior quantitas vel qua non est minor, et haec, sive materia accipiatur totius mundi sive aliqua determinata materia, scilicet materia partis. Et ista quantitas inest ei secundum se...".



Ci sia consentita in conclusione un'ultima considerazione. L'introduzione della nozione di *quantitas materiae*, nozione che appare così innovatrice e, per certi versi, vicina a concetti utilizzati dalla scienza moderna, in realtà, risponde per Egidio a un'esigenza eminentemente metafisica. Una delle idee che fungono da principi-guida nella metafisica egidiana e che ritroviamo anche al fondo di questa dottrina è quella della assoluta potenzialità della materia prima. E' a causa della assoluta potenzialità della materia che siamo indotti a postulare una determinazione quantitativa che giustifichi il suo essere molta o poca, così come dobbiamo postulare una determinazione quantitativa per spiegare la sua estensione: in se stessa la materia non è né molta né poca così come non ha un'estensione maggiore o minore. Ed è grazie a questa sua indifferenza rispetto a qualsiasi quantità che una medesima porzione di materia, di per sé, è capace di assumere quantità diverse.

Ritroviamo, dunque, in questa dottrina una strategia tipica di Egidio, la tendenza a liberare la nozione di materia prima da ogni determinazione fisica, che ne metterebbe in pericolo l'assoluta potenzialità. Alla luce di queste considerazioni, risulta chiaro anche il senso della critica rivolta da Egidio a S.Tommaso. La posizione di S.Tommaso è "troppo fisica", giacché, parlando di *multiplicationem secundum essentiam materiae*, fa di una caratteristica puramente fisica come la quantità una determinazione intrinseca alla materia. Ora, degno di nota è il fatto che questa è una critica che Egidio rivolge a S.Tommaso anche in altre occasioni.<sup>21</sup> Sembra quasi che, per Egidio, S.Tommaso non sia riuscito a formulare una nozione autenticamente metafisica di materia prima.

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<sup>21</sup> Egidio adotta la stessa strategia a proposito della materia dei corpi celesti; anche in questo caso respinge la posizione tomista, che spiega l'incorretibilità di questi corpi sulla base della natura della loro materia, in nome dell'assoluta potenzialità della materia prima. Cfr. a questo proposito S.Donati, "La dottrina di Egidio Romano sulla materia dei corpi celesti. Discussioni sulla natura dei corpi celesti alla fine del tredicesimo secolo", in *Medioevo* 12 (1986), p.229-280.

LEILA HAAPARANTA

## A Fregean Perspective into Ockham's Method

### 1. Ockham's Conceptual Order

For William of Ockham, logic is the study of the acts of intellect considered as signs which constitute a mental language. In contrast to the conventional spoken and written words, Ockham regards mental signs as natural; that is, they signify naturally what spoken and written words signify conventionally. In his *Summa logicae*, the first part of which I shall mainly discuss in this paper, Ockham calls the acts of intellect, that is, the parts of mental propositions, intentions of the soul. An intention of the soul is something in the soul that is capable of signifying something else (SL I, § 12). A first intention signifies something that is not itself an intention of the soul, e.g., man, this man, etc., while a second intention is a sign of a first intention. For example, *genus*, *species*, *property*, *universal*, *term* and *proposition* are terms of second intention. Terms of second intention belong to the conceptual machinery of Ockham's logic, by means of which Ockham studies the terms of first intention (*ibid.*).

In the *Summa logicae*, Ockham asks whether the units which he considers to be mental signs are representations in the mind which would 'fall between' mental acts and the individual objects which are signified, or whether they are acts of knowing themselves. He answers that logic is interested in those acts of knowing themselves, and hence, that we do not need any intermediate images of objects between mental acts and objects. As Ockham puts it, 'all the theoretical advantages that derive from postulating entities distinct from acts of understanding can be had without making such a distinction, for an act of understanding can signify something and can supposit for something just as well as any sign' (SL I, § 12). Ockham thus seems to think that *because* he builds his logical model so that he takes the mental units to be *signs* of a mental *language*, he does not have to assume that the mental units are something more than acts. Hence, Ockham does not postulate any images in the mind,

which would be contents of those acts. Nor does he postulate any ideal objects like propositions or thoughts which logic would be interested in.

## *2. The Materiality of Logic*

The aim of this paper is to consider Ockham's logic and philosophy of logic through the distinctions which were made in nineteenth century logic as it appears in Frege and in his contemporaries and closest predecessors. Superficially considered, Ockham's view comes close to psychologistic logic, which was represented by a great number of nineteenth century logicians such as Beneke (1820, 1842), Sigwart (1873), Wundt (1880), Erdmann (1892), and Lipps (1893). Those logicians were criticized by Gottlob Frege and other antipsychologists. Psychologists regarded logical laws as psychological laws of human thought. Some of them believed that the rules of logic concerning how we ought to think have their origin in psychological laws of association concerning how people in fact think. Others took our logical concepts, such as the concepts of plurality, relation and possibility, to become understood by analyzing the human mind.

Psychologistic logic was one version of the doctrine upheld by a number of logicians in the nineteenth century that all logic is basically material, that is, that logic speaks about something or represents something, whether that something is metaphysical reality, the phenomenal world, the transcendental conditions of human thought, the psychological realm, or the realm of abstract objects. Of course there were also logicians who considered material logic and formal logic to be two different branches within logical studies.<sup>1</sup> Frege and other antipsychologists belonged to those who argued that logic mirrors the realm of abstract objects and that our logical source of knowledge is parallel to, even if distinct from, sense-perception.

By acknowledging a specific logical source of knowledge, Frege objectified the transcendental structure of human thought into the forms of abstract objects called thoughts. In this way, he came to make a distinction among three realms. For Frege, there were the realm of the

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<sup>1</sup> See Haaparanta (1988b).

objects of sense experience, the realm of psychological events, and the realm of logical objects, which provides us with logical concepts.<sup>2</sup>

Even if Frege acknowledged the realm of abstract objects, he took it for granted that its objectivity did not prevent us from having knowledge of its structure. This is because he relied on the method of analysis. By means of this method we start with judgements, which are acknowledgements of the truth of thoughts, and come up with the constitutive components of thoughts.<sup>3</sup> Frege's logical objects are objects of reason, to which we have direct access and which we are able to handle by our methodological tools.

If we construe Ockham's procedure in Fregean terms, we notice that for Ockham we neither have direct access to our minds nor to any realm of abstract objects, because there is no such realm for Ockham. Ockham believes in the conceptual priority of ordinary languages. This belief manifests itself as a methodological choice in his logical studies. For what Ockham has at his disposal when he studies the structure of thought, which he calls the mental language, are the grammatical concepts which pertain to overt languages.

Among the pioneers of modern logic in the nineteenth century we find George Boole, whose work has a number of traces from Ockham's and other medieval nominalists' thought. He even comments on some of their tenets in his more philosophical considerations. He states that if a logician should succeed in expressing logical propositions by symbols, he would thereby take a step towards a philosophical language. However, he does not recommend the view represented by extreme nominalists which makes logic entirely dependent on language (Boole, 1965, p. 5). What makes Boole's idea resemble the ideas endorsed by Ockham is the fact that Boole takes the laws of the combinations of logical symbols to be founded on the laws of mental processes which they represent (*ibid.*). Boole's philosophy of logic is a version of psychologistic logic, for he ties the mechanism of reasoning to the laws and the constitution of the human intellect. He presumes that if this constitution were changed, our logic would also turn out to be different from the present one (*ibid.*, p.

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<sup>2</sup> See GLA, § 85, GGA I, pp. XVIII - XXIV, 'Der Gedanke' (1918), KS, p. 353, and 'Erkenntnisquellen der Mathematik und der mathematischen Naturwissenschaften' (1924/25), NS, p. 286.

<sup>3</sup> See Frege, 'Über den Zweck der Begriffsschrift' (1883), Frege (1964), p. 101, and Frege, 'Was ist eine Funktion?' (1904), KS, p. 273.

6). In this peculiar sense, Boole's logical algebra is not an empty calculus, but it reflects the structure and the mechanisms of the human mind. Hence, what Boole criticizes in medieval nominalists' views is precisely the conviction that we do not have direct access to our minds but that the construction of a logical language which represents the mental language takes place by means of the tools received from the study of overt languages.

Like Boole's logic, Ockham's logic is material in the sense that it is interested in the psychological realm. Frege, for his part, assumes that his logic is a language which speaks about the realm of the objects of sense experience and the realm of abstract objects, and that it is also transcendental, for it gives us the structure of thought in general. Frege wants to give us a new language which is not a representation of overt languages but which is a direct symbolic representation of the forms of thought. Ockham's logical model is primarily a model of overt languages and secondarily a model of the mental, whereas Frege's conceptual notation is a model of the realm of thoughts and a representation of the transcendental forms of thought.<sup>4</sup> That is, Frege's universal language is meant to be a language of thought itself. What this means is that Frege's and Ockham's interests and objects of study are crucially different.

### 3. Ockham's and Frege's Models

Fregean first-order language is characterized by the idea that objects are considered in the framework of judgements. Judgements are constituted by empirical concepts and by logical functions like conditionality, negation, generality, existence, and identity. Even if Ockham's model does not represent the same object as that of Frege's, it is like Frege's model provided by a conceptual machinery which distinguishes between the material and the formal constituents of propositions. That is because Ockham makes a distinction between categorematic and syncategorematic signs. Syncategorematic signs include such expressions as *every*, *no*, *some* and *all*. A categorematic sign has both signification, which is its meaning independently of a sentential context, and supposition, which is a property of a term in a proposition.

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<sup>4</sup> For arguments in favour of this interpretation of Frege's logic, see Haaparanta (1985).



Ockham states that whatever can be a subject or a predicate of a proposition supposits (SL I, § 63).

Supposition may be of three kinds, personal, material, and simple (*ibid.*, § 64). A term supposits personally when it supposits for the thing which it signifies and when it is significant in suppositing. A term has material supposition when it does not supposit significantly but supposits for a spoken or a written word. A term has simple supposition when it supposits for an intention of the soul and is not functioning significantly. The term *man* in 'Man' is a name' is an example of material supposition, and the term *man* in 'Man is a species' is an example of simple supposition. In the latter example, the term of second intention *species* has personal supposition, for it supposits for the intention of the soul *man* which it signifies.

Accordingly, the overt language, which Ockham is interested in, contains terms of first intention, terms of second intention, and syncategorematic signs. A part of this language, namely, terms of second intention and syncategorematic signs, consists of the logical vocabulary of this language. By means of this vocabulary Ockham formulates a proper semantic model of the overt language itself and secondarily a model of the mental language.<sup>5</sup>

#### 4. *The Method of Analysis*

In Fregean logic, two methodological recommendations were emphasized. First, grammatical concepts like *subject* and *predicate* must not be used as basic conceptual tools.<sup>6</sup> Secondly, the method of composing judgements out of concepts must be replaced by the method of analyzing judgements. This is how Frege claims to have found the primitive logical functions which constitute the judgements.<sup>7</sup>

It seems that from the Fregean point of view Ockham's logical studies ought to be criticized for not giving up grammatical tools but praised for adopting the method of analysis in the logical descent to

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<sup>5</sup> This kind of reconstruction of Ockham's project is given by Moody (1953), on p. 27.

<sup>6</sup> See Frege (1964), pp. 2 - 3, and 'Frege an Husslerl' (1906), BW, p. 102.

<sup>7</sup> See Frege, 'Über den Zweck der Begriffsschrift', BS (1964), p. 101. Cf. Haaparanta (1988a, 1988b).

individuals when clarifying what Ockham calls common supposition. Ockham divides terms having personal supposition into discrete and common terms. In discrete supposition the term is the proper name of an object or a demonstrative pronoun. Common terms are such suppositing terms as are not discrete (SL I, § 70). Among common personally suppositing terms, Ockham then distinguishes between determinate, merely confused and confused distributive supposition. A term has determinate supposition when it is possible to descend to particular objects by means of a disjunctive proposition. For example, 'A man runs' is reduced to 'This man runs, or that man runs, or ...'. A term has merely confused supposition when it is possible to descend to a proposition with a disjunctive predicate involving particulars. For example, 'Every man is an animal' reduces to 'Every man is this animal or that animal or ...'. A common term has confused distributive supposition when it is possible to descend to individuals by means of a conjunctive proposition. For example, 'Every man is an animal' reduces to 'This man is an animal, and that man is an animal, and ...'.

The three rules of descent which correspond to the three forms of supposition must be used in a certain order. The rule for determinate supposition is applied first, the rule for confused and distributive supposition must be the second, and the last rule applied is that for merely confused supposition. For example, the proposition 'Every man is an animal' receives the analysis 'This man is this animal or that animal or ..., and that man is this animal or that animal or ..., and ...'.<sup>8</sup>

<sup>8</sup> For a clarification of this idea, see Broadie (1987), pp. 17 - 25 and pp. 90 - 96.

It may be noted that the structure which Boole gives to propositions lies somewhere between Ockham's and Frege's analysis. Unlike Frege, Boole does not introduce quantifiers. However, he uses a specific symbol  $v$ , which behaves in his formulas like an existential quantifier often read as 'some'. When solving syllogisms, Boole gives solutions for propositions of the forms  $A$ ,  $E$ ,  $I$ , and  $O$ . The solution of the universal affirmative proposition 'All  $Y$ s are  $X$ s', symbolically  $y(1-x)=0$ , is

$$(1) \quad y = vx.$$

The solution of the universal negative proposition 'No  $X$ s are  $Y$ s', symbolically  $xy=0$ , is

$$(2) \quad y = v(1-x).$$

The corresponding forms for particular affirmative and particular negative propositions are

$$(3) \quad vx = vy,$$

meaning 'Some  $X$ s are  $Y$ s',

The very idea of supposition may remind us of Frege's context principle, according to which the meanings of words must be looked for in sentential contexts.<sup>9</sup> Frege's logical analysis, which starts with judgements and not with concepts in isolation, is true to that principle.<sup>10</sup> And Ockham's descent to individuals may resemble Frege's descent to objects which are put into the empty argument places of functions in his conceptual notation.

This is how things seem to be. But if we consider more carefully what Ockham and Frege are doing, it will turn out that they endorse crucially different views of analysis. Someone might argue that of course there is a great difference between their logics, for they represent different ontological doctrines. For example, singular sentences like 'Socrates is a man' are considered by Frege to be compounded out of a proper name, which refers to an object, and a function name, which refers to a function. For Ockham, there are no functions like properties and relations in the world to be referred to; instead, 'a man' stands for particular men.

However, the point which I want to make here is not that there is a difference between ontologies, Ockham being a nominalist and Frege being a kind of Platonist. Instead, the difference which we find between their views from a logical vantage point is precisely due to a difference between the ways they use the method of analysis and thus a difference between their epistemologies.

Both Ockham and Frege reject the essentialist reading of such propositions as 'Socrates is a man'. That is, they do not think that Socrates is identical with a man in the sense that Socrates' essence is to be a man and Socrates is identical with his essence. However, Frege's reading is based on a sharp distinction between the 'is' of identity and

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and

(4)  $\forall x = \forall(1-y)$ ,  
 meaning 'Some Xs are not Ys'  
 (Boole, 1965, pp. 32 - 33).

These formulas bear a striking similarity to the basic level of Ockham's analysis, however, with the not unimportant exception that Boole stops at the structure of propositions given by elective symbols, which serve as concepts, by the symbol  $\forall$ , which stands for the word 'some', and by the symbol of identity. Ockham has only discrete terms, that is, proper names and demonstrative pronouns, and the symbol of identity at the basic level.

<sup>9</sup> See, e.g., GLA, 'Vorwort', p. X, and § 60.

<sup>10</sup> For the interpretation of Frege's context principle, see Haaparanta (1985), pp. 79 - 93.

the 'is' of predication, and it takes the sentence to mean that Socrates falls under the concept *man*.<sup>11</sup> Ockham, for his part, construes 'Socrates' and 'a man' as names of one and the same object, that is, as suppositing for one and the same individual (SL I, § 43). A apparently similar view is held by Bertrand Russell in *The Principles of Mathematics* (1903). Russell distinguishes between two readings of the sentence 'Socrates is a man'. He assumes that one reading expresses a relation of Socrates to the class-concept *man*, while the other reading expresses the identity of Socrates with an ambiguous individual (Russell, 1950, pp. 54 - 55). Frege criticizes this kind of view in his posthumous writings in the article 'Logik in der Mathematik' (1914). He characterizes it by saying that there have been people who have held that concept-words are ambiguous names and that 'a man' is hence a new name for Socrates (NS, pp. 230 - 231). Frege's criticism would not hit Ockham's theory, for according to the meanings which Ockham gives to such terms as *univocity* and *ambiguity* common names are not ambiguous. The name 'man' signifies several individuals equally, but it signifies them by one convention and it is subordinated to one single concept of the mental language, in Ockham's view (SL I, § 17).

Frege's analysis of universal, particular and singular judgements is based on the distinction between objects and functions, which include concepts and relations. Proper identity statements and predications are kept apart in his logic in order that objects and concepts would remain apart.<sup>12</sup> Frege even connects his distinction between objects and concepts with Kant's distinction between intuitions and concepts, which are the two irreducible and indispensable components of our knowledge.<sup>13</sup> He argues that objects are not identical with concepts or with bundles of concepts. Hence, 'Socrates is a man' is not an identity statement. Proper identity statements like 'Venus is the Morning Star' have a special content for Frege. They are metalinguistic statements which claim that two names refer to one and the same object but that they have different senses (*Sinne*), which they ascribe to the object named, that is, they

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<sup>11</sup> See, e.g., Frege, 'Über Begriff und Gegenstand' (1892), KS, pp. 168 - 169 and p. 174.

<sup>12</sup> This is strongly emphasized by Frege in his 'Über Begriff und Gegenstand', KS, pp. 168 - 169.

<sup>13</sup> See GLA, § 27, footnote.

express different aspects of the object.<sup>14</sup> Ockham argues that it is false to think that the name 'man' signifies one nature common to all men (SL I, § 43), but he also claims that it is false to think that 'white' supposits for a form 'whiteness' in the sentence 'Socrates is white'. In Ockham's view, what is asserted is that the thing for which the subject stands is the thing for which the predicate stands (*ibid.*, § 66). Hence, Ockham and Frege agree in their criticism against essentialism, but they disagree in what they think of the basic level of analysis. In Ockham's procedure, analysis brings us to the level of individual objects, while Frege's analysis stops at the level of individuals, concepts, and relations.

### 5. The Two Epistemologies

But why does Frege stop at an earlier level than Ockham? Frege's treatment of a predicative judgement like 'Socrates is a man' does not allow any reduction of concept-words to names of objects. Similarly, Frege thinks that it is *via* a sense, a conceptual component, and only *via* a sense, that a name is related to an object.<sup>15</sup> Hence, every apprehension of an object is mediated by a concept under which that object falls, and every judgement is construed as an expression of an act of knowledge which consists of conceptual components alone or together with symbolic representations of individual objects.

Ockham, for his part, upholds the view that all terms, both discrete and common, stand in direct relation to individual objects and, moreover, that mental signs are on a par with overt signs, that is, that they also stand in direct relation to individual objects. Ockham's model construes a proposition as a composition of two names without even a mentioning of conceptual components like Frege's *Sinne*.

Of course we might suggest that the reason for the difference between Ockham's and Frege's basic levels of analysis is the often repeated point that they put forward different ontological views. But disregarding this alleged difference and taking into account the fact that Ockham and Frege have crucially different aims in their logical studies,

<sup>14</sup> Frege gives his main argument for this tenet in his 'Über Sinn und Bedeutung' (1892), KS, pp. 143 - 144.

<sup>15</sup> This remark is made by Frege in his 'Ausführungen über Sinn und Bedeutung' (1892), NS, p. 135.



we may formulate the answer in another way. Namely, Ockham is committed to his scarce basic level only so far as he is committed to the view that his semantic model is primarily a model of spoken and written languages, thus consisting of simple sign-object relations, and that this model is then automatically extended to the mental realm.

Hence, even if Ockham's mental language may appear to have the same constituents as Frege's conceptual notation, Ockham does not come close to constructing a new logical language. What prevents Ockham from constructing it is precisely the view upheld by him that the primary objects to which the conceptual machinery of logic is applied are overt spoken and written languages. Surprisingly enough, this conviction brings Ockham closer to a number of logical developments of the twentieth century, for what Ockham does, expressed in contemporary terms, is to give a semantic theory for natural languages and not to give a new universal language, which Frege's conceptual notation was meant to be.

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BRIAN HENDLEY

### A New Look at John of Salisbury's Educational Theory

In recent years, there has been a resurgence of scholarly interest in the life and works of John of Salisbury. In 1979, the second volume of a critical edition of John's Letters appeared.<sup>1</sup> A new edition of John's *Entheticus Maior and Minor* has just appeared with an accompanying English and Dutch translation.<sup>2</sup> In 1980, scholars from around the world gathered at various conferences to commemorate the octocentennial of John's death. At the Conference held at Fordham University in New York City, talks on John were given by a historian, a classicist, a philosopher, and a literary scholar, among others.<sup>3</sup> Similar interdisciplinary interest was shown at an international Conference held at Salisbury, England, with the bulk of the papers being published later in a book entitled, *The World of John of Salisbury*.<sup>4</sup> Careful attention was paid to John's writings, as well as to his activities as a student, Church administrator, political advisor, and inveterate traveller. Many of the papers challenged accepted views and argued for a revised interpretation of John and his work.

It is in the spirit of these "John of Salisbury revisionists" that I shall take a fresh look at his educational theory. I will concentrate on an article by Daniel McGarry, entitled "Educational Theory in the *Metalogicon* of John of Salisbury."<sup>5</sup> I shall take special note of the theory of knowledge John develops in the *Metalogicon* in order to see what is at stake philosophically in his defense of the arts of the Trivium

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<sup>1</sup> W.J. Millor and C.N.L. Brooke (eds.), *The Letters of John of Salisbury, Volume Two: The Later Letters (1163-1180)* (Oxford, 1979).

<sup>2</sup> *John of Salisbury's Entheticus Maior and Minor*, ed. Jan van Laarhoven, 3 vols. (Leiden, Netherlands: E.J. Brill, 1987).

<sup>3</sup> John of Salisbury Octocentennial Conference held at Fordham University, New York City, October 25, 1980.

<sup>4</sup> Michael Wilks (ed.), *The World of John of Salisbury* (Oxford: Basil Blackwell, 1984). Cf. also my review of Wilks in *Speculum*, 62 (January, 1987), pp. 220-222.

<sup>5</sup> Daniel D. McGarry, "Educational Theory in the *Metalogicon* of John of Salisbury," *Speculum*, 23 (1948), pp. 659-675.

and show how his defense is relevant to some of the educational problems of today.

### *McGarry on John's Educational Theory*

McGarry's article was pivotal in the sense that it introduced many English-speaking readers to the cultural background and the philosophical foundation for John's defense of the Trivium.<sup>6</sup> John wrote the *Metalogicon* as a defense of "logic" in the broad sense of the three arts dealing with language: grammar, rhetoric, and logic. He wrote it to answer the attacks of those he called the "Cornificians"<sup>7</sup> who decried the study of these arts because of their belief that "effective facility in reasoning and verbal expression comes as the fruit of natural talent and exercise rather than as a product of formal teaching."<sup>8</sup> Like contemporary proponents of education as job-training, the Cornificians were impatient with the time being spent studying great works of the past and dubious of the need to master the rules for effective speaking, clear writing, and cogent argumentation. They would reduce the attention paid to the arts of the Trivium to a minimum in order to expedite the entry of students into lucrative occupations. They claimed that eloquence came as an innate gift rather than as the result of formal study.

John was eminently suited to answer this charge, according to McGarry, because of his wide reading and love for the classics.<sup>9</sup> As a

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<sup>6</sup> There had been previous studies on John on a more popular level; cf., for example, Clement C.J. Webb, *John of Salisbury* (London: Methuen, 1932) and Reginald Lane Poole, *Illustrations of the History of Medieval Thought and Learning* (London, 1920). McGarry's translation of the *Metalogicon* did not appear until 1955.

<sup>7</sup> Scholars are still not certain which particular individuals John had in mind when he referred to the "Cornificians". Cf., for example, Rosemary Barton Tobin, "The Cornifician motif in John of Salisbury's *Metalogicon*," *History of Education*, 13 (1984), pp. 1-6.

<sup>8</sup> McGarry, *op. cit.*, p. 660.

<sup>9</sup> This traditional view of John as a lover of the Classics has recently been challenged, most notably by Janet Martin. Cf. her "John of Salisbury and the Classics" (unpublished dissertation, Harvard, 1968). Also of interest are her articles, "John of Salisbury's Manuscripts of Frontinus and of Gellius," *Journal of the Warburg and Courtauld Institutes*, 40 (1977), pp. 1-26; "Uses of Tradition: Gellius, Petronius and John of Salisbury," *Viator*, 10 (1979), pp. 57-76; and "John of Salisbury as Classical Scholar," in *The World of John of Salisbury*, *op. cit.*, pp. 179-201. Further criticism of John's classical scholarship can be found in Peter Von Moos, "The Use of *Exempla* in the *Policaticus* of John of Salisbury," in *The World of John of Salisbury*, *op. cit.*, pp. 207-261.

student of the "Christian humanism" of Chartres, he was able to draw upon a deep knowledge of the writings of classical authors together with the Bible and the works of the Church Fathers.<sup>10</sup> He proposes that schools adopt the educational method followed by Bernard of Chartres, wherein "the full learning process consists in reading, active attendance at lectures, reflection, memorization, exercises in imitation and original production, recitations, and review, all of which further stress student activity."<sup>11</sup> John's indebtedness to Bernard is further marked in his well-known statement to the effect that "Bernard of Chartres used to compare us to [puny] dwarfs perched on the shoulders of giants. He pointed out that we see more and farther than our predecessors, not because we have keener vision or greater height, but because we are lifted up and borne aloft on their gigantic stature."<sup>12</sup>

Having traced the intellectual lineage of John's thought, McGarry goes on to say that "John's philosophy of education is the foundation for his whole pedagogical theory, and the key to his philosophy of education is his general philosophy."<sup>13</sup> This philosophy sees knowledge as based on fallible opinions derived from the senses and imagination. Reason frees us from deception by opinion and helps us gain access to the hidden natures and causes of things. Education seeks to develop reason through the study of the arts, which are "efficacious tools, fashioned by reason in the light of experience: expeditious short-cuts to the achievement of results

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<sup>10</sup> R.W. Southern has claimed that there never was a distinctive School of Chartres with its own brand of Christian humanism. Cf. his "The Schools of Paris and The School of Chartres," in Robert L. Benson and Giles Constable (eds.) *Renaissance and Renewal in the Twelfth Century* (Oxford: Clarendon Press, 1982), p. 113; and his "Humanism and the School of Chartres," in *Medieval Humanism and Other Studies* (Oxford: Basil Blackwell, 1970), p. 74. Southern does admit that the issue is far from settled and he refers to criticisms of his view by Nikolaus M. Häring, "Chartres and Paris Revisited," in J. Reginald O'Donnell (ed.), *Essays in Honour of Anton Charles Pegis* (Toronto, 1974), pp. 268-329; Peter Dronke, "New Approaches to the School of Chartres," *Anuario de estudios medievales*, 6 (1971), p. 117-140; and Robert Giacone, "Masters, Books and Library at Chartres According to the Cartularies of Notre-Dame and Saint-Pere," *Vivarium*, 12 (1974), pp. 30-51. Also of interest on the topic is J.O. Ward, "The Date of the Commentary on Cicero's 'De Inventione' by Thierry of Chartres (ca. 1095-1160?) and the Cornifician Attack on the Liberal Arts," *Viator*, 3 (1972), pp. 219-273.

<sup>11</sup> *Ibid.*, p. 673.

<sup>12</sup> *The Metalogicon of John of Salisbury*, trans. Daniel D. McGarry (Berkeley/Los Angeles, 1955, reprinted 1962), p. 167. Although this remark is commonly attributed to Bernard of Chartres, Raymond Klibansky claims that the original statement comes from Priscian; cf. "Standing on the Shoulders of Giants," *Isis*, 26 (1936), pp. 147-149.

<sup>13</sup> McGarry, *op. cit.*, p. 664.



which would otherwise be too difficult or unattainable."<sup>14</sup> The development of reason is complemented by acquiring eloquence through the study of the verbal arts. Eloquence enables us to accumulate and distribute what we know by thinking correctly, accurately comprehending what we hear and read, and effectively expressing ourselves in speech and writing.<sup>15</sup>

I have no quarrel with this since I too am a firm supporter of the view that the concerns of wisdom and eloquence are mutual for John.<sup>16</sup> What I cannot fathom is McGarry's attempt to connect John to present-day educational thinkers by labelling his theory as that of an "Idealist". According to McGarry, "There exists, in fact, a remarkable parallelism between several of the views advocated in the *Metalogicon* and corresponding propositions presented by R.M. Hutchins of the University of Chicago in his ... [book] *Higher Learning in America*, and Hutchins is considered an 'Idealist'. ... there is no question that John was no 'Pragmatist' or 'Materialist'."<sup>17</sup>

The comparison of John of Salisbury to Robert Maynard Hutchins is not an apt one. Hutchins was a staunch follower of Aristotle and St. Thomas Aquinas. He believed that the aims and content of education could be clearly delineated once we recognized the importance of metaphysics. Metaphysics gives us knowledge of the ordering principles and causes of reality which provide the underlying framework for the order of studies in education. Even the sceptic must presuppose a distinction between knowledge and opinion, says Hutchins. "There must be some certain, clear knowledge. If there is knowledge, it should be taught as such, and it should be taught first. Let us then enumerate the disciplines in which there is certainty and let us place them at the beginning of our curriculum."<sup>18</sup>

The key idea is that of order. The rational order of the universe can be known and it should be mirrored by the order of studies in school. In a simplistic but oft-quoted statement, Hutchins puts it this

<sup>14</sup> *Ibid.*, p. 668.

<sup>15</sup> *Ibid.*, p. 675.

<sup>16</sup> Cf., for example, Brian Hendley, "Wisdom and Eloquence: A New Interpretation of the *Metalogicon* of John of Salisbury" (unpublished dissertation, Yale, 1967).

<sup>17</sup> McGarry, *op. cit.*, p. 665.

<sup>18</sup> Robert M. Hutchins, "A Reply to Professor Whitehead," *Atlantic Monthly*, 158 (November, 1936), p. 588.

way: "Education implies teaching. Teaching implies knowledge. Knowledge is truth. The truth is everywhere the same. Hence education should be everywhere the same."<sup>19</sup> Practical applications of ideas have no place in the proper order of higher education. What can be learned at the university are general principles, fundamental propositions, the theory of any discipline, unhampered by any concern for utility or pressure for results. The "true university spirit", says Hutchins, is to study things for their own sake. The role of the classics in this scheme is to supply us with "models of excellence". Grammar, rhetoric, and logic are singled out as the "means of determining how excellence is achieved". Thus, there are rules for speaking, classical rules of writing, "conditions under which reasoning is rigorously demonstrative."<sup>20</sup> The culmination of the whole programme of studies should be metaphysics. Indeed, Hutchins asserts that "If we can revitalize metaphysics and restore it to its proper place in the higher learning, we may be able to establish rational order in the modern world as well as in the university."<sup>21</sup>

It is difficult to reconcile this view of education with that of John of Salisbury. For one thing, John is a self-professed Academic sceptic who begins his *Metalogicon* with the disclaimer that "in matters that are doubtful to a wise man, I cannot swear to the truth of what I say. Whether such propositions may be true or false, I am satisfied with probable certitude."<sup>22</sup> For John, there are no metaphysical certainties to guide our way in education. Human knowledge begins with fallible judgements of sensation and imagination. It advances through the effective use of language. We learn to communicate our ideas and experiences, clarify and criticize our opinions, argue with one another about the meaning of things. The truths that Hutchins would start from in education are the ideal end or goal that John would have us strive towards, with no guarantee of success. The difference between the two approaches to knowledge can be highlighted by recalling John's treatment of universals and his commentary on Aristotle's *Organon*.

Although he acknowledges Aristotle as the master on the question of universals, John stops short of fully endorsing his position. For

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<sup>19</sup> Robert Maynard Hutchins, *The Higher Learning in America* (New Haven: Yale University Press, 1936, reprinted, 1965), p. 66.

<sup>20</sup> *Ibid.*, p. 83.

<sup>21</sup> *Ibid.*, p. 105.

<sup>22</sup> *The Metalogicon of John of Salisbury, op. cit.*, p. 6.

Aristotle, knowledge of the universal was knowledge of sensible things under the aspect of their formal cause. The mind is able to abstract a universal content from particular sense perceptions and use this as a basis for scientific knowledge. For John, we have no such knowledge of the formal aspects of individual things because "the strength of reason seemingly melts when confronted by the [first] principles of things." The real nature of sensible things exceeds our grasp and we must make do with universals which are "fictions" (*figmenta*) which reason devises "as it delves deeper in its investigation and explanation of things." All branches of learning, John assures us, "unhesitatingly devise fictions to expedite their investigations."<sup>23</sup>

This reluctance to claim certainty in our knowledge of sensible reality is also apparent in John's commentary on the *Organon*. He is relatively indifferent toward Aristotle's *Posterior Analytics* which deals with methods of logical demonstration. Such methods may be of use in mathematics, and especially geometry where we deal with necessary truths; but they are not of much use in our investigation of sensible reality. Strictly speaking, says John, "there can be no necessary proof or scientific knowledge of what is corruptible", so that the demonstrator should leave all topics that are not necessary to the dialectician and the orator who seek only probability. John strongly prefers Aristotle's *Topics* which aids our investigation of probabilities by accounting for the mutual connection of things and words and provides us with an abundance of reasons.<sup>24</sup> Once again it is through language that we will advance, if not to mathematical (or metaphysical) certainty, then to higher degrees of probability.

McGarry was right to note the complementarity of wisdom and eloquence in John's educational theory. What he failed to appreciate was that John sees the efficacious use of language as our chief means to achieve wisdom. "Fluency does not always merit praise," John tells us; it is advantageous "only when it is oriented to [the acquisition of] wisdom."<sup>25</sup> Through reading and learning facilitated by the arts of the

<sup>23</sup> *Ibid.*, pp. 130, 135; cf. also Brian Hendley, "John of Salisbury and the Problem of Universals," *Journal of the History of Philosophy*, 8 (1970), pp. 289-302.

<sup>24</sup> *Ibid.*, pp. 212, 215, 201. Cf. also Brian Hendley, "John of Salisbury's Defense of the Trivium," *Arts Liberaux et Philosophie au Moyen Age. IVe Congrès international de philosophie médiévale*. Montreal, 1967 (Paris, 1969), pp. 753-762.

<sup>25</sup> *The Metalogicon of John of Salisbury, op. cit.*, pp. 91-92.

Trivium, we can eventually get beyond fallible opinions and, with God's help, attain an intuitive understanding (*intellectus*) or meditative insight into the real nature of things. Such facility in language does not come naturally, as the Cornificians contend; it must be learned. We must master rules for speaking and writing correctly in order to gain clarity and comprehensibility in the use of words. We must also learn "the science of argumentative reasoning" (*ratio disserendi*) in order to be able to distinguish the true from the false and what is necessary from what is impossible.<sup>26</sup> Finally, we must learn the art of disputation whereby we can persuade others of the likelihood of our assertions and seek to "prove or disprove something that is either doubtful, or denied, or [simply] proposed in one way or another by alleging reasons."<sup>27</sup>

It is precisely because John does *not* think we can grasp the underlying principles and causes of things with our natural abilities that he advocates the study of the Trivium. His defense of the verbal arts does not stem from a so-called Christian humanism which values the study of the classics for its own sake; nor is it the outlook of someone like Hutchins who patterns the content of education on the rational order of reality disclosed to us through metaphysics. It is rather the educational theory of a sceptic whose scepticism is tempered by an abiding faith in language as the means to overcome the limits of our knowledge and draw closer to the truth. This can be seen in the questions he poses for the Cornificians: "Can the secret and hidden recesses [*cuniculos*] of nature be charted by one who is utterly ignorant of all philosophy? Can they be understood by one who knows neither how to speak correctly, nor to comprehend what is written or spoken?"<sup>28</sup>

Almost as surprising as his attempt to link John's educational theory with that of Hutchins is McGarry's disavowal of "Pragmatism" as an alternative description of what John is up to. Various scholars have commented on the pragmatic turn to John's thought. According to Peter Von Moos, for example, John had an aversion to purely theoretical fancies and abstract conceptions and felt that the only valid ideas were effective ideas.<sup>29</sup> It has also been noted by Michael Wilks that the lack

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<sup>26</sup> *Ibid.*, p. 78.

<sup>27</sup> *Ibid.*, p. 80.

<sup>28</sup> *Ibid.*, p. 18-19.

<sup>29</sup> Peter Von Moos, *op. cit.*, p. 209.



of concern for the practical outcome of ideas was seen by John as the source of bad government as well as bad philosophy. The verbal jugglers he criticizes in the *Metalogicon* are the philosophical counterparts of the minstrels and prince-pleasers he attacks in the *Policraticus*: "the nonsense of the universalists is the same nonsense of the courtiers, the *nugae curialium*."<sup>30</sup> This is not to suggest that John was anti-intellectual, nor that he espouses a naive "learning by doing" approach to education of the sort promoted by the Cornificians. I think his overall viewpoint is pragmatic in its combination of fallibility, scepticism, and faith, and that it bears strong similarities to the thought of the founder of American pragmatism, Charles Sanders Peirce (1839-1914).

### *John and Peirce*

Much has been written about Peirce's interest in Duns Scotus.<sup>31</sup> It should also be noted that he read and appreciated other Medieval philosophers, among them John of Salisbury whom he called "the elegant writer and accurate thinker."<sup>32</sup> Peirce owned and read John's works<sup>33</sup> and he specifically refers to the *Metalogicon* a number of times.<sup>34</sup> This seems fitting since both men share a healthy scepticism which rejects infallible approaches to the truth. While John admits that in mathematics we can attain necessary truth because we deal only with "concepts perceptible by the intellect alone",<sup>35</sup> he would agree with Peirce that in regard to

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<sup>30</sup> Michael Wilks, "John of Salisbury and the Tyranny of Nonsense," in *The World of John of Salisbury*, *op. cit.*, p. 276. For a good sample of John's impatience with verbal jugglers cf. his remarks in the *Policraticus*, VII, 12, trans. by Joseph B. Pike as *Frivolities of Courtiers and Footprints of Philosophers* (Minneapolis: University of Minnesota Press, 1938), p. 261, and his Letter 238, "To Baldwin archdeacon of Totnes," in *The Letters of John of Salisbury*, Volume Two, *op. cit.*, pp. 450-451.

<sup>31</sup> Cf., for example, John F. Boler, *Charles Peirce and Scholastic Realism: A Study of Peirce's Relation to Duns Scotus* (Seattle: University of Washington Press, 1963).

<sup>32</sup> Charles S. Peirce, "Letters to Lady Welby," in Philip P. Wiener (ed.), *Values in a Universe of Chance* (New York: Doubleday Anchor Books, 1958), p. 403.

<sup>33</sup> Peirce owned a copy of John's *Metalogicon* (Paris, 1610) and *Opera Omnia* (Oxford, 1848), according to Max Fisch (personal correspondence, March 6, 1967).

<sup>34</sup> Charles Hartshorne and Paul Weiss (eds.), *Collected Papers of Charles Sanders Peirce* (Cambridge, Massachusetts: Harvard University Press, second printing, 1960), 1.560. Specific references to the *Metalogicon* can be found in 2.317, n.1, 2.364, 2.391, n.3, 2.434, and 8.378.

<sup>35</sup> *The Metalogicon of John of Salisbury*, *op. cit.*, p. 250.



sensible reality "our knowledge is never absolute but always swims ... in a continuum of uncertainty and indeterminacy."<sup>36</sup>

Peirce sees the fallibility of human opinion leading to an irritation of doubt which acts as a stimulus to inquiry, the sole object of which is the settlement of opinion and the fixation of belief.<sup>37</sup> This will be achieved in the long run by the efforts of a community of inquirers using common methods of investigation. Such methods should have a public and self-corrective character and be directed to a common goal.<sup>38</sup> Although he would substitute an empirical, experimental method for John's more linguistic approach to finding the truth, Peirce would support John's belief that through common methods of investigation we can ultimately reach the truth. According to Peirce, "all the followers of science are animated by a cheerful hope that the processes of investigation, if only pushed far enough, will give one certain solution to each question to which they apply it."<sup>39</sup> This "cheerful hope" of science is an abiding faith that we can eventually ascertain by reasoning how things really and truly are.

In much the same way, John argues that mastery of the arts of grammar, rhetoric, and logic will enable us to rise above the limitations of the senses and reach an intuitive understanding of the exact nature of things. By taking advantage of the stature of the classical authors whose works we read and study, we can see more and farther than our predecessors. By learning how to communicate effectively and argue cogently, we can also, in Peirce's sense of community inquiry, stand on one another's shoulder. This similarity of outlook is brought out strikingly in Peirce's description of the procedure of the natural sciences where investigators cooperate and "stand upon one another's shoulders" in communicating observations, examining hypotheses, and testing predictions against experience. The final results are only provisionally accepted, subject to further testing.<sup>40</sup>

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<sup>36</sup> *Collected Papers of Charles Sanders Peirce, op. cit.*, 1.171.

<sup>37</sup> *Ibid.*, 5.375.

<sup>38</sup> A good treatment of Peirce's view of community inquiry can be found in John E. Smith, *The Spirit of American Philosophy* (New York: Oxford University Press, 1966), and in his article, "Community and Reality," in Richard J. Bernstein (ed.), *Perspectives on Peirce* (New Haven: Yale University Press, 1965), pp. 92-119.

<sup>39</sup> *Collected Papers of Charles Sanders Peirce, op. cit.*, 5.407.

<sup>40</sup> *Ibid.*, 5.413.

Such an open-minded approach to the pursuit of truth seems much more in line with John's thought than do the dogmatic pronouncements of Hutchins.<sup>41</sup> By mis-labelling John's position as "Idealist", McGarry directs our attention away from its most interesting features: the recognition of the fallibility of human knowledge and the concomitant distrust of claims to certainty, the distaste for intellectual exercises that lead nowhere, plus the ongoing faith in the powers of reason and the capacity of men, properly trained in the arts of language, to help one another toward the hidden truth we all seek. This is a view I would characterize as pragmatic in the sense that it claims that ideas do count and that community inquiry can be an effective means to the truth. It forms the core of an educational theory that still has something to say to us today, faced as we are by challenges to liberal education from contemporary Cornificians who disdain study of the past, seek quick shortcuts to the truth, and see education as a means of satisfying immediate vocational wants rather than meeting long-range needs. John serves to remind us that we must not neglect our cultural heritage for we have much to learn from the "giants" who tried to make sense out of life before us. We also need some discipline in verbal expression and logical thinking, so that we can share and compare our ideas and talk with rather than at or about one another. Above all, we should maintain a sceptical attitude towards matters doubtful to a wise man. These are the elements in John's defense of the liberal arts that are worth recalling today.

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<sup>41</sup> One could draw similar parallels between John's views and the criticisms of Hutchins made by another leading American pragmatist, John Dewey. Cf. Dewey's, "Rationality in Education," *Social Frontier*, 3 (December, 1936), pp. 71-73; "President Hutchins' Proposals to Remake Higher Education," *Ibid.* (January, 1937), pp. 103-104; and "The Higher Learning in America," *Ibid.* (March, 1937), pp. 167-169. Also of interest is Dewey's objection to subordinating education to ultimate first principles derived from Aristotle and St. Thomas; cf. *Experience and Education* (London: Collier Books, 1963 [1938]).

### Zur Suppositionstheorie Alberts von Sachsen

Die Suppositionstheorie Alberts von Sachsen wird zumeist vordergründig als ockhamistisch angesehen und ist in ihrer eigenständigen Bedeutung umstritten. Wenngleich Alberts Einteilung der Supposition mit derjenigen seines Vorgängers William of Ockham übereinstimmt, so sind doch bei der Behandlung einzelner Suppositionsarten wesentliche Abweichungen festzustellen, welche bereits die erste, grundlegende Unterscheidung von einfacher, personaler und materialer Supposition betreffen. Dies wird insbesondere am Beispiel von Alberts Behandlung der materialen Supposition deutlich, welche in ihren Differenzierungen über Ockhams Modell hinausgeht. Die vorliegende Untersuchung zu Alberts Suppositionstheorie beschränkt sich daher auf eine Analyse seiner Behandlung der materialen Supposition und stellt einen Bezug zur heutigen Unterscheidung von Gebrauch und Erwähnung eines Sprachzeichens her.

Albert definiert materiale Supposition als "die Verwendung eines Terminus, der für sich selbst (*pro se*) oder einen ihm entsprechenden (*sibi simili*) oder nicht entsprechenden (*sibi dissimili*) verwendet wird, welcher auf dieselbe Weise (*eodem modo*) oder anders (*aliter*) supponiert, und welchem er nicht zur Bezeichnung beigelegt ist, und der das, wofür er supponiert, nicht in eigentlicher natürlicher Weise bezeichnet" (PL<sup>1</sup>, 11<sup>rb</sup>). Alberts Analyse der materialen Supposition geht bereits in der Definition über Ockhams Bestimmung hinaus, nach der materiale Supposition dann vorliegt, "wenn ein Terminus nicht signifikativ, sondern für ein gesprochenes oder geschriebenes Wort supponiert" (SL<sup>2</sup>, I,64).

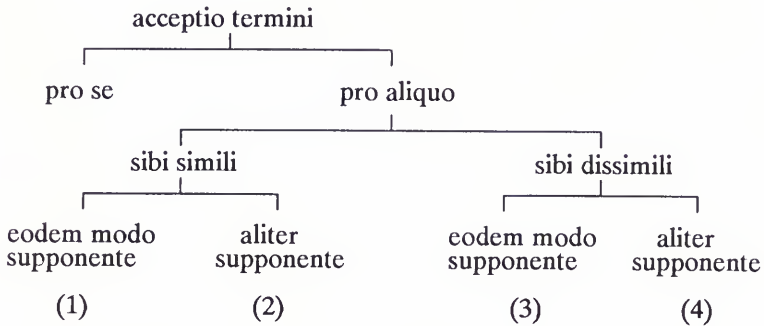
Die letzten beiden Teilbestimmungen der Definition Alberts, nach welchen ein material supponierender Terminus seinem Suppositum nicht signifikativ beigelegt ist und es nicht in eigentlicher natürlicher Weise bezeichnet, kommen material supponierenden Termini generell zu. Die

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<sup>1</sup> Albertus de Saxonia, *Perutilis Logica*, Venedig 1522, repr. Hildesheim 1974; (zitiert in eigener Übersetzung).

<sup>2</sup> William of Ockham, *Summe der Logik - Über die Termini*, ed. P. Kunze, Hamburg 1984.

übrigen Teilbestimmungen lassen sich wie folgt disjunktiv gegenüberstellen:



Als Beispiel materialer Supposition als der Verwendung eines Terminus für sich selbst nennt Albert die Aussage "Homo est disyllabum". Den Teilbestimmungen der materialen Supposition als Verwendung eines Terminus für einen anderen Terminus lassen sich Alberts Beispiele wie folgt in einer Kreuzklassifikation zuordnen:

	pro aliquo sibi simili	pro aliquo sibi dissimili
eodem modo supponente	(1) Sortes: "Homo est disyllabum." (supp. materialis) Plato: " <i>Homo</i> est terminus prolatus a Sorte." (supp. materialis)	(3)
aliter supponente	(2) Sortes: "Homo est animal." (supp. personalis) Plato: " <i>Homo</i> est terminus prolatus a Sorte." (supp. materialis)	(4) Homo est animal. (supp. personalis) Animal praedicatur de <i>homine</i> . (supp. materialis)
	Amo deum. (supp. personalis) <i>Amo</i> est verbum. (supp. materialis)	Sortes currit. (supp. personalis) <i>Sortem</i> currere est verum. (supp. materialis)

(1) Angenommen, Sokrates sagt "Homo est disyllabum", und Plato sagt "Homo est terminus prolatus a Sorte", so steht der Terminus "homo" für den ihm entsprechenden Terminus "homo" und supponiert in derselben Weise, nämlich material.

(2) Angenommen, Sokrates sagt "Homo est animal" und Plato sagt "Homo est terminus prolatus a Sorte", so steht der Terminus "homo" für den ihm entsprechenden Terminus "homo" und supponiert in anderer Weise, nämlich material, während "homo" personal supponiert.

(3) Albert gibt hierfür kein Beispiel. Bochner<sup>3</sup> schlägt als Beispiel vor: Angenommen, auf die Aussage "Men is a noun in the plural" bezieht sich Plato mit der Aussage "Man is uttered in the plural", so steht der Terminus "man" für den von ihm verschiedenen Terminus "men" und supponiert in derselben Weise, nämlich material. Auf die Problematik dieses Beispiels wird im folgenden noch eingegangen.

(4) Angenommen, auf die Aussage "Homo est animal" wird durch die Aussage "Animal praedicatur de homine" Bezug genommen, so steht der Terminus "homine" für den von ihm verschiedenen Terminus "homo" und supponiert in anderer Weise, nämlich material, während "homo" personal supponiert.

Ockhams Differenzierung der materialen Supposition sieht demgegenüber lediglich die Unterscheidung vor, daß ein material supponierender Terminus für sich selbst oder für einen von ihm selbst verschiedenen Terminus steht (SL I,67). Eine Entsprechung zu Alberts Fällen (1) und (2) weist Ockhams Modell nicht auf.

Die Teilbestimmung, nach der ein material supponierender Terminus seinem Suppositum nicht signifikativ beigelegt ist, erläutert Albert anhand eines Beispiel wie folgt (PL 11<sup>rb</sup>): Die Aussage "Vox est monosyllaba" legt zunächst die Auffassung nahe, daß hier ein Fall metasprachlicher Bezugnahme und damit materiale Supposition vorliege. Indessen handelt es sich nach Albert um personale Supposition, da "vox" sich selbst signifikativ beigelegt sei. Entsprechend argumentiert er in Bezug auf den vierten hypothetischen Zweifel (PL 12<sup>ra</sup>) hinsichtlich der Supposition von "vox" innerhalb der Aussage "Vox est sonus". Zwar scheint einerseits auch hier der Terminus "vox" material zu supponieren, da er für sich selbst steht, andererseits aber personal, da er (sich selbst) signifikativ beigelegt ist. Albert spricht in der Widerlegung des Zweifels (PL 12<sup>va</sup>) dem Terminus

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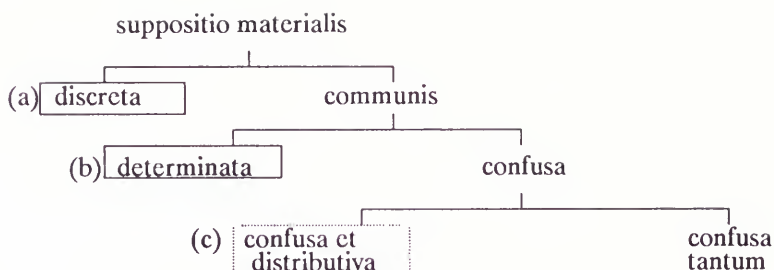
<sup>3</sup> Ph. Bochner, "A Medieval Theory of Supposition", in: *Franciscan Studies* 18 (1958), S. 240-289.



"vox" personale Supposition zu, was so zu erklären ist: Für sich selbst zu stehen ist zwar eine mögliche, jedoch weder eine notwendige noch eine hinreichende Bedingung für materiale Supposition. Das Stehen eines Terminus für sich selbst impliziert also nicht seine materiale Supposition. Umgekehrt impliziert jedoch die signifikative Verwendung eines Terminus seine personale Supposition, da signifikative Verwendung bei materialer und einfacher Supposition per definitionem ausgeschlossen ist. Hieraus wird klar, daß in der Aussage "Vox est monosyllaba" das Subjekt für sich selbst und personal, in der Aussage "Homo est disyllabum" dagegen für sich selbst und material supponiert. Während in der ersten Aussage "vox" für sein ursprüngliches Signifikat, d.h. einen Stimmlaut, steht, supponiert in der zweiten Aussage "homo" offensichtlich nicht für seine ursprünglichen Signifikate, d.h. Menschen, sondern für ein Sprachzeichen.

Die letzte Teilbestimmung, nach der ein material supponierender Terminus dasjenige, wofür er supponiert, nicht in eigentlicher natürlicher Weise bezeichnet, betrifft mentale Termini, d.h. Termini, die nicht aufgrund von Beilegung, sondern natürlicherweise etwas bezeichnen. Einem mentalen Terminus, z.B. "Mensch", kommen zwei mögliche Verweisungsfunktionen zu: Einerseits kann er in eigentlicher natürlicher Weise dasjenige bezeichnen, was er vermittels eines konventionell beigelegten Terminus bezeichnet; in dieser Weise bezeichnet der mentale Terminus "Mensch" einzelne Menschen und supponiert personal. Andererseits kann er in allgemeiner natürlicher Weise dasjenige bezeichnen, was er ohne Vermittlung eines konventionell beigelegten Terminus bezeichnet; er bezeichnet dann sich selbst bzw. ihm entsprechende Termini und supponiert material, wie z.B. in der mentalen Aussage "Mensch ist ein mentaler Terminus". Der mentale Terminus "Mensch" supponiert also nur dann material, wenn er für dasjenige steht, was er in allgemeiner natürlicher Weise bezeichnet.

Im Rahmen einer Aufstellung von Suppositionsregeln (PL 12<sup>vb</sup>f.) unterscheidet Albert hinsichtlich der materialen Supposition eine (a) diskrete und eine (b) determinierte Supposition, was - unter Einbeziehung der komplementären Suppositionsarten - folgendes Schema ergibt:



Bemerkenswert ist, daß es sich hierbei um eine Unterscheidung handelt, die in Alberts ursprünglicher Einteilung der Supposition (PL 11<sup>ra</sup>) sowie bei Ockham und den übrigen bekannten Autoren dieser Tradition lediglich als Differenzierung der personalen Supposition vorkommt. Als die ersten beiden Suppositionsregeln (PL 12<sup>vb</sup>) gibt Albert an, daß das Subjekt einer singulären Aussage, z.B. "Sortes currit", "Iste homo currit", immer diskret, das Subjekt einer indefiniten Aussage, z.B. "Homo est animal", aber determiniert supponiere. Im Anschluß an die zweite Regel merkt Albert ausdrücklich an, daß die genannten Regeln neben der personalen auch die materiale Supposition betreffen. Als Beispiel für diskrete materiale Supposition nennt Albert die Aussage "Sortes est nomen", für determinierte materiale Supposition die Aussage "Homo est nomen". Die Unterscheidung einer diskreten und einer determinierten materialen Supposition hebt Boehner<sup>4</sup> als einen besonders interessanten Aspekt in der Suppositionseinteilung Alberts hervor und merkt hierzu an, daß in der *Perutilis Logica* keine Stelle zu finden sei, an der auch universelle Aussagen dieses Typs thematisiert würden, etwa "Omne homo est disyllabum", in der also der Subjektterminus (c) konfus-distributiv supponierte. Boehner verweist auf eine anonyme Handschrift des frühen 15. Jahrhunderts in der Wiener Dominikanerbibliothek, in der eben diese Aussage mit material supponierendem und allquantifiziertem Subjekt vorkommt. Indessen ist hervorzuheben, daß der genannte Aussage-Typ durchaus auch bei Albert erwähnt wird. Im Kontext der personalen Supposition führt Albert anhand des Beispiels "Homo est disyllabum", in welchem ein genereller Terminus material supponiert, eine allgemeine materiale Supposition ein und nennt im Anschluß an die Frage, wie diese Aussage universalisiert werden könne, das Beispiel "Omne homo est disyllabum" (PL 11<sup>va</sup>). Daß das distributive Zeichen "omne" hierbei nicht

<sup>4</sup> Ph. Boehner, *Medieval Logic. An Outline of its Development from 1250-1400*, Manchester 1952, S. 103f.

dem grammatischen Geschlecht von homo, i.e. maskulinum, angeglichen wird, begründet Albert mit folgender Regel: "Jedes Wort, welches auch immer material supponiert hat, ist ein neutrales und undeklinierbares Nomen."

Aufgrund dieser Regel liegt die Möglichkeit nahe, daß Albert, der zwischen den Fällen (3) und (4) der materialen Supposition nicht ausdrücklich differenziert, für Fall (3) nicht zufälligerweise keinen Beispielsatz angibt. Denn ein undeklinierbarer Terminus kann eben nicht von seiner ursprünglichen Form abweichen, um für einen dann von ihm verschiedenen Terminus material zu supponieren. Hieraus ergäbe sich, daß das von Boehner angeführte Beispiel für Fall (3) inadäquat wäre, denn von "Men is a noun in the plural" zu "Man is uttered in the plural" wird der material supponierende Subjekt-Terminus verändert. Ein in Analogie zu Fall (4) konstruiertes Beispiel für Fall (3) verdeutlicht die Problematik: Nimmt man auf die Aussage "Homo est disyllabum" durch die - grammatisch unkorrekte - Aussage "Homo est disyllabum est verum" Bezug, so wird dies zwar der Regel gerecht, nach der hier die Form des material supponierenden komplexen Terminus "Homo est disyllabum" gleichbleibt, jedoch trifft die Bestimmung "pro sibi dissimili" nicht zu. Nimmt man aber auf die Aussage "Homo est disyllabum" durch die Aussage "Hominem esse disyllabum est verum" Bezug, so ergibt sich zwar einerseits eine - grammatisch korrekte - Aussage nach dem Muster von Alberts Beispiel "Sortem currere est verum", andererseits aber wird gegen die genannte Regel verstoßen. Denn der in der Aussage "Homo est disyllabum" material supponierende Terminus "homo" darf nach ihr nicht zu dem in der Aussage "Hominem esse disyllabum est verum" material supponierenden Terminus "hominem" abgewandelt werden. Zudem ist die Aussage "Hominem esse disyllabum est verum" falsch, denn "hominem" ist nicht zwei-, sondern dreisilbig.

Die Unterscheidung von materialer und personaler Supposition wird häufig mit der heutigen Unterscheidung von Gebrauch und Erwähnung bzw. *use* und *mention* eines Sprachzeichens in Verbindung gebracht. Die genannte Parallelisierung ist insofern naheliegend, als das grundsätzliche Motiv der mittelalterlichen und der modernen Unterscheidung darin übereinstimmt, zwischen dem Bezug von Sprachzeichen auf Dinge, d.h. ihre gewöhnlichen Signifikate, und dem Bezug von Sprachzeichen auf Sprachzeichen zu differenzieren. Dennoch ist die Gleichsetzung von personaler Supposition mit dem Gebrauch eines Sprachzeichens und

materialer Supposition mit der Erwähnung eines Sprachzeichens bei genauer Betrachtung inadäquat.

Bildet man die Aussage "Ein Mensch ist ein Lebewesen", so gebraucht man das Wort Mensch, um über einen Menschen zu sprechen. Von dem Wort Mensch ist in dieser Aussage nicht die Rede. Spricht man andererseits über die Aussage "Ein Mensch ist ein Lebewesen", indem man z.B. sagt, daß in ihr das Wort Mensch vorkommt, oder bildet man die Aussage "Mensch ist einsilbig", so gebraucht man das Wort Mensch nicht, sondern erwähnt es. Hierzu bemerkt Tarski:

In Verallgemeinerung dieser Ansicht hätten wir dann hinzunehmen, daß jedes Wort bisweilen als sein eigener Name auftreten kann; in der Terminologie der mittelalterlichen Logik hieße das, daß das betreffende Wort in 'Suppositio materialis' verwendet wird und nicht in 'Suppositio formalis', d.h. in seiner gewöhnlichen Bedeutung. Die Konsequenz hiervon wäre, daß jedes Wort der gewöhnlichen oder wissenschaftlichen Sprache mindestens zwei Bedeutungen hätte, und man brauchte Beispiele für Situationen nicht von weither zu holen, in denen ernste Zweifel aufträten, welche Bedeutung gerade gemeint ist. Mit dieser Regel Konsequenz wollen wir uns nicht abfinden und es lieber zur Regel machen, daß jeder Ausdruck (wenigstens in der Schriftsprache) von seinem Namen unterschieden werde. Damit entsteht das Problem, wie man allgemein Namen von Wörtern und Ausdrücken bilden soll. Hierfür gibt es mehrere Möglichkeiten. Die einfachste von ihnen besteht in der Verabredung, den Namen eines Ausdrucks dadurch zu gewinnen, daß man den Ausdruck in Anführungszeichen setzt.<sup>5</sup>

Wesentlich hierbei ist nun, daß *Mensch* ein genereller Terminus, "*Mensch*" dagegen - aufgrund der Anführungszeichen als sogenannten namenbildendem Funktor - ein singulärer Terminus ist, den wir gebrauchen, um über den ursprünglichen Ausdruck ohne Anführungszeichen zu reden, bzw. ihn zu erwähnen. Nach der Konvention der Anführungszeichen steht also der Ausdruck "Mensch" (mit Anführungszeichen) niemals für den Ausdruck "Mensch" (mit Anführungszeichen), sondern immer nur für den Ausdruck Mensch (ohne Anführungszeichen). Ein mit Anführungszeichen gekennzeichnete Terminus steht also als solcher niemals für sich selbst.

Infolge der Gleichsetzung mit der Erwähnung eines Sprachzeichens werden häufig Beispiele für material supponierende Termini in Texteditionen und Schriften zur mittelalterlichen Logik durch Anführungszeichen gekennzeichnet. Dies ist zunächst schon deshalb inadäquat, weil materiale Supposition die Möglichkeit der Verwendung eines Terminus für

<sup>5</sup> A. Tarski, *Einführung in die mathematische Logik*, Göttingen 1966, S. 71; "Suppositio formalis" ist nach verschiedenen Autoren (u.a. W. of Sherwood) Oberbegriff zu personaler und einfacher Supposition.



sich selbst (*pro se*) vorsieht, was, wie erwähnt, im Rahmen der Verwendung von Anführungszeichen ausgeschlossen ist. Zudem legt die Definition sowohl der personalen als auch der materialen Supposition als einer bestimmten Verwendung (*acceptio seu usus*) eines Terminus nahe, daß die Erwähnung von Sprachzeichen im heutigen Sinne innerhalb der Suppositionstheorie eher als eine besondere Weise ihres Gebrauchs aufgefaßt wird. Für die Suppositionstheorie ist wesentlich, daß sie eine metasprachliche Bezugnahme gerade ohne die Bildung von Namen für Sprachzeichen ermöglicht und sich hiermit sogar wechselseitig ausschließt. Die Unterscheidung in personale und materiale Supposition müßte ihren Sinn verlieren, wenn in der Aussage "Mensch ist einsilbig" als Beispiel für materiale Supposition der Terminus Mensch in Anführungszeichen gesetzt würde, denn "Mensch" (mit Anführungszeichen) supponiert als singulärer Terminus signifikativ, d.h. diskret und personal.

Die Teilbestimmung Alberts, nach der ein material supponierender Terminus für einen ihm nicht entsprechenden Terminus stehen kann, schließt zusätzlich eine Parallelisierung mit der Erwähnung eines Sprachzeichens aus, da nach Alberts wie auch nach Ockhams Auffassung z.B. eine A.c.I.-Konstruktion wie in dem oben genannten Beispiel für (4) "Sortem currere est verum" material für eine Aussage mit finiter Verbform supponieren kann. In der Aussage "Sortem currere est verum" den Subjektterminus in Anführungszeichen zu setzen, wäre nach moderner Konvention sicherlich falsch. Zudem ermöglicht, worauf King<sup>6</sup> hinweist, die materiale Supposition keine mehrstufige metasprachliche Bezugnahme in der Weise, wie sie durch die Iterierung von Anführungszeichen möglich ist, wie z.B.: "'Sokrates'" benennt 'Sokrates'. 'Sokrates' benennt Sokrates. Sokrates ist ein Grieche."

Abschließend sei angemerkt, daß die Suppositionsart eines Terminus an Subjektstelle einer Aussage durch das auf ihn bezogene Prädikat determiniert wird. Z.B. wird der Subjektterminus "Mensch" durch das Prädikat "Lebewesen" auf personale, durch das Prädikat "einsilbig" aber auf materiale Supposition festgelegt. Die jeweilige Suppositionsart eines Terminus ist also zugleich Ausdruck einer bestimmten syntaktischen Relation. Ein Ausdruck in Anführungszeichen jedoch kann aus seinem Satzzusammenhang isoliert werden und ist insofern von einer syntaktischen Relation unabhängig. Diejenige Eigenschaft eines Terminus, die

<sup>6</sup> P. King, *Jean Buridan's Logic - The Treatise on Supposition / The Treatise on Consequences*, Dordrecht 1985, S. 40.



nach Auffassung der mittelalterlichen Semantik kontextunabhängig ist, ist seine Signifikation. Bereits William of Sherwood erklärt bezüglich der Unterscheidung von Supposition und Signifikation: "Manche Prädikate beziehen sich allein auf eine Äußerung oder ein Wort, manche auf ein Signifikat. Dies ändert jedoch nicht die Signifikation. Denn so wie ein Wort ein Wort ist, bevor es in einen Satz eingeordnet wird, so hat es auch vorher eine Signifikation, und nicht aufgrund einer Zuordnung zu anderem."<sup>7</sup> Da ein Ausdruck in Anführungszeichen als Name desselben Ausdrucks ohne Anführungszeichen nicht im Sinne eines material supponierenden Terminus kontextabhängig ist, bedeutet das Setzen von Anführungszeichen offenbar einen Unterschied nicht der Supposition, sondern der Signifikation.

Düsseldorf

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<sup>7</sup> William of Sherwood, *Introductiones in Logicam*, ed. M. Grabmann, in: Sitzungsberichte der Bayerischen Akademie der Wissenschaften, Phil.-Hist. Abteilung 10 (1937); (zitiert in eigener Übersetzung).

GERHARD KRIEGER

">*Homo* < *supponit simpliciter pro natura*"

Der Zusammenhang von Logik und Metaphysik im  
spätmittelalterlichen Scotismus (Petrus Tartaretus)

Das zwölfte Jahrhundert diskutiert im sogenannten Universalienstreit die Frage nach dem Zusammenhang zwischen der logischen Eigenart des Begriffs und seiner Eignung, die zu begreifende Sache im Erkennen zu repräsentieren. Indem dieser Zusammenhang mit Blick auf jene Begrifflichkeit thematisiert wird, die das Seiende in seinen allgemein-maßgeblichen Strukturen erfaßt, erfährt die Universalien Diskussion eine Öffnung hin zur Kennzeichnung des Verhältnisses von Logik und Metaphysik. Dies geschieht im Mittelalter infolge der Rezeption der arabischen Philosophie in vollem Umfang erstmals bei Thomas von Aquin.<sup>1</sup>

Die im Folgenden dargestellte Bestimmung dieses Verhältnisses ist maßgeblich geprägt durch das Scotische Verständnis der *distinctio formalis* einer *natura communis a parte rei* und der damit verbundenen Gestalt der Metaphysik. In ihrer Betrachtung des "Seienden als Seienden" (*ens inquantum ens*) erfaßt sie jenen schlechthin einfachen Begriff, der als grundlegendes Moment seinerseits zu dieser Notwendigkeitsstruktur gehört, die das Faktisch-Wirkliche fundiert. Schließlich sei hier vorausgeschickt, daß, wie immer es um die ontologische Qualifizierung der intramentalen Realität allgemeiner Entitäten durch Ockham stehen mag,<sup>2</sup>

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<sup>1</sup> Vgl. dazu und zum Folgenden W. Kluxen, "Bedeutung und Funktion der Allgemeinbegriffe im thomistischen und scotistischen Denken", in *De doctrina Joannis Duns Scoti* 2 (Rom 1968), 229-240; J. Owens, "Common nature. A point of comparison between Thomistic and Scotistic metaphysics", in: *Med. Stud.* 19 (1957), 1-14; L. Honnefelder, *Art. "Natura communis"*, in: *HWP* Bd. VI, Sp. 494-504; zum Verständnis der Universalien in der arabischen Philosophie G. Verbeke, "Introduction doctrinale", in: S. Van Riet (Ed.), *Avicenna latinus, Liber de philosophia prima sive scientia divina*, Louvain Leiden 1980, bes. 2 -19.

<sup>2</sup> Für eine Entwicklung in Ockhams Denken von der sogenannten Fictum- zur Qualitas- oder Intellectio-Theorie hat sich zuerst P. Boehner, "The realistic conceptualism of William of Ockham", ausgesprochen, in: *Collected articles on Ockham*, ed. by E.M. Buytaert, St. Bonaventure N.Y. 1958, 156-174. Darin ist ihm die weitere Forschung gefolgt, vgl. etwa V. Richter, "Zu Ockhams Entwicklung in der Universalienfrage", in: *Phil. Jahrb.* 82 (1975), 177-187. Zu Ockhams Bestimmung des

aus seiner Kritik folgende Frage sich ergibt: Wie kann die begriffliche Vergegenwärtigung der Struktur und Einheit der Realität im Erkennen über die logisch-semantiche Funktionsbeschreibung hinaus fundiert werden?

Ich werde im weiteren erstens näher beleuchten, von welchem Ansatzpunkt aus das Verhältnis von Logik und Metaphysik im spätmittelalterlichen Scotismus bestimmbar und wie hier der ontologische Status der "allgemeinen Natur" charakterisiert und begründet wird. Zweitens gehe ich auf die Konsequenz dieser Fundierung für die Begründung der Metaphysik ein.

## I.

Der im Paris des ausgehenden 15. Jahrhunderts lehrende Theologe, Philosoph und Scotist Petrus Tartaretus<sup>3</sup> setzt in der Kennzeichnung des ontologischen Status allgemeiner Entitäten<sup>4</sup> an der Stelle an, an der Ockham das Allgemeine von seiner Zeichen- und Prädikatfunktion her charakterisiert. Infolgedessen greift Tartaretus die Ockhamsche Unterscheidung zwischen der *suppositio personalis* und der *suppositio simplex* auf.<sup>5</sup> Tartaretus folgt Ockham zunächst darin, mit Hilfe dieser

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Verhältnisses von Logik und Metaphysik vgl. J.P. Beckmann, "Das Subjekt/Prädikat-Schema und die Frage nach der Möglichkeit von Metaphysik bei Wilhelm von Ockham", in: *Franz. Stud.* 59 (1977), 1-14.

<sup>3</sup> Über sein Leben und Werk informieren: E. Wegerich, "Bio-bibliographische Notizen über Franziskanerlehrer des 15. Jahrhunderts", in: *Franz. Stud.* 29 (1942), 150-197; ferner C. Lohr, "Medieval latin Aristotle commentaries, Petrus Tartaretus", in: *Traditio* 28 (1972), 372-376. Den weiteren Ausführungen liegen folgende Ausgaben seiner Werke zugrunde: *Commentaria quatuor libros Sententiarum et Quodlibeta Scoti*, Venedig 1583; *In universam philosophiam opera omnia*, Venedig 1621. Ich danke der Bayerischen Staatsbibliothek für die freundliche Bereitstellung dieser Texte.

<sup>4</sup> Der theologisch bestimmte Ort dieser Kennzeichnung des ontologischen Status allgemeiner Entitäten ist die Frage nach der Natur des Engels, aus der sich die Frage nach dem Individuationsprinzip ergibt: *In lib. sent.* II, d. 3, q. 1, Fol. 126b: *Ecce ostensum est, ubi angeli fuerunt etc. ... Primo tamen tractat de distinctione personali angelorum. Secundo loco de operationibus et cognitionibus illorum; et quia diversi diversa dicunt de distinctione personali ipsorum, ideo oportet videre quomodo distinguuntur et qualiter de omni substantia quae est principium distinctionis.*

<sup>5</sup> Zu Ockhams Suppositionstheorie vgl. P. Boehner, "Ockham's theory of supposition and the notion of truth", in: *Collected articles* a.a.O. (Anm. 2), 232-267; J.P. Beckmann, "Das Subjekt/Prädikat - Schema"; G. Leibold, "Zu Interpretationsfragen der Universalienlehre Ockhams", in: W. Kluxen u.a. (Hg.), *Sprache und Erkenntnis im Mittelalter. Akten des VI. Internationalen Kongresses für mittelalterliche Philosophie*

Unterscheidung über die Richtigkeit der Scotischen These von der fehlenden Singularität und Individualität der *natura communis* entscheiden zu wollen.<sup>6</sup> Beide stimmen überein, daß, werden die Termini "natura" und "homo" in "personaler Supposition" gebraucht, es durchaus heißen kann: "Die Natur des Menschen ist von sich aus diese" ("natura hominis est de se haec"). Denn bei dieser Verwendung supponieren beide Termini für ein und diesselbe Sache. In "einfacher Supposition" verwandt, ist eine solche Aussage hingegen falsch. Denn dann steht die Natur für einen von der Seele hervorgebrachten mentalen Begriff und nicht für eine singuläre, extramentale Sache. Trotzdem glaubt Tartaretus, an der Scotischen Auffassung von der *natura communis* festhalten zu können. Denn, so führt er begründend aus, der Terminus "Mensch" in einfacher Supposition verwandt, steht für die Natur als solche gemäß dem, was sie an sich selbst und in ihrer positiven Indifferenz ist ("quando ly homo supponit simpliciter, stat pro natura ipsa secundum se et in sua indifferentia"). Darin sieht Tartaretus die Möglichkeit der Vermittlung seiner sich in der Nachfolge des Scotus begreifenden und der *opinio nominalium*.<sup>7</sup>

Indem Tartaretus Ockham in der genannten Differenzierung der Suppositionsweisen zustimmt, folgt er ihm in der Charakterisierung des Allgemeinen als Zeichen und Prädikat. Wenn er gleichzeitig mit Blick auf die *suppositio simplex* behauptet, der Terminus stehe in dieser Verwendung für die Natur selbst, setzt er die *natura communis* als Prinzip der Prädikation an. Denn einen Terminus in seiner Prädikatfunktion gemäß den Prädikabilien näher zu kennzeichnen, wie es in der Aussage ">Homo< est species" geschieht, heißt, ihn im Sinne der *suppositio simplex* zu

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der *S.I.E.P.M. in Bonn*, 1. Hbd. Berlin New York (Mis. Med. 13/1) 1981, 459-464.

<sup>6</sup> Tartaretus bezieht sich auf folgende Ausführungen Ockhams: *Ord.* I, d. 2, q. 6, OT II 198: ista propositio 'natura hominis de se est haec' est distinguenda ... eo quod natura hominis potest supponere simpliciter vel personaliter, hoc est eo, quod potest stare pro re extra animam vel pro se. Si secundo modo, sic est haec falsa 'natura lapidis est de se haec', quia tunc denotatur, quod conceptus mentis, qui est universalis, de se est hic lapis; et hoc est falsum ... Si accipiatur primo modo, sic est haec vera 'natura hominis de se est hic homo'.

<sup>7</sup> *In lib. sent.* II, d. 3, q. 1, Fol. 127b: Respondet ad istam rationem Venerabilis inceptor ... Concedo illam, ut ly natura lapidis supponit personaliter: nego tamen illam dicit, ut ly natura lapidis supponit simpliciter. Et cum ista solutione solvit omnia argumenta Scoti. Hoc modo etiam dicemus nos, quod homo supponens personaliter est unum numero. Nam tunc supponit pro Sorte, Platone etc. Secundo etiam concedo. Nam natura est unus conceptus, quia natura hoc modo supponens, significat simpliciter quendam conceptum mentis fabricatum ab anima. Tamen secundum Scotum, quando ly homo supponit simpliciter, stat pro natura ipsa secundum se et in sua indifferentia, et hic est briga inter nos et ipsos, et ille conceptus est verificabilis de multis.

gebrauchen.<sup>8</sup> Und indem Tartaretus dafür die *natura communis* zur Voraussetzung macht, begreift er sie als Prinzip der Prädikation.

Diese prädikative Funktion der allgemeinen Natur fundiert Tartaretus durch ihren ontologischen Status. Dazu greift er auf jene Unterscheidung des intramentalen Seins zurück, die bei Ockham zu einem Wandel in der Auffassung über die Natur des Allgemeinen geführt hat. Tartaretus erläutert sie in folgender Weise. Im "subjektiven" Sinne (*esse subiective in intellectu*) besitzt etwas Realität, das den Intellekt zum Träger hat, also der Begriff des Wesensgehaltes, die Verstandesdispositionen und die Erkenntnisakte selbst (*species intelligibiles, habitus intellectuales, actus intelligendi*).<sup>9</sup> "Objektiv" real ist zum anderen die *secunda intentio*, also logische Gebilde; sie resultieren aus jener vergleichenden Erkenntnis, bei der sich der Intellekt auf Vorstellungen bezieht, die gleichfalls "objektiv sind".<sup>10</sup>

Das Resultat einer derartigen vergleichenden Erkenntnis ist somit nichts anderes als jene Kennzeichnung allgemeiner Prädikate (*universale in actu*) gemäß den Prädikabilien, bei der ein Terminus in der Weise der *suppositio simplex* gebraucht wird. Da das Allgemeine dabei für die

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<sup>8</sup> Diese Lösung des Tartaretus kommt der Kritik F. Inciartes an Ockhams Suppositionstheorie nahe, die dieser in: "Die Suppositionstheorie und die Anfänge der extensionalen Semantik" vorgetragen hat, in: A. Zimmermann, *Antiqui und Moderni. Traditionsbewußtsein und Fortschrittsbewußtsein im späten Mittelalter*, (Mis. Med. 9) Berlin New York 1974, 126-141. Systematisch gesehen stimmen beide Kritiker Ockhams darin überein, daß der mit dessen Auffassung verbundenen Gefahr einer rein extensionalen mit Hilfe einer intensionalen, "bedeutungstheoretischen" Logik begegnet werden könne.

<sup>9</sup> *In. lib. sent.* II, d. 3, q. 1, Fol. 131a: aliquid habere esse in intellectu, stat dupliciter. Uno modo subiective ... scilicet habent esse in intellectu species intelligibiles, habitus omnes intellectuales et actus intelligendi: omnia ista habent ipsum intellectum pro subiecto.

<sup>10</sup> A.a.O. Fol. 131a: aliquid esse in intellectu secundo modo, scilicet obiective, est dupliciter. Uno modo habitualiter ... sicut obiectum in sua specie intelligibili, quae non movet actualiter intellectum, sed est in proxima dispositione ad movendum intellectum. Hoc modo species de rosa dicitur esse in intellectu alicuius, scilicet obiective. Nota etiam, quod aliquid esse in intellectu obiective actualiter, potest adhuc intelligendi dupliciter. Uno modo esse actualiter ante actum intelligendi. Alio modo esse actualiter post actum intelligendi. Primo in intellectu obiective et actualiter ante actum intelligendi dicitur esse species vel natura universalis in actu in determinata potentia, habens esse in intellectu per speciem. Sed illud dicitur habere esse in intellectu obiective actualiter post actum intelligendi, quod capit esse per actum intelligendi. Isto modo secundae intentiones sunt in intellectu; nam non sunt nisi quamdiu manet actus intelligendi: et derelinquitur ex actu comparativo intellectus. Auf die eingangs erwähnte Möglichkeit des *esse obiective habitualiter* braucht nicht eigens eingegangen zu werden, da sie, wie sich zeigen wird, unter der hier leitenden Frage nach dem ontologischen Status der *natura communis* mit der Möglichkeit des *esse obiective actualiter* identisch ist, vgl. dazu weiter unten Anm. 15.



allgemeine Natur selbst steht, stellt sie jene Vorstellung dar, aufgrund deren der Intellekt zu dieser Erkenntnis gelangt. Die Bestimmung der Prädikatfunktion eines Terminus ergibt sich also, indem der Intellekt aufgrund eines Vergleichs zwischen verschiedenen "allgemeinen Naturen" - etwa der *humanitas* und der *animalitas* - die Eigenart des Terminus "homo" als Artbegriff erkennt. Diese Eigenart ermöglicht seine Verwendung als ein Prädikat, das ein konkretes Einzelseiendes bezeichnet.<sup>11</sup>

Im Kern trifft auf diese ontologische Kennzeichnung allgemeiner Entitäten allerdings noch Walter Chattons Kritik an Ockhams Fictum zu, als das ein Allgemeines gleichfalls objektive Realität besitzt.<sup>12</sup> Chattons Kritik "läuft darauf hinaus, daß es überflüssig ist, ein Fictum anzunehmen"; denn der Erkenntnisakt, der im subjektiven Sinne real ist, vermag all das zu leisten, "um dessentwillen Ockham das Fictum eingeführt hatte."<sup>13</sup> Anders gewendet: Die Charakterisierung der Realität der *natura communis* als *esse obiective in intellectu* führt die begriffliche

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<sup>11</sup> A.a.O. Fol. 132a: Notandum etiam, quod universale capitur dupliciter. Uno modo formaliter. Alio modo pro denominato. Universale formaliter primo modo non dicit nisi relationem rationis, ut genus vel species. Sed universale pro fundamento est illud, in quo illa talis relatio fundatur. Unde universale pro fundamento est duplex, quia duplex est fundamentum illius relationis, scilicet fundamentum proximum et fundamentum remotum. Unde fundamentum est ipsa natura actualiter existens in pluribus, quae natura ut sic non est nata proxime dici vel praedicari de ipsis inferioribus. Sed universale pro fundamento proximo est ipsamet natura, inquantum ipsa actualiter per intellectum abstrahitur ab illis singularibus vel inferioribus, quia ut sic abstracta nata est praedicari vel dici de pluribus. Tunc dicitur universale in actu. Unde ad universale in actu duae conditiones requiruntur. Prima est, quod sit natura actualiter abstracta per intellectum a suis singularibus; et tunc illa natura licet sit una numero, tamen nata est dici de pluribus; et est unum obiectum numero: et tunc dicitur esse in potentia proxima ad hoc, quod dicatur in pluribus. Secunda conditio est, quod in ipsa natura sit actualis attributio praedicationis ipsius ad ipsa inferiora. Nam si illa natura esset abstracta per intellectum et non compararetur ab ipso eodem intellectu ad sua singularia in ratione communioris et praedicabilis de illis, iam non esset universale in actu, sed secundum esse universale in potentia proxima. Primo modo quando scilicet ipsa natura abstrahitur per intellectum a suis singularibus et non comparatur actualiter ad illa, est de consideratione metaphysici: et secundo modo quando est abstracta et actualiter comparatur illo, tunc est de consideratione logici; et dicitur universale in actu. Unde sequitur, quod universale in actu habet suam unitatem et entitatem ab intellectu non tamen ipsa natura, ut dixi; quia differentia erat inter ipsum universale et ipsam naturam, et sic patet, quod dabilis est natura communis realis.

<sup>12</sup> Vgl. zu dieser Kontroverse G. Gál, "Gualteri de Chatton et Guillelmi de Ockham controversia de natura conceptus universalis", in: *Franc. Stud.* 27 (1967), 191-212. C. Knudsen, *Walter Chattons Kritik an Wilhelm von Ockhams Wissenschaftslehre*, (Diss.) Bonn 1976, 37-50.

<sup>13</sup> C. Knudsen, a.a.O. 40.

Eigenart zwar auf eine außerlogische, aber doch nur psychologische Realität zurück.

Tartaretus sucht denn auch der Einheit und Realität der *natura communis* darüber hinaus ein Fundament zu geben, indem er darauf verweist, daß in diesem Vorgestelltsein das gegeben ist, was in der *species intelligibilis* ein *esse subiective in intellectu* besitzt.<sup>14</sup> Diese Begründung der begrifflichen Eigenart und Präzisierung des Allgemeinen macht im Unterschied zu Chattons Auffassung und darüber hinaus die Intension nicht nur zu einer Seite des Begriffs, sondern zu jenem Fundament, welches seiner Extension, d.h. seiner Verwendung als Zeichen vorausliegt. Demzufolge wird der Wesensbegriff als Begriff gemäß der Funktion der *natura communis*, die als notwendige Strukturbestimmtheit des Möglichen das Faktisch-Wirkliche fundiert, zum Inbegriff der Realität.

Diese Konsequenz zieht Tartaretus in der Charakterisierung des Verhältnisses von intramentaler und extramentaler Realität: Er begrenzt nämlich das *ens in anima* auf die logischen Vorstellungen; die extramentale Realität bildet das, was unter die Kategorien fällt. Infolgedessen gewinnt sowohl das, was subjektiv im Verstand ist, wie die objektiv gegebene Verstandesvorstellung die Bedeutung eines *ens extra animam*.<sup>15</sup>

<sup>14</sup> *In lib. sent.* Fol. 131a: in intellectu obiective et actualiter ante actum intelligendi dicitur esse species vel natura universalis in actu in determinata potentia, habens esse in intellectu per speciem. Vgl. oben Anm. 10; die *species* ist ihrerseits subjektiv real im Intellekt, vgl. oben Anm. 9.

<sup>15</sup> A.a.O. Fol. 131b: Secundum dictum ... sumitur ex quinto Metaphysicae. Ubi Philosophus distinguens ens in ens in anima et ens extra animam non capit ens in animo pro ente in anima subiective, nec pro ente in anima obiective, actualiter vel habitualiter, ante actum intellectus; sed Philosophus capit ens in anima pro ente habente esse actualiter obiective post actum. Pro hoc declarando suppono unum, quod scilicet si provero, quod unitas illa, quae est minor unitate numerali, sit in re extra animam, quod etiam bene probabitur, quod illa unitas est realis. Tunc declaratur hoc secundum dictum. ... Philosophus ... non capit ens in anima pro scientia vel habitibus intellectualibus, quae subiective tamen omnia habea(n)t esse in intellectu. Nam ibidem dicit, quod ens extra animam ponitur in genere. Et per consequens virtutes, habitus vel huiusmodi scientia non sunt entia in anima, modo quo Philosophus capit ibidem ens in anima. Nam dicit quomodo illa ponuntur in genere qualitatis, ut patet, et sic non capit ens in anima subiective. Dixi etiam secundo, quod non capit ens in anima obiective, vel actualiter vel habitualiter, ante actum intelligendi. Nam illud, quod habet esse isto modo in anima, scilicet obiective, dicitur esse in aliquo praedicamento. Etiam illud, quod habet esse in intellectu obiective actualiter ante actum; quia nihil ponitur in praedicamento praeter ista. Et ita dicuntur entia extra animam. Et hoc modo intelligendo, quod scilicet illa, quae ponuntur in praedicamento, non sunt termini, sed etiam entia extra animam. Et ita relinquitur, quod per ens in anima intelligit Philosophus illud, quod habet esse in anima obiective, actualiter post actum intelligendi, cuiusmodi sunt secundae intentiones et relationes rationis. Relinquitur etiam, quod per ens extra

Die prädikative Kennzeichnung eines Terminus im Unterschied zum Eigennamen beruht somit auf einer extramentalen Realität.<sup>16</sup>

Tartaretus setzt also über Ockham hinausgehend die *natura communis* als Prinzip der Prädizierbarkeit eines Terminus an. Indem er ihr ausschließlich ein *esse in intellectu* zuerkennt, verfällt er nicht der Kritik Ockhams, nach der der denkunabhängige Status allgemeiner Entitäten sowohl die Identität des singulären Gegenstandes<sup>17</sup> wie die Einheit und damit die Aussagbarkeit des Begriffs zerstört.<sup>18</sup> Freilich stellt sich hier die weitere Frage, wie diese Maßgeblichkeit des Begriffs zu vereinbaren ist mit der für den Theologen Tartaretus durch den Schöpfungsgedanken vermittelten Einsicht in die Individualität und Vergänglichkeit des menschlichen Intellekts. Es liegt auf der Hand, daß Tartaretus allein dem göttlichen Erkennen eine derart fundamentale Bedeutung zuzusprechen vermag, so daß alle strukturellen Bestimmtheiten des Seienden in der Realität dieses Denkens ihren Grund finden: In seiner Antwort auf die Frage nach der Unvergänglichkeit des Wißbaren<sup>19</sup> verweist Tartaretus auf

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animam intelligit ens illis duobus primis modis.

<sup>16</sup> A.a.O. Fol. 133a: Dico nunc primo, quod universale in actu habet fieri per intellectum, patet, nam illud universale dicit naturam illam abstractam ab omnibus singularibus cum illa actuali habitudine praedicationis, quae omnia talia debent fieri per intellectum. Secundum dictum. Intellectus faciens illud universale in rebus, invenit in rebus, unde moveatur ad faciendum tale universale. Unde quod intellectus dicat hominem vel asinum esse universale, hoc ideo est, quia in homine vel asino est aliquid, unde conveniat sibi istud praedicatum, scilicet universale. Unde quando homo vel animal intelligitur sub ratione universalis, non intelliguntur sub modo illis repugnant; nam aliter esset ratio in se falsa, dicendo, homo est universale, animal est universale. Et ideo intellectus reperit aliquid in ipsis, ratione cuius potest illa concipere, isto modo illa ratio est bona. Nam si intellectus non reperit in homine, quare debeat illi imponere hoc nomen universale vel species plusquam in ipso Sorte, non videretur ratio, quare non posset aequè bene ipsi Sorti attribuere illa praedicata, scilicet species et universale. Et ideo oportet, quod ex parte rei moveatur. Unde quando homo supponit simpliciter, etiam secundum nominales, supponit pro quodam conceptu communi vel ergo ille conceptus dicit rationem in se falsam, et tunc nulla esset disputatio. Si ergo non dicit rationem in se falsa, oportet dicere, quod intellectus non compararet unum ad aliud, attribuendo unum alteri et faciendo illam praedicationem, homo est species vel est genus, nisi aliquo modo moveretur a re ipsa.

<sup>17</sup> *Ord.* I, d. 2, q. 5, OT II 159.

<sup>18</sup> *Ord.* I, d. 2, q. 6, OT II 197.

<sup>19</sup> Diese Frage diskutiert Tartaretus in seinem Kommentar zu den *An. post.*, *In universam Arist. log.* Fol. 205r<sup>b</sup> C: Dubitatur primo, utrum scibile, seu illud, de quo habemus scientiam, sit aeternum et perpetuum et incorruptibile.

seine Unzerstörbarkeit dem Sein nach als Inhalt des göttlichen Intellekts.<sup>20</sup>

Diese ontologische Begründung der Struktur des Seienden führt allerdings ihrerseits zu einem Problem, das sich logisch fassen läßt als Widerspruch zwischen der transkategorialen oder, mittelalterlich gesprochen, der transzendentalen Bedeutung von "sciend" einerseits und der kategorialen Bestimmtheit des *esse subiective in intellectu* als Qualität andererseits; oder anders gewendet: Welche Konsequenz ergibt sich aus der Kennzeichnung der Realität des Denkens selbst als *ens diminutum*?<sup>21</sup>

Im Ergebnis, so läßt sich zusammenfassend sagen und damit komme ich zum zweiten Punkt, erweist sich die begriffliche Faßbarkeit der Einheit der Realität in dem Maße als sicher, wie die Erfahrung des kontingenten, aktuell Existierenden unbezweifelbar sein kann. Wie Tartaretus' Lehre der intuitiven Erkenntnis zeigt, ist allein die Erfahrung der Einheit der aktuellen Existenz des Erkennenden selbst von absoluter, d.h. unbezweifelbarer Evidenz. Die Metaphysik gründet demzufolge in der Gewißheit der Erkenntnis des existierenden Subjekts.

## II.

Zu diesem Ergebnis führt bezeichnenderweise die Analyse der Erläuterung, die Tartaretus dem ersten Scotischen "Beweis" für den univoken

<sup>20</sup> A.a.O. Fol. 205vb EF: Et si quis quaerat de scibili remoto, scilicet de subiecto vel re significata per subiectum conclusionis, utrum sit generabile et corruptibile. Respondetur, quod quodlibet tale creatum secundum proprium esse potest corrumpi et desinere esse: etiam quantum ad esse cognitum, quod habet in intellectu creato est corruptibile, cum quilibet intellectus creatus possit desinere illud cognoscere, sed secundum esse cognitum, quod habet in mente divina numquam corrumpetur, impossibile est enim Deum non intelligere talia scibilia remota. Unde res cognita participative et obiective habet tale esse, quale habet cognitio, per quam cognoscitur: sed cognitio Dei est aeterna et ipse Deus, ideo talia scibilia participative dicuntur esse aeterna.

<sup>21</sup> Zur Geschichte und Bedeutung dieses Begriffs vgl. A. Maurer, "Ens diminutum: a note on its origin and meaning", in: *Med. Stud.* 12 (1950), 216-222. Gemäß der Fundierung der *natura communis* "in esse intellectu" ergibt sich bei Tartaretus im Unterschied zur traditionellen Auffassung, daß nicht nur die *intentio secunda*, sondern auch die *intentio prima* ein *ens diminutum* darstellt: *In libr. Arist. de anima* I Fol. 246 ra-va DE: Ad hoc, quod res cognoscatur, non oportet, quod habeat aliquod verum esse reale ... res reponitur in praedicamento secundum eius esse essentiae cognitum, cum tale esse ab aeterno fuit cognitum, ideo res ab aeterno fuerunt in praedicamento, saltem secundum cognitionem ipsius Dei. ... Sequitur, ... quod esse cognitum praecedit natura esse possibile. ... Et si quaerat, an illud esse cognitum sit Deus. Respondetur, quod non formaliter nec realiter est Deus, quia non est nisi ens diminutum ... Dicitur ulterius, quod non est intellectio, sed est res cognita, quae terminat intellectionem.



Charakter des Begriffs des "Seienden"<sup>22</sup> gibt. Die Scotische Überlegung besagt, daß der menschliche Verstand unter den Bedingungen dieser Welt aufgrund der Unterscheidung zwischen sicher und zweifelhaft Gewußtem erkennen kann, daß "Seiendes" erkannt werden kann, ohne es schon als bestimmtes - geschaffenes oder ungeschaffenes, endliches oder unendliches - Seiendes identifizieren zu können. Zum einen wird also in der Univozitätsthese die Faßbarkeit der Einheit aller Realität im Begriff des "Seienden" behauptet. Indem diese Scotische Überlegung die "Sicherheit" (*certitudo*) dieses Begriffs mit Hilfe der Unterscheidung von sicher und zweifelhaft Gewußtem zu erweisen sucht, macht sie die Erfahrung der begrifflichen Erkenntnis und ihrer Inhalte zum entscheidenden und, wie die nähere Analyse der Scotischen Lehre gezeigt hat, auch zum einzigen positiven Argument für den Aufweis der erkennenden Vergegenwärtigung dieser Einheit. Weil Tartaretus infolge der Kritik Ockhams die strukturellen Bestimmtheiten des Seienden nur mehr im Intellekt selbst zu fundieren vermag, führt ihn gerade der Hinweis auf die begriffliche Erfahrung und ihrer Inhalte dazu, darüber hinaus einen besonderen Aufweis für die dem Erkennen vorausliegende Fundierung des Begriffs der Einheit der Realität zu verlangen. Und es erscheint nur folgerichtig, daß er in diesem Ausweis vor das Problem der ontologischen Fundierung des Kontradiktionsprinzips gestellt wird. Denn im Scotischen Konzept bestimmt sich der primäre Sinn von "seiend" ja mit Hilfe dieses Prinzips, d.h. Seiendes ist das, dem es nicht widerstreitet zu sein: "ens (est hoc,) cui non repugnat esse."<sup>23</sup> Infolgedessen steht Tartaretus in seinem Bemühen um den Aufweis der vorgängigen Fundiertheit des Begriffs der Einheit der Realität im Seienden selbst vor der Aufgabe einer dem Erkennen vorausliegenden Begründung des Kontradiktionsprinzips.

Im Sinne also dieser Stellungnahme geht es Tartaretus in seiner Erläuterung des genannten Scotischen Beweises darum, die "Sicherheit" des Begriffs des "Seienden" nachzuweisen, indem er ihn als *subiectum* des Kontradiktionsprinzips aufzeigt. Dieser Begriff erweist sich demzufolge

<sup>22</sup> *Ord.* I, d. 3, p. 1, qq. 1-2, ed. Vat. Bd. III, 18, 21, 26ff.; vgl. dazu und zum Folgenden L. Honnefelder, *Ens inquantum ens. Der Begriff des Seienden als solchen als Gegenstand der Metaphysik nach der Lehre des Johannes Duns Scotus*, Münster (BGP hThM NF 16) 1979, bes. 286-294, 339-343.

<sup>23</sup> *Ord.* IV, d. 1, q. 2, n. 8, ed. Viv. XVI 109; vgl. dazu und zu der damit verbundenen "modalen Interpretation des Seienden" W. Kluxen, "Die Originalität der Skotischen Metaphysik", in: *Regnum Hominis et Regnum Dei. Acta Quarti Congressus Scotistici Internationalis*, Rom 1978, 305ff.



dadurch als sicher, daß auf seiner Grundlage erkennbar ist, ob etwas ist oder nicht ist.<sup>24</sup> Um dies nachzuweisen, erklärt Tartaretus die Unterscheidung von sicher und zweifelhaft Gewußtem soweit, wie sich derart Unterschiedenes am Leitfaden der logischen Ordnung ergibt. Die Bezweifelbarkeit etwa einer Artbestimmtheit beruht auf der Sicherheit des Wissens um die Gattungsbestimmtheit. Dieser Leitfaden verliert jedoch zum einen seine Bedeutung unterhalb der Artbestimmungen; die Sicherheit, mit der ein Eigenname gewußt wird, ohne ihn ebenso sicher von bestimmten Individuen aussagen zu können, erlaubt nicht den Schluß auf seine Univozität. Vor allem aber vermittelt der Leitfaden der logischen Ordnung keine Sicherheit in bezug auf die Bestimmtheit von "seiend". Da es darüber hinaus keine sichere Erkenntnis geben kann, taucht das Problem auf, wie die Sicherheit dieses Begriffs gewährleistet werden kann.

Aufgrund der eingeschränkten Realität der logischen Vorstellungen ist das Wissen um das "Seiende" im Sinne der Erkenntnis realer Bestimmtheit jedenfalls nicht hinreichend durch die Sicherheit verbürgt, die der Leitfaden der logischen Ordnung bietet. Deswegen stellt Tartaretus einen gemeinsamen Begriff für das *ens rationis* und das *ens reale* in Frage, fordert ihn aber zugleich für Gott und die Kreatur.<sup>25</sup>

<sup>24</sup> *In lib. sent.* I, d. 3, q. 2, Fol. 138b: *Conceptus entis nulli potest esse dubium. Probatur, quia primum principium nulli potest esse dubium. Sed conceptus entis est primum principium vel subiectum primi principii. Ergo conceptus entis nulli potest esse dubius.*

<sup>25</sup> A.a.O. Fol. 139a-b: *Contra. Obiicitur contra maiorem. Si ipsa esset vera, sequeretur, quod hoc nomen Sortes esset univocum pluribus individuis et erit conceptus communis univocus omnibus illis. ... Item sequeretur, quod ista vox 'canis' esset univocum. ... Item disputant Scotus et Occam de universalibus, isti duo habent conceptum de universali, quod est ens, et sunt dubii, utrum sit ens reale vel ens rationis. Tunc ens erit univocum enti reali et enti rationis. Sed consequens est absurdum. Ergo etc.*

*Pro solutione istorum supponuntur aliqua. Prima supponitur, quod a pluribus suppositis impossibile est aliquem conceptum univocum suppositalem abstrahi. Patet, quia conceptus suppositalis est incommunicabilis, sicut suppositum. Ex quo sequitur, quod Sortes non potest dicere conceptum communem et univocum isti Sorti et illi Sorti. Patet, quia Sortes est nomen suppositale. ... Ad secundam instantiam supponitur, quod proxima ratio, in qua possunt habere conceptum univocum communem canis latrabilis et piscis marini, est substantia, quia licet sint aequivoca in ratione canis, non tamen in ratione substantiae, corporis animati et animalis, immo univocantur in omnibus istis. Modo ad argumentum. Sum certus, quod canis movetur. Distinguo, aut ly canis est vox mere aequivoca aut ut canis dicit rationem proximam, in qua ista conveniunt, ut in animali. Concedo primo modo, quod non conveniunt in aliquo conceptu univoco, sed solum in voce. Sed secundo modo dico, quod certitudo cadit supra animal, non sic de ente, quia non solum dicit rationem communem, sed conceptum.*

*Ad tertiam instantiam supponitur, quia talis conceptus sit conceptus communis enti reali et enti rationis. Queritur, utrum est realis, et sic includeretur per se et quiditative in ente rationis, et sic ens rationis, ut secunda intentio, esset ens reale, secluso omni*

Tartaretus stellt denn auch zu Beginn seiner eigentlichen *solutio* fest, daß lediglich im Bereich des *conceptus rationis*, also allein in der logischen Ordnung der sichere vom zweifelhaften Begriff verschieden sei. Deswegen verlangt er einen besonderen Ausweis (*probare*) dafür, daß Gott und die Kreatur in einem univoken und "wirklichen Begriff" (*conceptus realis*) übereinkommen.<sup>26</sup> Dazu geht Tartaretus davon aus, daß das "Sein" (*esse*) als ein Glied der Kontradiktion von "Sein" und "Nichtsein" Gott und der Kreatur unabhängig von aller Vernunftkenntnis zukommt. Soll jedoch der univoke Begriff des "Seienden" das *subiectum* dieser Kontradiktion bilden, muß er sich als Grundlage dieser Erkenntnis erweisen. Eine gleichzeitige Erkenntnis der beiden Glieder der Kontradiktion kann es nicht geben, weil ein und dasselbe nicht zugleich sein und nicht sein kann. Folglich bedarf diese Erkenntnis des Seins oder Nichtseins der Voraussetzung der Vorstellung von "Etwas überhaupt", d.h. des quidditativen Begriffs des "Seienden".<sup>27</sup>

Der univoken Begriff des "Seienden" erweist sich also deswegen als *subiectum* des Kontradiktionsprinzips, weil er die Grundlage der Erkenntnis jenes Seins darstellt, das nicht zugleich mit seinem Gegenteil Bestand haben kann. "Sein" und "Nichtsein" bilden demzufolge die Glieder der Kontradiktion, die ein bestimmtes Etwas identifizieren läßt, nämlich Existierendes oder Nichtexistierendes. Soll die Realität dieses Begriffs des "Seienden" durch ein Gott und der Kreatur unabhängig von jeder

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actu intellectus. Si esset ens rationis, tunc ens reale esset ens rationis, quia includeret ens rationis. Ex quo sequitur secundum Scotum, quod enti reali et enti rationis ens non dicit conceptum aliquem communem, sed tantum vox est communis, non sic est de ente respectu Dei et creaturae.

<sup>26</sup> A.a.O. Fol. 139a: Circa hanc rationem sunt aliquae difficultates, sed dantur primo ad eam solutiones. Prima solutio dicit. Concedo maiorem de conceptu rationis, nego de conceptu reali, ideo habes probare, quod Deus et creaturae conveniunt in conceptu aliquo univoco reali.

<sup>27</sup> A.a.O. Fol. 139a: Contra. In quibuscumque includitur realiter unum extremum contradictionis, etiam in illis ponitur aliquis conceptus realis et univocus. Sed in Deo et creatura ponitur et includitur realiter unum extremum contradictionis. Igitur etc. Maior patet I. Elenchorum. Ad contradictionem requiritur non solum unitas nominis, sed nominis et rei simul. Probatur minor, ut esse, quod est unum extremum contradictionis. Tunc sic. Vel esse convenit Deo et creaturae per opus intellectus tantum, et sic Deus non erit ens cessante opere intellectus, quod est absurdum, vel secluso opere intellectus, et sic habeo propositum. ... Contra. Tua contradictoria veniunt in mentem. Dicit Philosophus, quod opiniones contrariae non possunt venire in mentem, quia extrema contradictionis non possunt venire in mentem, quia impossibile est idem esse et non esse simul. Ex quo concludit, quod esse et non esse sunt contradictoria. Ex quo sequitur, quod conceptus, de quo sum certus, est alius a conceptu, de quo est dubius per hoc primum principium.

Vernunftkenntnis zukommendes Sein begründet sein, fragt es sich also, welches kontingente, aktuell existierende Seiende "sciend" als realen Begriff "sicher" erkennen läßt. Die Erfäßbarkeit der Einheit der Realität erweist sich somit in dem Maße als sicher, als die Erkenntnis von aktuell Existierendem sicher und unbezweifelbar sein kann. Die Beantwortung dieser Frage führt über die Betrachtung des Verhältnisses von Logik und Metaphysik hinaus zur Lehre von der *cognitio intuitiva intellectualis*, durch die das aktuell Existierende als solches erfaßt wird. Deswegen kann an dieser Stelle die betreffende Auffassung des Tartaretus nur erwähnt werden, ohne sie im einzelnen darzustellen und zu analysieren.

Tartaretus folgt Ockham<sup>28</sup> in der Einschränkung der effizient-kausalen Bedeutung des existierenden (äußeren) Objekts für dessen intuitive Erkenntnis.<sup>29</sup> Infolgedessen sind die entsprechenden kontingenten Urteile über die vom Urteilenden selbst verschiedenen Objekte (*aliquod extrinsecum*) nur von eingeschränkter Evidenz (*evidentia conditionata*). Hingegen von absoluter Evidenz (*evidentia absoluta*), also unbezweifelbar sind alle kontingenten Urteile, die den Urteilenden selbst in der Einheit seiner aktuellen Existenz betreffen (*ego sum, ego cognosco, ego vivo*).<sup>30</sup>

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<sup>28</sup> Grundlegung zu dieser Lehre S.J. Day, *Intuitive cognition, a key to the significance of the later scholastics*, St. Bonaventure N.Y. 1947; ferner zu Scotus L. Honnefelder, *Ens in quantum ens* (Anm. 22), 218-267; zu Ockham P. Boehner, "The notitia intuitiva of non-existents according to William of Ockham", in: *Collected articles* (Anm. 2), 268-300.

<sup>29</sup> *In lib. sent. I, d. 3, q. 4*, Fol. 163b: Quidquid Deus potest mediante causa secunda potest immediate et se solo potest. Sed Deus mediante obiecto potest causare notitiam intuitivam. Ergo sine obiecto, cum obiectum sit causa notitiae intuitivae effectiva ... Respondetur, concedo maiorem. Si causa effectiva secunda praecise concurrat cum Deo in ratione efficientis et non alio modo. Sed alio modo concurrat obiectum, quia in ratione termini, vel alio modo sic negatur maior. Ad minorem, negatur minor praecise, quia non sufficit, quod obiectum concurrat cum Deo praecise in ratione causae efficientis ad notitiam intuitivam, sed concurrat ultra in ratione termini, et in ratione termini attingitur, quia ibi est attingentia.

<sup>30</sup> *In universam Arist. log.* In An. post., Fol. 229vb-230ra H-B: Dubitatur primo, utrum aliquid evidenter possit a nobis cognosci. Pro cuius solutione supponitur primo, quod duplex est evidentia primi principii, vel reducibilis ad eam. Alia est conditionata vel secundum quid. ... Hoc supposito dicitur primo, quod possibile est, nos non solum de primo principio: immo etiam de multis aliis veritatibus habere evidentiam absolutam: quia aliter sequeretur omnes scientias perire, quod est inconveniens ... Dicitur secundo, quod possibile est nos de multis veritatibus contingentibus habere evidentiam absolutam; ut quod ego sum, quod ego cognosco, quod ego vivo ... Dicitur tertio, quod impossibile est, nos aliquid extrinsecum nobis sensibile evidenter cognoscere evidentia absoluta: licet evidentia conditionata.

Die Metaphysik gründet also letztlich in der Unbezweifelbarkeit der Erkenntnis des existierenden Subjekts.<sup>31</sup>

### III.

Die durch Ockhams Kritik bedingte Frage, wie über die logisch-semantische Funktionsbeschreibung der allgemeinen Begrifflichkeit hinaus die Erkenntnis der Struktur und Einheit der Realität zu begründen ist, sucht der Pariser Scotist Petrus Tartaretus zu beantworten, indem er diese Strukturbestimmtheiten als Prinzipien der Prädikation ansetzt. Freilich vermag er ihre strukturelle Bedeutung nur mehr durch ein *esse subiective in intellectu* zu fundieren. Infolgedessen hat die *natura communis* ihr eigentliches Fundament im unvergänglichen Erkenntnisakt Gottes. Die Begründung der allgemeinen Begrifflichkeit in einer ihr vorausliegenden, Gott und die Kreatur umfassenden Realität ist deswegen für den menschlichen Verstand allein auf dem Weg über die unbezweifelbare Erkenntnis des aktuell Existierenden nachweisbar. Infolgedessen ist die Erkenntnis der Einheit der Realität nur noch begründbar aufgrund der absolut evidenten Selbsterkenntnis des existierenden Subjekts.

Wie immer man die Bedeutung dieses Begründungsversuchs der Metaphysik historisch beurteilen mag, eins scheint mir jedenfalls sicher: Infolge der Kritik Ockhams wird der denkunabhängige Status der allgemeinen Begrifflichkeit geleugnet, und ihr Realitätsgehalt bedarf einer eigenen Begründung. Diese Begründung zeigt wiederum, daß der Gedanke der Allmacht Gottes das theoretische Weltverhältnis des Menschen nicht allein pragmatisch,<sup>32</sup> sondern durchaus in einer absolut evidenten Erkenntnis des wirklichen und kontingenten Seienden fundieren ließ. Die im Gedanken der Allmacht Gottes motivierte Kritik Ockhams führt somit zwar dazu, daß das wirkliche und kontingente Seiende nicht weiterhin aufgrund seiner formal distinkt unterschiedenen washeitlichen Struktur-

<sup>31</sup> Vgl. in der vorangegangenen Anm. die explizite Betonung der evidenten Erkenntnis des Urteilenden selbst als Grundlage der Wissenschaft.

<sup>32</sup> In diesem Sinne charakterisiert H. Blumenberg, *Säkularisierung und Selbstbehauptung*, Frankfurt a.M. 1974, 229 das spätmittelalterliche Verständnis des theoretischen Weltverhältnisses des Menschen. Er sieht deswegen in der Neuzeit den Versuch, die Leistungsfähigkeit des theoretischen Vermögens als einen Akt humaner Selbstbehauptung gegenüber dem "theologischen Absolutismus" zu entfalten, wie er im Allmachtsgedanken zum Ausdruck kommt. Ausführlich setze ich mich in der in Anm. 34 genannten Habilitationsschrift Arbeit mit dieser These auseinander.



momente das eigentliche Fundament der Metaphysik ausmacht. Trotzdem vermag man weiterhin an der theoretisch-wissenschaftlichen Verständigungsmöglichkeit über die Welt im ganzen im Sinne der Tradition festzuhalten. Um so mehr gewinnt die Frage an Gewicht, was in der mittelalterlichen Theologie und Philosophie selbst jenen Wandel ermöglicht hat, der in der Neuzeit zu der bekannten Veränderung der Fragestellung der Metaphysik führte.

Diese Frage scheint mir also insbesondere wegen der Begründung, die ihr Scotischer Entwurf infolge der Kritik Ockhams bei Tartaretus findet, eher beantwortbar, wenn man den theologischen Ort, näherhin den "praktischen" Charakter dieser Theologie<sup>33</sup> berücksichtigt. Unter dieser Perspektive ergibt sich nämlich das Problem, zu welchen Konsequenzen für Theorie und Metaphysik der Versuch führt, gegenüber dieser "praktischen" Theologie eine genuin philosophische Bestimmung humaner Praxis und ihres Verhältnisses zur Theorie zu geben.<sup>34</sup>

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<sup>33</sup> Zu diesem Verständnis der Theologie bei Scotus, das auch Tartaretus in der Nachfolge des Scotus stehend teilt, vgl. L. Honnefelder, *Ens inquantum ens* (Anm. 22), Einleitung, bes. 22-29; J.H.J. Schneider, *Thomas Hobbes und die Spätscholastik*, (Diss.) Bonn, 1986, 357-403.

<sup>34</sup> In diesem Sinne, als philosophische "Antwort" auf die theologische Kennzeichnung der Praxis bei Scotus erweist sich die Ethik des Johannes Buridanus, vgl. dazu meinen Beitrag: "Die Stellung und Bedeutung der philosophischen Ethik bei Johannes Buridanus", in: *Medioevo* 12 (1986). Den Auswirkungen dieser Antwort für Theorie und Metaphysik gehe ich weiter nach in der z. Zt. in Vorbereitung befindlichen Habilitationsschrift.



MARIA LEONOR LAMAS DE OLIVEIRA XAVIER

*Trivium et Philosophic: Le De Magistro de Saint Augustin*

Dans une culture où l'héritage des arts libéraux était transmis chez le *grammaticus* et chez le rhéteur, ce que l'on a plus tard appelé le *Trivium* n'était pas seulement l'ensemble des sciences du langage, mais c'était surtout le cycle des disciplines qui pourvoient à la formation de l'homme, suivant le modèle de l'orateur. Augustin est né et crû sous l'influence de ce modèle et il en a même reproduit les valeurs, comme professeur de rhétorique.<sup>1</sup> Toutefois, chez l'éminente autorité en oratoire classique - Cicéron - Augustin s'est éveillé pour la valeur philosophique de la sagesse.<sup>2</sup> De plus, il n'avait pas oublié le nom du Christ, qu'il avait puisé chez sa mère Monique.<sup>3</sup> L'union de la sagesse avec le Christ devenait vitale dans le développement de la personnalité et de la pensée de l'auteur des *Confessionum*, mais il a dû pâtir la médiation du manichéisme, où il a rencontré le nom du Christ, mais pas trop de sagesse<sup>4</sup>, et du néoplatonisme, où il a trouvé de la sagesse, mais pas le Christ, c'est à dire, l'incarnation du Verbe.<sup>5</sup> Le *De Magistro* est l'ouvrage d'Augustin où s'est expressément scellée l'alliance entre le philosophe et le chrétien, par l'unité de la sagesse de Dieu et de la personne du Christ.<sup>6</sup>

Mais ce nouvel idéal de sagesse demandait un nouvel homme et, en conséquence, obligeait Augustin à la révision critique du modèle de son

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<sup>1</sup> Cf. H.-I. Marrou, *Saint Augustin et la Fin de la Culture Antique*, Paris, 1938, Première Partie.

<sup>2</sup> Cf. *Confessionum* III, 4, 7-8 (texte de l'éd. M. Skutella, *Bibliothèque Augustinienne* 13, pp. 372-376).

<sup>3</sup> Cf. *Conf.* III, 4, 8.

<sup>4</sup> Cf. *Conf.* III, 6, 10.

<sup>5</sup> Cf. *Conf.* VII, 9, 13 - 14.

<sup>6</sup> "Ille autem qui consulitur docet, qui in interiore homine habitare dictus est Christus, id est incommutabilis Dei atque sempiterna sapientia." *De Magistro*, 11, 38 (texte du CC rev. et cor., BA 6, p. 136).

éducation, ainsi que des valeurs qu'il emportait, entre lesquelles ressort la rhétorique même. La rétractation d'Augustin rhéteur a été aussi profonde, qu'elle a mérité, de lui, l'abandon de la profession et, postérieurement, dans ses écrits, les références les plus amères et désapprouvantes à son ancien métier.<sup>7</sup> Néanmoins, la rhétorique n'a pas été définitivement écartée. Dans le livre IV du *De Doctrina Christiana*, lequel rend chrétien l'art classique de l'éloquence, Saint Augustin revient aux trois finalités de l'oratoire selon Cicéron - *docere, delectare et flectere*<sup>8</sup> - mais en leur imposant un ordre axiologique très net: la valeur essentielle de l'usage des mots est la pédagogie, à laquelle se soumettent, comme des moyens circonstanciels, la délectation et la persuasion.<sup>9</sup> Cet ordre dénonce, surtout, que le bon usage des mots ne vaut pas autant par ses effets apparemment immédiats, que par la valeur de la personne d'autrui. En vérité, la pédagogie ne se justifie point par l'efficacité de l'homme.<sup>10</sup> Cependant, l'évidence de ce fait n'est pas aussi immédiate, qu'elle n'ait dû être produite; et c'est cela-même que l'on observe, en spécial, au *De Magistro*.

Ce dialogue commence avec la question la plus caractéristiquement augustiniennne sur le langage humain: quelle en est l'intentionnalité essentielle?<sup>11</sup> Pour des questions plus traditionnelles, comme celles de l'origine et de la nature des mots, Augustin fait usage des vues connues de son temps, surtout, du stoïcisme<sup>12</sup>, quoiqu'il eut penché vers le conventionalisme.<sup>13</sup> Mais les questions traditionnelles, concernant les relations du langage avec la réalité, demeureraient extérieures au vrai noeud du problème, d'après notre auteur, si l'on ne passait par l'approfondissement des relations du langage avec l'homme (c'est ce qu'indique aussi le penchant conventionaliste). Ici, comme ailleurs, le passage à travers l'homme s'impose à Saint Augustin. Néanmoins, la

<sup>7</sup> Cf. *Contra Academicos* I, 1, 3 (texte de l'éd. bénédictine, BA 4, p. 18); *Conf.* IV, 2, 2 et IX, 2, 2.

<sup>8</sup> Cf. *De Doctrina Christiana* IV, 12, 27 (texte de l'éd. bénédictine, BA 11, p. 466).

<sup>9</sup> Cf. *De Doct. Christ.* IV, 12, 28 - 14, 30.

<sup>10</sup> Cf. *De Doct. Christ.* IV, 16, 33.

<sup>11</sup> "Quid tibi uideatur efficere uelle, cum loquimur?" *De Mag.* 1, 1.

<sup>12</sup> Cf. J. Pépin, *Saint Augustin et la Dialectique*, Villanova, 1976, pp. 72-98.

<sup>13</sup> Cf. *De Doct. Christ.* II, 24, 37 - 25, 38.

question de l'intentionnalité du langage chez l'homme, dans le *De Magistro*, se trouve réduite à l'ordre des buts que l'on poursuit communément par l'usage des mots. A l'exception de la prière, qui annonce le thème de la *memoria Dei*<sup>14</sup>, l'intention générale de l'usage des mots est la pédagogie, prise évidemment au sens large de communication.<sup>15</sup> Alors, ce que le dialogue augustinien établit, c'est l'irréductibilité de cette intention de communication à l'efficacité du langage des mots: l'intention ne s'identifie pas avec l'effet parce qu'elle le dépasse toujours, comme l'intérieur l'emporte sur l'extérieur. A cause de cela, le fondement de l'intentionnalité du langage humain devra être cherché à l'intérieur, ainsi que le montrera Saint Augustin, postérieurement, dans le *De Trinitate*.<sup>16</sup>

Cependant, le *De Magistro* correspond, chez l'auteur, au moment de critique négative, mais réfléchie, de l'efficacité des mots. Toutefois, aussitôt que s'y décèle la négativité du langage, on y discerne des développements d'importance majeure pour l'épistémologie des sciences du langage et pour la philosophie de la connaissance en général. D'après un exercice élémentaire d'*explanatio* grammaticale<sup>17</sup>, Augustin change complètement le point de vue du dialogue, en remplaçant l'orthodoxie de l'école par l'hétérodoxie de la libre réflexion.<sup>18</sup> Dès lors, non plus le point de vue de la grammaire instituée, mais celui de la seule raison nous fera découvrir une autre grammaire beaucoup plus représentative de l'ordre réel du langage. C'est cela qu'il s'agira de montrer dans le premier alinéa de notre essai sur le *De Magistro* de Saint Augustin. Ensuite, on s'appliquera à dégager, parmi les conditions de l'expérience concrète de la communication, la nécessité de la connaissance. Ce sera le moment de démentir l'autonomie des mots et de rendre compte de l'analogie de l'*ostensio*: la théorie générale des conditions objectives de la connaissance.

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14 Cf. *De Mag.* 1, 2.

15 Cf. *De Mag.* 1, 1; 10, 30.

16 Au moyen de l'idée de *uerbum mentis* et du modèle trinitaire de la psychologie: Cf. *De Trinitate* IX, 6, 9-11, 16; XV, 10, 17 - 16, 26 (texte de l'éd. bénédictine, BA 16, pp. 90-104, 464-498).

17 Cf. *De Mag.* 2, 3.

18 Cf. *De Mag.* 2, 4.

De la sorte, nous avons comme but surtout les virtualités de philosophie positive du *De Magistro*, qui s'ouvrent par la critique même du point de vue conventionnel des sciences du langage.

### 1. Grammaire conventionnelle et grammaire rationnelle

Augustin admet, au *De Magistro*, la notion aristotélicienne du mot comme signe, et le considère selon la double liaison à l'esprit et aux choses extérieures, qui en fait la complexité.<sup>19</sup> Déjà au *De Ordine*, l'auteur reconnaissait que la liaison entre les mots et les choses était nécessaire à la communication des esprits.<sup>20</sup> Le rôle du *De Magistro* est, pourtant, celui de mettre en question cette double liaison, en examinant jusqu'à quel point les mots montrent les choses et traduisent l'esprit. Or, le contenu de ce dialogue étant surtout critique et aboutissant à la négativité des mots dans les deux côtés, il ne faut pas prétendre y rencontrer une théorie positive du signe. Celle-ci n'est vraiment ébauchée qu'au *De Doctrina Christiana*, où l'on assigne de l'importance exégétique à l'ensemble des arts libéraux. Mais, en dehors de ce propos, le soin de construire une théorie générale du signe n'a pas concerné l'esprit d'Augustin. Et cela, peut-être, pour deux principales raisons: d'une part, Saint Augustin est critique envers l'autonomie du langage plutôt qu'il en est le défenseur, et, sans l'autonomie suffisante d'un objet, pas de conditions pour la constitution d'une science séparée; d'autre part, c'est le mot, le signe le plus riche en virtualités, qui joue le rôle de cas exemplaire du genre du signe. Tel est, en particulier, ce qui se passe dans le *De Magistro*.

En fait, dans ce dialogue philosophique, on ne se sert que de quelques éléments de grammaire.<sup>21</sup> Néanmoins, ils suffisent à prouver, par la seule réflexion, que celle-là ne traduit pas convenablement l'ordre

<sup>19</sup> Cette double liaison retrouve des antécédents aussi bien chez Aristote que chez les stoïciens: cf. J. Pépin, *op.cit.* pp. 67-68, 79-82, où l'on fait ressortir des affinités entre les trinômes suivants: ὄνομα-λόγος-πρᾶγμα (Aristote), σημαῖνον-λεκτόν-τυχεῖον (stoïcisme) et *dictio-dicibile-res* (*Principia Dialecticae*, PL 32, 1411).

<sup>20</sup> Cf. *De Ordine* II, 12, 35 (texte de l'éd. bénédictine, BA 4, pp. 224-226).

<sup>21</sup> Cf. G. Bellissima, "Sant'Agostino grammatico", *Augustinus Magister. Actes du Congrès International Augustinien*, Paris, 1954, vol.I, pp. 35-42.

réel du langage des mots. La grammaire de l'école, plus fondée sur des autorités que sur la raison, ne connaissait pas les règles du langage que le *De Magistro* permet d'énoncer: la règle de la nomination et la règle de la communication.

1.1 *La règle de la nomination*, en particulier, établit que tous les mots sont des noms, tandis que la grammaire conventionnelle consent à dire seulement que les noms sont une espèce de mots.

On est conduit à l'évidence de cette règle au moyen de l'analyse de quelques exemples tirés de l'expérience ordinaire de l'usage des mots: la possibilité de mettre le pronom *haec* à la place de l'ensemble des conjonctions *et, que, at, atque*<sup>22</sup>; l'emploi du verbe *est* comme sujet dans l'énoncé "Non erat in Christo est et non, sed *est* in illo erat" (2 Cor. 1, 19)<sup>23</sup>; le procédé de la traduction en tant que ré-nomination<sup>24</sup>; la construction de *pronuntiata* complets, selon le mot de Cicéron, comme "*displicet quia*" et "*placet si*", qui renferment les conjonctions *quia* et *si* avec le rôle du sujet.<sup>25</sup>

Parmi ces exemples, les deux premiers et le dernier montrent que des mots, qui n'appartiennent pas à la classe (*pars orationis*) des noms, peuvent, toutefois, recevoir, dans la syntaxe de la phrase, la fonction nominative du sujet. Aussitôt, le deuxième et le troisième ajoutent des observations du point de vue du sens: dans l'exemple emprunté à Saint Paul, le mot *est* joue le rôle du sujet, mais ce n'est pas comme verbe qu'il le joue, il faut qu'il signifie quelque chose d'autre, à la ressemblance des noms, ainsi que le nom *uirtus* mis à la même place; d'autre côté, le fait de la traduction des langues vient signaler que les mots isolés ne sont traduisibles que s'ils signifient comme des noms, c'est à dire, par rapport à une référence objective extérieure, au moyen de laquelle ils puissent se correspondre. Donc, l'ensemble des cas examinés nous fait voir des mots qui ne sont pas des noms au sens strict (morphologique), mais qui fonctionnent comme des noms dans l'ordre du discours (point de vue syntaxique) autant qu'ils signifient comme les noms, en dénotant quelque chose d'autre qu'eux-mêmes (point de vue sémantique). Par l'élargissement

<sup>22</sup> Cf. *De Mag.* 5, 13.

<sup>23</sup> Cf. *De Mag.* 5, 14.

<sup>24</sup> Cf. *De Mag.* 5, 15.

<sup>25</sup> Cf. *De Mag.* 5, 16.



du concept de nom à ces possibilités communes à d'autres mots, et supposé le principe intelligible de l'induction, nécessaire à la construction de l'universel de la règle, on parvient à l'ouverture du domaine des noms à tous les mots, ce qui fait le contenu de la règle de la nomination.<sup>26</sup>

Il convient, cependant, d'évaluer le jeu des autorités au long du chemin qui mène à l'établissement de cette règle des mots. On peut vérifier que le poids des autorités évoquées, Saint Paul et Cicéron, est d'importance mineure, puisqu'elles sont tout à fait latérales à l'obtention de la règle: l'autorité de Saint Paul vaut à l'égard des choses, mais elle n'est pas incontestable au sujet des mots<sup>27</sup>; Cicéron, à son tour, est un modèle ferme dans le *Triuium*, mais ce qu'Augustin prend de lui, c'est un exemple douteux et un nom technique de la dialectique, qui n'influent point au résultat qu'il s'agit de produire.<sup>28</sup> En fin de compte, les autorités ne sont là que pour rendre manifeste leur superfluité par rapport au raisonnement. D'ailleurs, l'analyse tout empirique des mots, dans le *De Magistro*, exprime, à notre avis, le désir, chez Augustin, de retrouver un regard naïf sur la réalité même du langage humain.

1.2 *La règle de la communication*, de son côté, démontre que l'intentionnalité de l'usage des mots est naturellement disposée pour le but de la communication, ce qui répond à une question fondamentale et préalable au domaine technique de la grammaire instituée.

Afin de prouver la nécessité de cette règle, un exemple suffit: celui où l'on décompose les possibilités de sens du mot *homo* dans l'énoncé interrogatif "*utrum homo homo sit*".<sup>29</sup> Au premier abord, cette interrogation est déconcertante, puisqu'elle met en doute le jugement d'identité auquel on songe immédiatement.<sup>30</sup> Néanmoins, par la médiation de l'analyse, on doit reconnaître une ambiguïté originaire dans le sens des mots, qui peut rendre équivoques nos jugements: il s'agit de la double possibilité, pour chaque mot, d'être un signe réfléchi, en se signifiant soi-même, ou d'être un signe transitif, en signifiant quelque

<sup>26</sup> Cf. *De Mag.* 5, 14; 5, 16.

<sup>27</sup> Cf. *De Mag.* 5, 15.

<sup>28</sup> Cf. *De Mag.* 5, 16.

<sup>29</sup> Cf. *De Mag.* 8, 22 - 24.

<sup>30</sup> Cf. *De Mag.* 8, 22.

chose d'autre que soi-même.<sup>31</sup> En particulier, le mot *homo* peut être signe du composé de syllabes *ho-mo* ou de l'entité signifiable de l'homme.<sup>32</sup> Si l'on actualise cette double possibilité dans les deux occurrences de *homo* à l'intérieur de l'énoncé cité, on obtient quatre combinaisons de sens pour le même mot, et, par conséquent, quatre interprétations possibles de l'interrogation, desquelles seulement deux demandent des jugements d'identité, à savoir, celles où *homo* est un terme univoque dans les deux occurrences, qu'il soit un signe réfléchi ou un signe transitif; par contre, les deux autres combinaisons, où le mot *homo* n'est pas univoque, s'opposent à tout jugement d'identité. En outre, si, par analogie, nous tenons compte aussitôt de la duplicité de sens des autres mots de l'énoncé (*utrum, sit*), la seule possibilité de les prendre comme des signes réfléchis nous empêcherait même de comprendre qu'il s'agit là d'une interrogation. En effet, l'ambiguïté non simplement potentielle, mais aussi actuelle, c'est à dire, toujours présente à l'esprit, entre les sens réfléchi et transitif de chaque mot, rendrait la communication impraticable. Dès lors, il faut que notre intentionalité, dans l'usage des mots, soit disposée de manière à éviter le plus l'équivoque, surtout celui qui consiste à confondre les mots avec les choses. Sans telle disposition, pas de communication, pas de jugement possible. On voit par là l'importance du problème de l'intentionnalité du langage et de ce qui puisse déterminer celle-ci.

Or, ce qui dispose habituellement notre façon de prendre les mots, chez Augustin, c'est un réglage de notre attention vers les signifiables des mots (sens transitif) plutôt que vers les signifiants par eux-mêmes (sens réfléchi). C'est aussi ce qu'Augustin considère une règle du langage (*loquendi regula*)<sup>33</sup>, et que nous traduisons par *règle de la communication*. En effet, c'est comme condition nécessaire de la communication verbale, que cette règle est premièrement énoncée.<sup>34</sup> Mais, de plus, elle est trois fois réitérée, en témoignant très clairement de la liaison intime du langage avec l'esprit: comme condition de possibilité des jugements sur les

31 Cette double possibilité fait partie du concept de *uis uerbis* dans *Principia Dialecticae*, PL 32, 1413-1414.

32 Cf. *De Mag.* 8, 22-24.

33 Cf. *De Mag.* 8, 24.

34 *"./.../; adsentior enim tibi sermonicari nos omnino non posse, nisi auditis uerbis ad ea feratur animus, quorum ista sunt signa". De Mag.* 8, 22.

choses<sup>35</sup>; en tant qu'applicable aux circonstances empiriques d'après une loi de la raison naturelle<sup>36</sup>; et, finalement, en qualité de constituer une inclination de l'esprit, attendu que l'on ne peut pas ne pas penser conformément à elle-même.<sup>37</sup>

Après tout, on peut, certes, se demander si les deux règles demeurent tout à fait grammaticales, étant donné que l'une dément la grammaire officielle et l'autre s'en passe complètement, ressemblant plutôt à une loi de l'esprit. On peut même concéder que la grammaire ne soit qu'un "décor de fond" au *De Magistro*<sup>38</sup>, et que s'y vérifie quelque tendance à réduire la grammaire à la logique.<sup>39</sup> Mais, si nous n'aboutissions qu'à ces observations, nous n'aurions à conclure que négativement, au sujet du dialogue philosophique d'Augustin, qu'il est sur le chemin opposé à la constitution de la grammaire comme science autonome, et, de la sorte, sur le chemin opposé au progrès du savoir. Toutefois, notre propos est ici celui de montrer que l'inconformité des deux règles avec la grammaire traditionnelle fait supposer l'existence d'une autre grammaire, que nous appelons *rationnelle*, puisqu'elle rend compte de la raison la plus intérieure à l'ordre des mots, aussitôt qu'elle ne dépend pas des autorités élues dans la tradition de la discipline.

Que la raison, que l'on découvre au fond du langage, ne soit pas exclusivement grammaticale, c'est ce que manifeste la règle de la communication, laquelle tient à la raison inscrite dans nos esprits. Mais, que la raison même de la règle de la nomination ne soit pas simplement logique, c'est ce qu'en accusent les présupposés philosophiques. En vérité, cette règle serait à peine passible d'être formulée, si elle ne donnait de

<sup>35</sup> ".../; placuit enim et recte placuit signo dato id quod significatur adtendere et ex eius consideratione uel dare uel negare quod dicitur." *De Mag.* 8, 23.

<sup>36</sup> "Qui ergo quaerit, utrum homo nomen sit, nihil ei aliud quam esse respondeam; satis enim significat ex ea parte se uelle audire, qua signum est. Si autem quaerit, utrum animal sit, multo procliuus aduam; quoniam, si tacens et nomen et animal tantum quid esset homo requireret, placita illa loquendi regula ad id quod his duabus syllabis significatur, animus curreret, neque quidquam responderetur nisi animal, uel etiam tota definitio diceretur, id est animal rationale mortale." *De Mag.* 8, 24.

<sup>37</sup> "Quia non possum non putare ad id conclusionem referri, quod his duabus syllabis significatur, simul atque ista uerba sonuerint, ea scilicet regula, quae naturaliter plurimum ualet, ut auditis signis ad res significatas feratur intentio." *De Mag.* 8, 24.

<sup>38</sup> Cf. J. Collart, "Saint Augustin grammairien dans le *De Magistro*", *Revue des Etudes Augustiniennes* 17 (1971), p. 284.

<sup>39</sup> Cf. Idem, *ibid.*, pp. 287-289.

l'essor à une conception préalable des mots, savoir, que le propre de la signification de ceux-ci est le fait de nommer. Telle est la pensée sur les mots en général, qui devient explicite au cours du *De Magistro*, ainsi que le rend évident le point de vue sémantique de la règle de la nomination.<sup>40</sup> Or, c'est là une idée qui se trouve enracinée dans la tradition philosophique, notamment chez Platon, pour qui les noms étaient les parties principales du discours et les unités exemplaires de l'analyse du langage.<sup>41</sup> Mais le privilège des noms ne viendrait pas, peut-être, à l'esprit d'Augustin, s'il n'était question, au *De Magistro*, de la relation du langage avec la connaissance, afin d'évaluer le vrai rôle pédagogique de celui-là. Vers la même question, converge encore l'usage de l'étymologie populaire de *nomen* à partir de *noscere*<sup>42</sup>, laquelle annonce ce que l'on vient après à démontrer: le fait que la connaissance est une condition implicite de la nomination. Cependant, à la préoccupation la plus augustinienne sur le langage des mots, correspond la règle de la communication: ni le grammairien, ni le dialecticien ne songeraient à celle-ci, si ce n'était la mise en question tout à fait philosophique de l'intentionnalité essentielle du langage humain.

Alors, dès que les deux règles du langage, que l'on vient de dégager dans le *De Magistro* de Saint Augustin, ont trait surtout à des propos philosophiques, la grammaire, qu'elles inaugurent, est, elle-même, de soi philosophique. Accordé cela, peut-on voir, dans la grammaire rationnelle du dialogue augustinien, une anticipation de la grammaire spéculative du moyen âge? Le rapprochement est possible du fait que toutes les deux ont essayé de dépasser la grammaire constituée et instituée: chez Saint Augustin, parce que la grammaire conventionnelle était trop prise à la surface des mots, pour convenir à l'être authentique du langage; chez les modistes du XIII<sup>e</sup> siècle, parce qu'il fallait rétablir un domaine propre à la grammaire, par suite de la pénétration progressive de l'art premier du *Trivium* par la dialectique. En outre, la portée sémantique des deux règles augustinienes annonce déjà le thème des *modi significandi*. Toutefois, tandis que la grammaire spéculative de l'ère

40 "Num adhuc dubitas alias quoque partes orationis eodem modo, quo demonstrauius, nomina esse? - Non dubito, quandoquidem fateor ea significare aliquid." *De Mag.* 5, 14.

41 Cf. *Cratyle* 388 a; 424 b - 425 a (sur la construction de l'art de nommer).

42 Cf. *De Mag.* 5, 12.

scolastique était engagée dans un effort d'autonomie, la grammaire du dialogue augustinien se voulait surtout rationnelle et, par conséquent, elle tendait à retrouver le fondement commun qu'elle devait avoir avec la logique. Mais cela ne signifie pas nécessairement que la grammaire se réduise à la logique: on vient de montrer que les deux règles grammaticales d'Augustin dépendent d'une philosophie du langage plutôt que de la logique. Ce qui paraît s'imposer, dans le dialogue augustinien, c'est le souci de fonder la grammaire dans la raison, en sorte qu'elle reçoive de la légitimité épistémologique. Dès lors, la grammaire, comme science, ne vaut pas tant par son objet, les mots, que par sa nature rationnelle, c'est à dire, son fondement intelligible, à la fois intérieur et supérieur.

## 2. *De la psychologie de la communication à la philosophie de la connaissance*

Cependant, les analyses du langage, dans le *De Magistro*, ne s'épuisent pas à la découverte d'une grammaire rationnelle. S'il est vrai que la règle de la communication suppose celle de la nomination, celle-ci pose le problème de la connaissance. En réalité, la disposition des mots vers la fin de la communication dépend de leur essence nominative, laquelle, à son tour, inclut une relation de connaissance, encore non discernée, avec les choses nommées. Par conséquent, la connaissance doit être une condition plutôt qu'un effet de la communication au moyen des mots. Néanmoins, c'est cela qu'Augustin s'applique aussitôt à prouver par l'expérience. Il s'agit de produire l'évidence d'un fait aussi banal que décisif: banal, parce que commun, quoiqu'inaperçu dans la soudaineté des effets apparents des mots<sup>43</sup>; décisif, car il nous oblige à mettre en question l'efficacité pédagogique du langage et, dès lors, à séparer la connaissance du rôle de la communication.

La méthode tout empirique, que l'auteur du *De Magistro* continue de suivre dans ce but, est fortement démonstrative de la préférence

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<sup>43</sup> "Falluntur autem homines, ut eos, qui non sunt, magistros uocent, quia plerumque inter tempus locutionis et tempus cognitionis nulla mora interponitur, et quoniam post admonitionem sermonicantis cito intus discunt, foris se ab eo qui admonuit didicisse arbitrantur." *De Mag.* 14, 45.



d'Augustin pour la vie psychologique, comme domaine d'expérience, ainsi que de la concrétion de ses analyses sur le langage, laquelle s'oppose à l'abstraction de l'objet des sciences du *Trivium*.

On se sert, cette fois-ci, de quelques mots dans de différentes circonstances psychologiques de réception par rapport à la connaissance des choses et des mots eux-mêmes: à l'état de non connaissance des choses qu'ils signifient (ex. *sarabarae*), à l'état ordinaire de connaissance des signes et à l'état originnaire d'ignorance des signes (ex. *caput et tegmina*).<sup>44</sup> L'expérience vérifie que les mots ne produisent pas, par eux-mêmes, ni la connaissance des choses qu'ils signifient, ni la connaissance du fait qu'ils sont des signes: à l'état d'ignorance des choses significables, parce que les mots ne les montrent pas; à l'état de connaissance des signes, parce que la connaissance de leurs significables se trouve déjà acquise et incluse dans la connaissance des signes respectifs<sup>45</sup>; enfin, à l'état d'ignorance des signes, parce que les mots ne sont, dans ce cas, que des sonorités insignifiantes. De plus, attendu que la connaissance des signes ne se parfait que par la connaissance de leurs significables, il faut reconnaître que celle-ci est une condition plutôt qu'un effet de celle-là.<sup>46</sup> De cette façon, on a rendu manifeste que la connaissance, quelle qu'elle soit, est extérieure à l'efficacité des mots: la connaissance n'est point littéralement communicable par des mots.

Certes, le *De Magistro* d'Augustin dénonce l'extériorité de la connaissance à l'égard du langage, par l'antériorité de celle-là à celui-ci, mais, par l'antériorité très fragile de circonstances psychologiques contingentes, c'est à dire, qui peuvent être ou ne pas être. Au surplus, on n'a remarqué, au sujet des signes donnés, que des connaissances sensibles, lesquelles sont, en elles-mêmes, aussi extérieures que contingentes. Or, l'usage effectif des mots, qui réalise une intentionalité plongée à l'intérieur de nous-mêmes, ne peut pas dépendre de circonstances contingentes, comme de ses conditions de possibilité. Une connaissance circonstancielle n'est pas une condition de possibilité; celle-ci doit participer d'une nécessité indifférente à l'expérience. D'une nécessité de

<sup>44</sup> Cf. *De Mag.* 10, 33.

<sup>45</sup> "Cum enim mihi signum datur, si nescientem me inuenit, cuius rei signum sit, docere me nihil potest; si uero scientem, quid disco per signum?" *De Mag.* 10, 33.

<sup>46</sup> "Ita magis signum re cognita quam signo dato ipsa res discitur." *De Mag.* 10, 33.

cette sorte, est, toutefois, le genre de connaissances que Saint Augustin présuppose dans toute connaissance des signes, postérieurement, au *De Trinitate*: les connaissances préalables et nécessaires à quelque connaissance des signes, portent sur des choses purement intelligibles, comme la valeur de la communication entre les hommes et la valeur de la connaissance tout court.<sup>47</sup> Ces données intelligibles sont antérieures à toute expérience de communication et à toute acquisition de connaissance.

Le *De Magistro* avait déjà tenu compte de connaissances intelligibles, en tant qu'elles étaient requises pour l'effectivité de la communication, mais seulement à la ressemblance des connaissances sensibles, c'est à dire, au sujet des noms de choses intelligibles<sup>48</sup>, pas encore avec la primauté intellectuelle que leur donne le *De Trinitate*. En effet, dans le dialogue pédagogique d'Augustin, la connaissance intelligible est essentiellement une relation personnelle entre le Christ et l'homme intérieur, pourvue de la contingence propre à toute relation interpersonnelle, qui est celle de sujets intentionnels et libres. La personne du Christ est ici fondue avec l'idée de vérité et avec l'agent de l'illumination<sup>49</sup> - la métaphore sensible usitée dans la tradition platonicienne pour traduire la connaissance des intelligibles. Cependant, l'illumination, ainsi personnifiée, devient, à son tour, le modèle de toute relation de connaissance, sensible et intelligible, quant à ses conditions extrinsèques de possibilité. En vérité, l'anti-formalisme du *De Magistro* va jusqu'à personnifier toute relation de connaissance, laquelle est vraiment irréductible au rapport abstrait d'un sujet avec un objet: un sujet peut se représenter un objet dans sa conscience, mais il ne connaît point par-là la réalité. Pour connaître la réalité, il faut qu'elle nous soit, en quelque sorte, montrée, et c'est cela-même qui n'est pas dans le pouvoir des mots, à cause de l'opacité de ceux-ci<sup>50</sup>; mais, par contre, c'est cela qui est le propre de la lumière. Celle-ci se distingue de tout signe par la qualité de la transparence.<sup>51</sup>

<sup>47</sup> Cf. *De Trin.* X, 1, 2.

<sup>48</sup> Cf. *De Mag.* 5, 14: *ex uirtus*.

<sup>49</sup> Cf. *De Mag.* 11, 38.

<sup>50</sup> Cf. *De Mag.* 11, 36.

<sup>51</sup> Caractère qui n'appartient pas, par exemple, au geste du doigt tendu, lequel est un signe de l'acte même de montrer plutôt qu'un moyen de montrer quoi que ce soit: cf.

Toutefois, la lumière n'est que le moyen, ou mieux, le milieu par excellence de l'action de montrer; elle ne suffit pas à la réalisation de celle qui est une action d'un sujet intentionnel. Alors, dès qu'il y ait quelque *ostensio* de la réalité, il faut y voir l'action d'un agent intentionnel, que celui-ci soit Dieu ou l'homme.<sup>52</sup> En outre, comme l'*ostensio* est une condition nécessaire de la connaissance, il faut que toute réalité connaissable soit aussitôt ostensible, en d'autres mots, il faut qu'elle soit pourvue d'une disponibilité naturelle pour être montrée.<sup>53</sup> Or, en faisant écho d'une dualité de type platonicien, est sensible toute réalité ostensible aux sens, et intelligible, toute réalité ostensible à l'intelligence. Dès lors, par rapport à cette division de l'être, il y a deux genres différents d'*ostensio*, ce qui fait de celle-ci un procédé analogique à l'égard du sensible et de l'intelligible.<sup>54</sup> C'est ce que nous appelons "l'analogie de l'*ostensio*", c'est à dire, la théorie générale des conditions objectives de toute connaissance. L'ensemble de ces conditions rend compte de la complexité de l'*ostensio*, en intégrant: l'intention et l'action de montrer chez l'agent, les moyens de l'action même, et la chose avec sa disponibilité pour être montrée et connue. Donc, dans le *De Magistro*, l'auteur fait, surtout, ressortir les conditions de la connaissance qui ne dépendent pas du sujet connaissant.

Il faut, cependant, remarquer que l'effectivité de l'*ostensio* n'anéantit point l'activité du sujet connaissant; au contraire, elle l'exige. En vérité, la connaissance n'est pas une lecture littérale de la réalité, parce que celle-ci a de la profondeur et ne s'épuise jamais dans l'extériorité d'elle-même ou dans son côté ostensible. C'est ce que l'on aperçoit au dialogue augustinien, à l'aide de deux exemples de démonstration des actions ostensibles par l'homme: la démonstration du fait de marcher conduit, en toute circonstance, à l'équivoque, toujours que l'on identifie littéralement l'action démontrée avec l'action ostensible<sup>55</sup>; par contre, au cas de l'oiseleur démontrant ses démarches à

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*De Mag.* 10, 34.

<sup>52</sup> Cf. *De Mag.* 10, 32.

<sup>53</sup> Cf. *De Mag.* 10, 32.

<sup>54</sup> "Is me autem aliquid docet, qui uel oculis uel ulli corporis sensui uel ipsi etiam menti praebebat ea quae cognoscere uolo." *De Mag.* 11, 36.

<sup>55</sup> Cf. *De Mag.* 3, 6; 10, 29.

la chasse, Augustin reconnaît expressément la nécessité de l'intelligence chez le spectateur<sup>56</sup>, afin d'éviter toute équivoque de littéralité. Alors, c'est d'une intelligence active, chez le destinataire de l'*ostensio*, que dépend l'efficacité de celle-ci, et même, exemplairement, de l'*ostensio* intelligible, l'illumination, qui déploie l'activité judicative du sujet<sup>57</sup>, et, en outre, requiert des conditions de volonté pour accueillir une lumière personnifiée.<sup>58</sup>

Après tout, nous pouvons conclure que Saint Augustin témoigne, dans le *De Magistro*, aussi d'un rationalisme fier, par ses réflexions grammaticales peu conventionnelles et l'épistémologie rationnelle du *Triuim* qui en résulte, que d'un personnalisme déjà chrétien, par l'anti-formalisme en matière de connaissance, nommément, par l'anti-littéralité de l'intelligence du réel, et, en somme, par le fait même que le problème de la connaissance s'exprime toujours, au cours du dialogue, en termes de pédagogie.

Lisboa

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<sup>56</sup> Cf. *De Mag.* 10, 32.

<sup>57</sup> "Quisquis autem cernere potest, intus est discipulus Veritatis, foris iudex loquentis uel potius ipsius locutionis; /.../." *De Mag.* 13, 41; cf. *De Mag.* 14, 45.

<sup>58</sup> Cf. *De Mag.* 11, 38.

ROBERTO LAMBERTINI

Logic as a Science and Its Object According to Gentilis de Cingulo\*

The purpose of this paper is to present Gentilis de Cingulo's ideas about logic comparing them to those of Radulphus Brito.<sup>1</sup> With the choice of Radulphus for this comparison I do not want to suggest any direct relationship between the two authors: in my work Radulphus has rather the function of representing, given his outstanding position in the epistemological discussion of his times, a well developed paradigm of modistic logical theory. Paralleling the two authors can be useful in order to see to what extent we can consider Gentilis as an exponent of the modistic logical thought, while the modistic character of his grammatical works has been already ascertained.<sup>2</sup> The modistic theory of *intentiones* in their relationship to the object of logic stands out as one of the most interesting features of their approach to "metalogical" problems; thus, attention has been concentrated on the parts of Gentilis' works which make use of these concepts.<sup>3</sup>

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\* This work is a shorter version of the paper presented in Helsinki on the 24th of August, 1987. Because of the limits decided by the editors, I had to leave out part of the text and all Latin quotations, reducing also the footnotes to the minimum. I will come back to this subject in a more extensive study, but now I want to thank Prof. D. Buzzetti, Prof. F. Del Punta, Prof. S. Ebbesen, Costantino Marmo, Andrea Tabarroni for their most valuable advice and S. Kelly for restoring my English.

<sup>1</sup> About life and works of this Bolognese *magister* see Grabmann, M., "Gentile da Cingoli. Ein Aristotelesklärer aus der Zeit Dantes", in *Sitzungsberichte der Bay. Akad. Wiss.* (1940) 2, now recollected in Grabmann, M., *Gesammelte Akademieabhandlungen*, II, Paderborn-München-Wien-Zürich 1979, pp.1639-1724; but also the recent contributions by Hissette, R., "Note sur Gentile da Cingoli", *Rech. Théol. anc. et méd.* 46 (1979), pp.224-228 and "Note complémentaire sur Gentile da Cingoli", *Rech. Théol. anc. et méd.* 47 (1980), pp.281-282; for Gentilis' cultural context interesting also Siraisi, N., *Taddeo Alderotto and his pupils*, Princeton 1981. About Radulphus Brito reference has to be made, at least, to Radulphus Brito, *Quaestiones super Priscianum Minorem*, eds. J. Pinborg and H.W. Enders, Stuttgart-Bad Cannstatt 1980 and to J. Pinborg, "Radulphus Brito on Universals", *CIMAGL* 35 (1980), pp.56-142.

<sup>2</sup> See Pinborg, J., *Die Entwicklung der Sprachtheorie im Mittelalter*, Münster i. W. 1967, pp. 103-105, 113, 122 and *passim*.

<sup>3</sup> Cf. Pinborg, J., "Die Logik der Modistae", *Studia Mediewistyczne* 16 (1975), pp.39-97, especially at pp.49-59, who devoted much attention to the modistic interpretation of the *Gegenstand der Logik*.



*Gentilis' conception of logic*

"It is necessary that young people exercise themselves in logic in order to learn it ... so that once they have grown up they can abandon these exercises and judge correctly thanks to the education received in their youth." Adapting in this way a quotation from the VIII Book of Aristotle's *Politics* which actually refers to music, Gentilis opens his *Scriptum super artem veterem* giving clear expression to his conception of logic as a conceptual tool whose goal is to serve other sciences. More than a science in its proper sense and *per se*, logic is, in fact, together with grammar and rhetoric, an *organum* for the other sciences.<sup>4</sup> In the same sense he defends logic in another *principium* arguing polemically against jurists who do not make use of logic in their books, and carry on their argumentations *hystorialiter*. In Gentilis' opinion they should be compared to servants, or better, to servants by nature, because they obey their books;<sup>5</sup> logic is necessary for every science, even for grammar, although grammar comes first in the order of learning. According to Gentilis this is possible as far as grammar is taught *fabulative*; but logic would be necessary for a scientific consideration of this discipline.<sup>6</sup> Notwithstanding his preference granted to the practical aspect of logic, Gentilis gives no univocal answer to the question regarding its nature. In his *quaestio* devoted to this problem he maintains that logic is primarily a *modus sciendi*, but also a science *secundum quid*. More exactly, it is a *modus sciendi* in respect to other sciences, but it is a science because it demonstrates some properties of its *subiectum*. This solution seems similar to Radulphus' position on the same issue. Radulphus asserts that logic is a science, and exactly for the same reason; he also maintains that it is possible for logic to be a science and

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<sup>4</sup> I base myself on the transcription from the Manuscript Firenze, Biblioteca Nazionale, Conv. Soppr. I.X.30, f.11ra-va prepared by Shona Kelly, who kindly allowed me to make use of it.

<sup>5</sup> I use the ms. Palermo, Biblioteca Comunale, 2 Qq.D.142, f.81r according to A. Tabarroni's transcription, which has been kindly made available to me. Concerning the contents of this ms. several additions will be necessary to what is to read in Lohr, Ch., "Medieval Latin Aristotle Commentaries. Authors G-I", *Traditio* 26 (1970), pp.153-155.

<sup>6</sup> This statement is coherent with what we can read in R. Martorelli Vico's edition of the *Quaestiones super Priscianum Minorem*, Pisa 1985, p.13.

a *modus sciendi* at the same time.<sup>7</sup> Still, there is a certain difference of accent when the two philosophers must order logic according the classification which divides sciences into theoretical and practical ones. In his *prohemium super artem veterem* Radulphus speaks of logic and grammar as *scientiae speculativae adminiculativae aliis*,<sup>8</sup> while for Gentilis logic is a practical science as far as it serves other sciences as *modus investigandi in speculativis*, but remains speculative when it demonstrates something regarding its *subiectum*.<sup>9</sup> Both thinkers seem to have felt the risk of reducing logic to an instrument lacking any scientific characteristic: their solutions, although by means of different terminologies, aim at preserving the scientific dignity of a discipline whose instrumental function could not be denied.

#### *What is logic about?*

One of the reasons why - according to Gentilis - *seniores* should abandon the study of logic and devote themselves to sciences of an higher degree is because logic does not regard real beings existing outside the mind. This statement raises the question about the proper subject matter of logic. Radulphus and Gentilis agree in defining syllogism as the object of logic; according to the possibility of dividing it in different parts they both offer a subdivision of logic in the different books of the medieval tradition. But Radulphus solves the problem of the subject matter of logic with an answer which is twofold: he says that syllogism can be considered logic's subject matter *per attributionem*, while *intentiones secundae* or *entia rationis* can be said to be *subiectum per predicationem*. Gentilis expresses himself in a less precise way asserting often that logic is *de modis entis factis ab anima* or *de entibus factis ab intellectu*.<sup>10</sup> The main difference consists, of course, in the absence of the expression

<sup>7</sup> See Ebbesen, S. and Pinborg, J., "Bartholomew of Bruges and his Sophisma on the Nature of Logic. Introduction and Text", *CIMAGL* 39 (1980), pp.iii-xxvi & 1-76, where at pp.xii-xv the authors present an edition of Radulphus' first question on Porphyry.

<sup>8</sup> See Ebbesen, S. and Pinborg, J., "Gennadios and Western Scholasticism. Radulphus Brito's *Ars Vetus* in Greek Translation", *Classica et Mediaevalia* XXXII (1980-1981), pp.263-319, especially p.299.

<sup>9</sup> See the ms. Palermo, Bibl. Com. 2 Qq.D.142, containing also Gentilis' *quaestiones* on Porphyry, f.74rb.

<sup>10</sup> See Gentilis, *Scriptum*, (according to ms. Firenze, Bibl. Naz., Conv. Soppr. I X.30) f.1rb.

*intentiones secundae*. As a matter of fact, the whole extension of logic - according to Radulphus - can be defined in terms of a subdivision of these second intentions, which depends on the traditional distinction among the three operations of the intellect. Gentilis uses the same division without mentioning the second intentions.<sup>11</sup> His *Scriptum super totam artem veterem* assigns to Porphyry as subject matter the second intentions, to the *Categories* the real things *ut stant sub primis rationibus intelligendi*, to the *Perì Hèrmeneias* the *oratio significans verum vel falsum*. The general concept under which we can consider the different subjects of logic is, according to Gentilis, "*ens factum ab intellectu*", while Radulphus tries to unify the whole realm of logic under the concept of second intention, and not without problems, as Pinborg has rightly pointed out especially for the intentions of the second or third operation of the intellect.<sup>12</sup> As far as I can understand, many clues lead us to think that the main disagreement between Radulphus and Gentilis could consist in their conception of second intentions, or at least in the terminology they use to define this concept. In order to shed more light on this subject it is necessary to pass to the analysis of the commentary in which both philosophers deal intensively with first and second intentions, that is, the commentary on Porphyry.

#### *Gentilis on first and second intentions*

After the usual division of logic proposed in its *principium*, Gentilis' commentary on Porphyry passes to the discussion about the subject of the book. His first answer is that the subject matter is *universale non quodcumque*. The interesting part of his answer is of course the expression "*non quodcumque*", because it implies a distinction among the different meanings of the term "*universale*".<sup>13</sup> The first conceptual opposition Gentilis proposes is drawn between universal as *res vera existens extra animam* and universal as *intentio*. The "real thing" is to be understood as a *quiditas* or *essentia* abstracted from its *principia individuantia*, which is produced by our intellect only as for its *esse*

<sup>11</sup> See Gentilis, *Scriptum*, f.1rb.

<sup>12</sup> Cf. Pinborg, "Die Logik...", p. 58.

<sup>13</sup> See Gentilis, *Scriptum*, f.1va.

*abstractum*; for this reason it can be called *res vera*.<sup>14</sup> This kind of universal, however, which is obtained by means of abstraction and can be predicated of the things it is abstracted from - Gentilis says - is not the object of the *Isagoge*.

The *subiectum* of Porphyry's book is another kind of universal, namely that one which is called *secunda intentio*.<sup>15</sup> According to Gentilis' short gnoseological explanation, it originates from the activity of our intellect, which identifies in an abstracted *quiditas*, for example in *homo*, the property of being predicated of many objects differing only through *accidentia*. On this property is based that kind of second intention which is called *species*: this is not a real entity existing outside of our mind and has only an *esse in anima*.<sup>16</sup>

Summarizing the results of this distinction, we could state that Gentilis' aim is to distinguish the subject matter of Porphyry from the things, provided that "thing" here is understood as a result of an abstraction of a *quiditas* which exists in the real world. According to him Porphyry does not discuss relations between existing things, but investigates the main features and the relations existing among psychological entities, namely these second intentions, which can also be designated by the expression *modi intelligendi*.

While the *Scriptum* stops its analysis here, in other works Gentilis takes a more complex position about this problem; this is the case of his short tract on universals<sup>17</sup> which bears the title "*Comentum*" but is a rather systematic discussion about the nature of the universals. This short work also begins with the distinction between universal as a thing and as intention which is made at the beginning of the commentary on Porphyry: but in this tract Gentilis tries to explain in a more thorough way his ideas regarding this subject. First of all, he specifies that the universal considered as a real thing can be distinguished further in two aspects; in fact, when our intellect abstracts the universal from the objects in which it exists *extra animam*, it can do it in two different ways, namely

<sup>14</sup> See Gentilis, *Scriptum*, f.1va.

<sup>15</sup> See Gentilis, *Scriptum*, f.1vb.

<sup>16</sup> See Gentilis, *Scriptum*, f.1vb.

<sup>17</sup> For a first partial transcription of this text, see Marchegiani, L., "Gentile da Cingoli tra aristotelismo e averroismo alla fine del XIII secolo", *Annali della Facoltà giuridica di Camerino* (1968) pp.132-136; I use my own transcription from the ms. Firenze, Biblioteca Mediceo-Laurenziana, Stroziano 99, ff.43a-45v.

preserving a relation to the *supposita* or not. In this way Gentilis explains the origin of two different kinds of universals which are referred to by "*homo*" and "*humanitas*".<sup>18</sup> We should not forget that both kinds of universals must be regarded, according to Gentilis, as *res verae*. More precisely, they are *res verae* considered *secundum quod stant sub primaria ratione intelligendi*, or *sub prima intencione* or *sub primo modo intelligendi*, expressions which are considered as synonymous by the Italian logician.<sup>19</sup> On the other hand, our intellect can consider *homo* under a *secunda ratio intelligendi*, an expression which is synonymous of *secundus modus intelligendi* or of *secunda intentio*; in this case, our intellect concentrates on a peculiar property which is found in *homo*, namely on the fact that it can be predicated of more objects which differ from one another only accidentally. What we call *species* is exactly the *modus intelligendi* something under that property.

Concluding his tract, Gentilis reminds us that the word "*species*" signifies both the second intention and the real existing thing, but primarily the second intention, and then the thing. Therefore the subject matter of Porphyry's book will be the universal, although not taken in an absolute sense, but as related to the real existing things.<sup>20</sup>

### *Radulphus' intentions*

Radulphus Brito's theory of intentions, which is closely connected to his theory of universals, has been described several times, so that we do not need, in this context, to explain it in full length. Both Pinborg and Knudsen after him speak of a triad of thing, first intention and second intention.<sup>21</sup> As a matter of fact, Radulphus specifies that a real existing thing, a *res*, can be only potentially a universal, because only intentions are universals *in actu*:<sup>22</sup> universals come to actual existence through the activity of the intellect. The most interesting features of his theory,

<sup>18</sup> See Gentilis, *Comentum*, f.43r.

<sup>19</sup> See Gentilis, *Comentum*, f.43v.

<sup>20</sup> See Gentilis, *Comentum*, f.45r.

<sup>21</sup> See Pinborg, "Die Logik...", pp.50-51, and Knudsen, C., "Intentions and Impositions", in *The Cambridge History of Later Medieval Philosophy*, ed. by N. Kretzmann et alii, Cambridge 1982, pp.487-490.

<sup>22</sup> See Pinborg, "Radulphus Brito on Universals", p. 86.



however, are the combined distinctions between concrete and abstract intentions on one hand, and between first and second on the other. While a first abstract intention is identical with the first cognition or intellection of a thing according to its *apparens*<sup>23</sup> or mode of being and exists only in the intellect as a psychological entity,<sup>24</sup> first concrete intentions are said to be "the thing as it is understood in this way". This expression should signify a sort of complex entity which is the thing known *qua* known. As for their ontological status, Radulphus maintains that first concrete intentions are in the intellect *quantum ad rationem intelligendi* and in the extramental world *quantum ad rem*. The difference between "*homo*" and "*humanitas*" can be explained, therefore, if we consider the first term as signifying a first concrete intention, while the second refers to a first abstract intention.

The distinction between second concrete and second abstract intention parallels the first one: the *intentio secunda in abstracto* is the intellection of the thing according to a particular *apparens* or mode of being, that is, the capacity of being predicated<sup>25</sup> of different things; but the *intentio secunda in concreto* is defined as the thing itself understood in that way. If "*genus*" or "*species*" signify second concrete intentions, "*specialitas*" or "*generalitas*" will denote second abstract intentions.

### *Gentilis and Radulphus*

The first results of this comparison between Radulphus and Gentilis corroborate Pinborg's idea of a link connecting modistic grammar with a peculiar attitude towards logical issues. Actually, both philosophers share a conception of logic aimed at preserving its nature as a science which possesses an independent object. Gentilis is more inclined to give prominence to the practical aspect of this discipline, as a *modus sciendi*, maintaining at the same time that logic is also a speculative science, in as far as it proves some properties of its subject, which is independent

<sup>23</sup> Cf. Roos, H., "Zur Begriffsgeschichte des Terminus "apparens" in den logischen Schriften des ausgehenden 13. Jahrhunderts" in *Virtus politica. Festschrift zum 75. Geburtstag von Adolf Hufnagel*, Stuttgart-Bad Cannstatt 1974, pp.323-334.

<sup>24</sup> See Pinborg, J., "Radulphus Brito's Sophism on Second Intentions", *Vivarium* XIII.2 (1975), pp.141-142.

<sup>25</sup> See Ebbesen, Pinborg, "Gennadios...", p.307.

of that of other sciences. In my opinion we are allowed to interpret in this way also his repeated assertion of a *rationalis*, and not *sermocinalis* character of logic as a further attempt to defend the autonomy of this discipline.<sup>26</sup> On the other hand, it is evident that the search for a unifying subject matter for the whole field of logic is an expression of the same theoretical trend. On this topic, however, we notice a significant difference between Radulphus and Gentilis. For the former the *subiectum logicae* owes its independence to the fact that *intentiones in concreto* are neither psychological entities (which would be the object of natural philosophy) nor extramental things;<sup>27</sup> for the latter the logician studies essentially *entia facta ab intellectu*. Such a conflict, which would not be impossible to settle with regard to the general object of logic, becomes more apparent in connection with the discussion about Porphyry. As we have seen, the setting of the problem is very similar, and similar are also the concepts the two logicians employ. They both distinguish between two levels of intentions, explained by means of the existence in the things of two kinds of properties upon which such levels are founded; Radulphus' distinction between *intentio in abstracto* and *intentio in concreto* is exactly paralleled by the fact that Gentilis points at the difference between the *ratio intelligendi* and the *res* which is conceived by the intellect according to that *ratio*. Moreover, they are aware of the possibility to consider intentions as absolute or as referred to their *supposita*. Without any doubt these correspondences give evidence of a common tradition of thought, whose basic concepts find expression in a very similar language. Nevertheless, examining the main contrast between Radulphus and Gentilis with regard to the issues involved, it seems difficult to interpret it as simply due to different terminologies. They diverge about the ontological status of what they call *intentio secunda* and about what they consider as the proper subject matter of Porphyry: for the Italian logician a second intention is a *ratio*, a *modus intelligendi*, which exist only in our mind: for Radulphus it is a complex structure, a *res sub intentione*, whose existence is twofold. In order to appreciate this difference we should remember that this twofold peculiar

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<sup>26</sup> This is the case also for grammar, which is considered a *scientia rationalis* as well.

<sup>27</sup> About this topic cf. Pinborg, "Die Logik...", p.54.

status is attributed by Gentilis not to intentions but to *res vera*, and exactly when he tries to differentiate it from a second intention.<sup>28</sup>

### Conclusion

By pointing out some differences on the background of a common conceptual tradition, the present comparison between Radulphus and Gentilis corroborates once again Pinborg's idea of the unity of the modistic logic as community of problems and of basic concepts, rather than of solutions. At the present stage of the research it would be premature to try to evaluate the exact significance of agreements and disagreements or to establish historical connections among different positions. But even the present contribution can show - I think - the importance of a thorough scrutiny of Gentilis' works, especially in a field, like the history of logic between the thirteenth and fourteenth century, in which, as in a puzzle, every little piece we succeed in locating provides us with a better understanding of the whole.<sup>29</sup>

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<sup>28</sup> Also the different classification of the term *humanitas* could be of some interest: for Radulphus it is the name of first abstract intention or *prima cognitio hominis*, while for Gentilis it denotes the *res vera sine habitudine ad sua supposita*.

<sup>29</sup> Cf. Pinborg, J., "A Note on Some Theoretical Concepts of Logic and Grammar", *Revue Internationale de Philosophie* 29/113 (1975), pp.286-296, now as N° X in Pinborg, J., *Medieval Semantics*, ed. Sten Ebbesen, Variorum Reprint, London 1984. This short essay shows in the best way the usefulness of the study of logical debate of that period as a whole.

MARIA GABRIELLA LO PRESTI

**La dialettica come *diffiniendi disciplina*  
nel 1<sup>o</sup> libro del *De Divisione Naturae*  
di Giovanni Scoto Eriugena**

La dialettica, così come perviene dalla tradizione latina<sup>1</sup> ad Eriugena, all'interno della concezione del Sapere, risultante dall'organizzazione complessiva delle sette Arti liberali, assolve la specifica funzione di strumentazione logica propedeutica alla Scienza.

Eriugena nel *De Divisione Naturae* ha maturato tale tradizione e, passato attraverso l'esperienza del *De Praedestinatione* ed alla luce soprattutto delle motivazioni giuntegli dalle fonti greche in particolare Dionigi e Massimo il Confessore, perviene alla ristrutturazione dei rapporti della dialettica con le altre discipline, definendone la sua centralità all'interno della scienza e dichiarandola con essa coincidente come *vera rerum contemplatio*, in quanto *diffiniendi disciplina*.

Per la *proprietas* che la riguarda come *diffiniendi disciplina* infatti, la dialettica è capace di rifondare il ruolo che le discipline occupano nel loro complesso, perchè capace di dichiarare al proprio interno i principi stessi della scienza, nei termini del λόγος che le sono propri. Come tale essa assurge a vera scienza conoscitiva capace, dai principi, di definire il suo stesso ambito ponendo i termini della sua argomentazione, ossia della *ratiocinatio*<sup>2</sup> e per questo *vera rerum contemplatio*:

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<sup>1</sup> Marziano Capella, Agostino, Cassiodoro, Isidoro di Siviglia, Alcuino. A proposito di tale tradizione, testi di riferimento fondamentali sono: Gilson, *La philosophie au moyen age*, Paris 1952, La Nuova Italia, Firenze 1973; Grabmann, M., *Die Geschichte der scholastischen Methode nach gedruckten und ungedruckten Quellen*, I: *Die Scholastische Methode von ihren ersten Anfängen in der Vaterliteratur bis zum Beginn des 12. Jahrhunderts*, Freiburg im Breisgau 1909; Cappuyns, M., *Jean Scot Erigène. Sa vie, son oeuvre, sa pensée*, Louvain-Paris 1933; Schrimpf, "Johannes Scottus Eriugena und die Rezeption des Martianus Capella in Karolingischen Bildungswesen", in: *Eriugena, Studien zu seinen Quellen*, hrsg. Beierwaltes, Heidelberg 1980.

<sup>2</sup> Anche a proposito della *ratiocinatio* eriugeniana e delle questioni relative al "metodo" dell'argomentazione dialettica, reso interno all'argomentazione stessa che esprime i suoi principi, si deve far riferimento alle principali *auctoritates* del mondo greco soprattutto a Dionigi l'Areopagita e Massimo il Confessore.

Quid nos prohibet *diffinienti disciplina* inter artes ponere, adiungentes dialectica cuius proprietates est rerum omnium quae intelligi possunt *naturas dividere coniungere discernere propriosque locos unicuique distribuere*, atque ideo a sapientibus *vera rerum contemplatio* solet appellari?<sup>3</sup>

Il valore oristico o definitorio, che nel *De Praedestinatione* aveva una sua collocazione a parte nella quadripartizione della dialettica,<sup>4</sup> qui è posto in rilievo e fatto interno al complessivo processo dicotomico che contraddistingue la dialettica del *De Divisione Naturae*.

Qui l'ordine platonico<sup>5</sup> viene invertito per cui la dialettica prevede innanzitutto la *divisio*, ossia un processo discensivo di specificazione dal genere sommo, ed un processo ascensivo di ritorno al principio da cui è sorta la divisione, la *resolutio*.

Il complessivo procedere dialettico è così chiarito:

Illa pars philosophiae quae dicitur dialectica circa horum generum divisiones a generalissimo ad specialissima iterumque collectiones a specialissimis ad generalissima versetur.<sup>6</sup>

Omnis *divisio*, quae a Graecis *μερισμός* dicitur, quasi deorsum descendens ab uno quodam diffinito ad infinitos numeros videtur, hoc est a generalissimo usque ad specialissimum, omnis vero *recollectio* veluti quidam reditus iterum a specialissimo inchoans et usque ad generalissimum ascendens vocatur. Est igitur reditus et resolutio individuorum in formas formarum in genera, generum in οὐσίαις, οὐσιῶν in sapientiam et prudentiam ex quibus omnis divisio oritur in eademque finitur.<sup>7</sup>

Nel *De Divisione Naturae* è la *divisio* ad assumere valore fondante la definizione e questa ha identicamente valore probativo:

Nam tam late patent dialectici loci ut undecumque dialecticus animus in natura rerum argumentum quod rei dubiae facit fidem reperit locum argumenti esse describat (seu argumenti sedem).<sup>8</sup>

Perchè abbia valore dimostrativo l'argomentazione deve incentrarsi nel "luogo" della natura già individuata, deve esprimere la sua definizione.

Il luogo non è altro infatti che la definizione della natura:

<sup>3</sup> Sheldon-Williams, *Iohanni Scotti Eriugena Periphyseon, Liber Primus*, Dublin 1969 (Da ora in avanti D.N.) D.N. 486,B.

<sup>4</sup> La dialettica nel *De Praedestinatione* veniva distinta in: *διαίρετική*, *δριστική*, *ἀποδεικτική*, *ἀναλυτική* cioè divisoria, definitiva, dimostrativa, risolutiva.

<sup>5</sup> Il riferimento a Platone riguarda la concezione della dialettica stabilita nel *Fedro* e *La Repubblica*.

<sup>6</sup> D.N. 486,B.

<sup>7</sup> D.N. 463,B.

<sup>8</sup> D.N. 474,D.



Ac per hoc datur intelligi sive locum quis dixerit sive finem sive terminum sive deffinitionem sive circumscriptione unum idipsum significare, ambitum videlicet finitae naturae.

Essa equivale all'ambito stabilito dai termini fissati dal λόγος:

Nil aliud est locus nisi ambitus quo unumquodque certis terminis concluditur.<sup>10</sup>

Termini che per la loro stabilità garantiscono la possibilità stessa del discorso:

Si enim nil aliud locus sit nisi terminus atque *diffinitio* uniuscuiusque finitae naturae profecto locus non appetit ut in aliquo sit, sed omnia quae in eo sunt ipsum merito terminum finemque suum semper desiderant in quo naturaliter continentur et sine quo in infinito fluere videntur. Locus itaque in motu non est cum omnia quae in eo sunt ad se moveantur; ipse vero stat.

Ma per giungere a stabilire tali termini il λόγος, la *ratio* eriugeniana, compie la complessa operazione del definire ed è dunque proprio la *proprietas* della *diffiniendi disciplina* che bisogna esaminare nelle sue parti per cogliere la specifica valenza speculativa della dialettica eriugeniana. Essa consiste in:

*naturas dividere coniungere discernere* e dunque:

*propriosque locos unicuique distribuere.*

Secondo la precisazione del processo diairetico e analitico della dialettica già esaminato, risulta che l'atto di divisione, attraverso cui si individuano le "nature", consiste nella divisione dei generi nelle loro specie fino agli individui. Solo attraverso tale divisio è possibile il *coniungere*, cioè porre in relazione, costruire legami logici tra le nature individuate, costruire lo stesso impianto conoscitivo. Ma tutto ciò rimanda al *discernere* che si mostra responsabile di tali operazioni e che decide, come atto conclusivo, del *proprios locos unicuique distribuere*, cioè fissare i termini della definizione.

Il verbo *discernere* che esprime il possesso di principi interni alla Ratio dialettica attraverso i quali si riesce a far differenza tra le nature, atto che pone la definizione, rimanda al soggetto di tale differire, fa richiesta di identificare il principio del proprio atto di determinazione. Al porre atti di determinazione, al pronunciare definizione corrisponde cioè un internarsi di tale processo del λόγος nel tentativo di fissare chi

<sup>9</sup> D.N. 483,C.

<sup>10</sup> D.N. 474,B.

detiene la potenza di tale determinare. Per questo, nel momento in cui il λόγος nell'esprimere la totalità della sua esperienza conoscitiva, pronunzia il termine *natura*:

Saepe mihi cogitanti diligentiusque quantum vires suppetunt inquirenti rerum omnium quae vel animo percipi vel intentionem eius superant primam summamque divisionem est in ea quae sunt et ea quae non sunt horum omnium generale vocabulum occurrit quod graece φύσις, latine vero *natura* vocitatur<sup>11</sup>

è dalla difficoltà di chiarire i suoi stessi termini che la *ratio* pone a principio la discretiva differentia che, a questo punto, si mostra responsabile della "prima e somma *divisio in ea quae sunt et in ea quae non sunt*" e della articolazione interna alla *natura* in quattro specie.

La *discretiva differentia* si impone come primo, come termine di inizio da cui deve incominciare la *ratiocinatio*:

Sed *prius* de summa ac principali omnium, ut diximus divisione in ea quae sunt et ea quae non sunt breviter dicendum existimo.

Non enim ex alio primordio ratiocinationem inchoari oportere video, nec solum quia prima omnium differentia sed quia obscurior caeteris videtur esse et est.<sup>12</sup>

Nella *primordialis omnium discretiva differentia*, il verbo *discernere*, usato in funzione attributiva, dichiara il soggetto della *proprietas* secondo la quale la dialettica è capacità di porre definizioni e ne stabilisce la primordialità.

La *differentia primordialis e discretiva* è responsabile dunque del differire interno alla *ratio*, capace delle sue divisioni e determinazioni fino alla inconcettualità dei principi: la *divisio in ea quae sunt et in ea quae non sunt* e la quarta forma della *natura* "quae nec creat nec creatur" esprimono la non datita dei "termini" o "luoghi" massimi cui giunge l'argomentare dialettico, sono ancora un tentativo da parte del λόγος di porsi contro un oggetto un τό ὄν ma, relativamente ai principi, tale posizione risulta impossibile, e concetto del principio non riesce ad essere.

La *divisio*, oggetto impossibile al λόγος, mostra la natura del principio che, in qualche modo, nella indeterminazione che lo riguarda, riesce a dirsi all'interno del λόγος stesso. In tali termini del procedere argomentativo dialettico chi si pronuncia è lo stesso soggetto del λόγος che, erigenzialmente è la divinità.

<sup>11</sup> D.N. 441,A.

<sup>12</sup> D.N. 443,A.

La *divisio* esprime nel  $\lambda\acute{o}\gamma\omicron\varsigma$  la non assimilabilità del principio al piano conoscitivo, il suo differire da esso: il differire del principio che ha messo in movimento la *ratiocinatio* e la regola al suo interno, nel momento in cui vuole dirsi nella sua absolutezza, il risultato sono due termini inscindibili nell'esser concepiti, nella relazione in cui li pone la *divisio*: *ea quae sunt et ea quae non sunt*.

Affidato ad essi due il risultato è che concetto della differenza non riesce ad essere; nella *divisio* il secondo termine fa saltare la possibilità di chiudere ancora un ambito di definizione, di concludere ciò che tramite il primo termine stava per essere "concepito", il risultato è una relazione che, per sua stessa struttura, non può avere un luogo, non può essere circoscritta.

La relazione detta dalla *divisio* esprime dunque il divino, l'incomprensibile:

Incomprehensibile enim rationi et intellectui divinum est.

Nel rimando continuo del concetto, espresso dalla *divisio*, atto proprio della dialettica nel suo procedere secondo definizione, in questo transitare del  $\lambda\acute{o}\gamma\omicron\varsigma$  si costruisce uno spazio infinito di determinazione in cui si realizza una sorta di "movimento impossibile".<sup>13</sup>

Nullum motum principio ac fine carere posse.<sup>14</sup>

Deinde considera quia omne quod principio caret et fine omni quoque motu carere necesse est.<sup>15</sup>

Tale "movimento" nel tentativo di esprimere il differire del principio, fa accadere nel  $\lambda\acute{o}\gamma\omicron\varsigma$  la divinità nella sua potenza di determinazione:

Deus autem anarchos, hoc est sine principio, est quia nil eum praecedit nec eum efficit, ut sit, nec finem habet, quoniam infinitus est.

"Motus deo dare non possum, qui solus immutabilis est ..." Lo spazio infinito di determinazione è dunque occupato dalla dialettica nel suo essere scienza di definizione, e come tale essa è il continuare a mediarsi dell'indeterminato, una sorta di "medio", che, nel suo complessivo processo di  $\delta\iota\alpha\iota\rho\epsilon\tau\iota\kappa\acute{\eta}$  e  $\acute{\alpha}\nu\alpha\lambda\upsilon\tau\iota\kappa\acute{\eta}$ , tramite il risultare negativo delle categorie logiche rispetto a Dio ricostruisce il nascondimento del suo principio.

<sup>13</sup> D.N. 514,B.

<sup>14</sup> D.N. 514,B.

<sup>15</sup> D.N. 516,A.

Sed, ut Sanctus pater Augustinus in libris de Trinitatis dum ad theologiam, hoc est ad divinac essentiae investigationem pervenit categoriarum virtus omnino extinguitur. Nam si in ea vero natura quae nec dici nec intelligi potest per omnia in omnibus deficit.<sup>16</sup>

La capacità di scienza è insita nell'anima:

Quoniam videmus aliud esse constitutas in anima liberales artes, aliud ipsam animam quae quasi quoddam subjectum est artium, artes vero veluti inseparabilia naturaliaque animae accidentia videntur esse ...<sup>17</sup>

e sembra essere garante per lei di eternità:

Siquidem a philosophis veraciter quesitum repertumque est artes esse aeternas et semper immutabiliter animae adherere ita ut non quasi accidentia quedam ipsius esse videantur sed naturales virtutes nullo modo recedentes nec recedere valentes nec aliunde venientes sed naturaliter insitas, ut ambiguum sit utrum ipsae aeternitatem ei praestant quoniam aeternae sunt eique semper adhaerent ut aeterna sit, an ratione subiecti quod est anima artibus aeternitas administratur (οὐσία enim animae et virtus et actio aeternae sunt) an ita sibi invicem coadhaerent dum omnes aeternae sunt a se invicem segregari non possint,<sup>18</sup>

essendo le *arti* intese aristotelicamente *accidentia* o *virtutes* costituenti l'ἐνεργία o *operatio* dell'anima capacità effettiva di Scienza, suo essere in atto:

Nam cum in omni rationabili intellectualique natura dico δύναμιν ἐνεργίανque, hoc est essentiam virtutem operationem (haec enim teste sancto Dionisio inseparabiliter sibi quoniam immortalia atque immutabilia) num tibi verisimile videtur certaeque rationi conveniens omnes liberales disciplinas in ea parte quae ἐνεργία id est operatio, animae dicitur aestimari ...<sup>19</sup>

La *virtus* dialettica, che ha operato ponendo concetti, di fronte al suo principio è condannata a *deficere*, a venir meno ad estinguersi completamente.<sup>20</sup>

La *diffiniendi disciplina* termina con un atto di indefinizione, con il differire del principio, che determina e circoscrive lo stesso ambito della Scienza.

<sup>16</sup> D.N. 463,B.

<sup>17</sup> D.N. 486,C - 486,D.

<sup>18</sup> Migne P.L. vol. CXXII *De divisione Naturae* ed. H.J. Floss, IV libro, 749.

<sup>19</sup> D.N. 486,C - 486,D.

<sup>20</sup> In questo punto è ancora Dionigi la fonte più prossima ad Eriugena. Nella *Teologia mistica* il λόγος nel suo procedere ascensivo verso Dio, dichiara la propria incapacità di esprimerlo. Il λόγος nei termini dionisiani si fa ὅλος ἄφρονος completamente muto di fronte al τῷ ἀφθέγκῳ all'inesprimibile.

Ciò oltre che dalla prima e somma divisione è ribadito dalla divisione quadriforme della Natura e in particolare dalla quarta forma: *quae nec creat nec creatur*: la doppia negazione e dell'attivo e del passivo del creare nel tentativo di bloccare nel λόγος la differenza assoluta del principio è identicamente l'atto di determinazione dell'ambito conoscitivo.

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### Logic and Science in Gersonides

In recent years there has been a growing interest in the philosophical and scientific works of R. Levi ben Gershom (Gersonides), a fourteenth-century rabbi and philosopher. Gersonides wrote independent treatises in astronomy, mathematics, and geometry, as well as commentaries on many of Averroes' commentaries on Aristotle. He is best known among historians of philosophy for his magnum opus of religious philosophy, the *Wars of the Lord*.<sup>1</sup>

Among medieval Jewish philosophers Gersonides was known also as a sharp and somewhat controversial logician. His logical writings achieved a wide audience in the Middle Ages, if we judge from the number of extant Hebrew manuscripts and from the references to these writings in the works of later Jewish logicians. Parts of his *Commentary on Logic*, which is a commentary on Averroes' *Middle Commentary* on the Organon, were translated into Latin and were printed in the Venice edition of Averroes' works. His original treatise on inference, *The Book of the Correct Syllogism*, and which includes his modal logic, was also translated into Latin, and is extant in Hebrew and Latin manuscripts.<sup>2</sup>

Although they were written in the early fourteenth-century in what is today Southern France, Gersonides' logical writings fall within the tradition of logic developed by the Arab Aristotelians, whose works he knew in Hebrew translation. He himself informs us that he was not familiar with the text of Aristotle but had to rely on Averroes' paraphrase. There is also no clear evidence that he was aware of the contemporary scholastic tradition of logic, although it is one of those strange coincidences of history that he apparently was in Avignon at the

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<sup>1</sup> For a recent account of Gersonides' life and works, see Charles Touati, *La pensée philosophique et théologique de Gersonide* (Paris 1973), pp. 33-48.

<sup>2</sup> See Charles Manekin, "Preliminary Observations on Gersonides' Logical Writings", *Proceedings of the American Academy for Jewish Research* (1985), vol. 52, pp. 86-113.

same time as William of Ockham. Their social and intellectual worlds were, of course, quite separate.

Like most medieval philosophers Gersonides saw a theoretical connection between logic and science. On the one hand, he adopted the Aristotelian conception of logic as an art and not a science, which he felt implied that logic was to be considered independently of science. This meant not only that the study of logic is prior to the study of science, but also, as we shall see below, that logical notions such as inferential validity are unaffected by considerations of scientific utility.

But on the other hand, Gersonides also adopted the Aristotelian view of logic as an organon for scientific inquiry, a tool for the acquisition of knowledge. The art of logic, even in its most theoretical and mathematical manifestations, such as the theory of the modal syllogism, is never pursued entirely for its own sake, but in part for the sake of science. While considerations of scientific utility do not determine an argument's validity, they can be used to justify setting forth a logical doctrine which has been shown to be valid. And in fact we find that on several occasions Gersonides defends a particularly controversial doctrine by appealing to its scientific utility. My paper will be devoted to an analysis of three of these occasions.

The first which I should like to consider occurs in his commentary on Averroes' Middle Commentary on the *Categories*.<sup>3</sup> As is well known, the traditional commentators wondered why the *Categories* was included in the logical writings, since it appears to deal with such an eminently metaphysical topic as the classification of reality. To solve this problem many of them took either of two main lines of interpretation. The first was to suggest that the doctrine of the categories does not deal with extramental existents qua existing, but rather qua spoken about, or conceived. The second was to suggest that the doctrine does indeed deal with extramental existents and hence it should be excluded from logic altogether. Among the Arab Aristotelians, Alfarabi and Averroes chose the first line of interpretation, Avicenna the second, with all three agreeing that existents *per se* are not considered in the *Categories*.<sup>4</sup>

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<sup>3</sup> C. *Categories*, Leiden Hebrew MS. Warnero 42, I:1, fol. 21r.

<sup>4</sup> The precise formulation of the views of the Arab peripatetics is beyond the scope of this paper. See I. Madkour, *L'Organon dans le monde Arabe* (Paris 1948), pp. 79-84

Gersonides opposed his own, somewhat startling, interpretation of the place of existents in the *Categories* to these others: the doctrine of the *Categories* concerns existents *in themselves* and not in so far as they are spoken about. For us to understand even in a preliminary fashion such concepts as *quantity*, *opposition*, or *substance*, we must be acquainted with what such concepts classify, namely extramental existents.<sup>5</sup> The art of logic must assume its practitioner to possess some sort of knowledge about extramental reality.

But what sort of knowledge? At this point Gersonides faces a dilemma. He has argued that logic must begin with an investigation of extramental reality, but he also accepts the Aristotelian view of the study of logic as propaedeutic to, and independent of, the study of science. His way out of the dilemma is to maintain that logic must not make any assumptions about extramental reality that require scientific explanation. Logic assumes things not according to the way they really exist but only according to the way that they are commonly believed to exist. Here Gersonides takes a doctrine which appears repeatedly in Averroes, namely, that the discussions in the *Organon* are from the standpoint of "generally accepted opinion", and gives it an interesting interpretation relevant to the subject-matter of the *Categories*: The entities assumed to exist in the *Categories* are those which are commonly held to exist, namely, perceptible objects. This would exclude imperceptible objects such as the celestial intelligences, whose explanation requires the science of physics and metaphysics.<sup>6</sup>

I do not wish to suggest that Gersonides intends via the *Categories* to construct a logic which only applies to perceptible objects. In his own formal logic he never restricts his term-variables to range over perceptible objects, and one imagines that he would reject any suggestion of that sort. To fathom his intentions one must go back to his interpretation of the traditional claim that the study of logic should be prior to the study of other sciences. Given the admission of existents within the domain of logic we saw that this claim entails a restriction on the

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and H. Davidson, *Averroes' Middle Commentary on Porphyry's "Isagoge"...and on Aristotle's "Categories"* (Cambridge, Mass. 1969), p. 32. Cf. A. Sabra, "Avicenna on the Subject Matter of Logic", *Journal of Philosophy* 77:11 (Nov. 1980), pp. 746-64.

<sup>5</sup> C. *Categories*, III:1, fol. 60v.

<sup>6</sup> C. *Categories*, I:4, fols. 26v, 28v.

type of existents admitted. But this restriction is only temporary. As the student advances in his philosophical studies he is able to enlarge the scope of objects to which logic, via the doctrine of the *Categories*, applies, thereby allowing things which were unknown previously. This does not call for any fundamental changes because the new things are subsumed under previous categories.

Nevertheless, there will have to be some adjustments when we move from a pre-scientific classification of reality to a scientific one. To take one example brought by Gersonides: Aristotle's claim that substances lack contraries is true of perceptible objects, according to Gersonides, but not of all substances; imperceptible objects such as the four elements do indeed possess contraries in their pristine state.<sup>7</sup> The conclusions that we draw from pre-scientific logic are sometimes revised in the light of a more accurate description of reality, although these revisions are not sufficient to alter fundamentally the understanding of reality provided by Aristotle in the *Categories*.

Here, then, we have an example of a controversial interpretation of the subject matter of the categories, which is defended by appealing to the conception of logic as organon for science. Since the art of logic enables one to distinguish between the true and false *in things*, which is also the intention of science, logic will have to investigate extramentally existents.

We find another example of the influence of science on Gersonides' logic in his theory of modal propositions. Consider the following sentences:

- (1) Every man is living.
- (2) Every walker is moved.

What is the modality of these sentences? According to Averroes, the first sentence is necessary, while the second is not. For a sentence to be necessary, two conditions must be fulfilled: the predicate must apply, or belong, necessarily to the subject, and the subject must always exist, that is to say, be instantiated. Both sentences satisfy the first condition, but (2) fails to satisfy the second, for there may be times when no thing is walking. Averroes, like other Aristotelians, sees an intimate link between time and modality; furthermore he requires the subject of a

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<sup>7</sup> C. *Categories*, II:12, fol. 28v.

universal affirmative sentence to exist for the sentence to be true. If there are no walkers at time  $t$ , then (2) is not true at time  $t$ , and hence (2) is not necessary.<sup>8</sup>

Gersonides once again disagrees with Averroes. He argues that such sentences are necessary because the relation of subject and predicate expresses the necessary relation of species and genus, even though the species and genus are non-substantial. He calls this necessity incidental or *per accidens* because the underlying subject, that is, animal, happens to be described by the attribute of walking.<sup>9</sup>

Were the dispute to end here, we would have an interesting, if somewhat outdated, disagreement over the classification of a type of modal proposition. But from Gersonides' subsequent objections to Averroes we see that the logical issue reflects a fundamental difference of opinion over an issue in the philosophy of science, namely, what are the types of sentences that may serve as premises in scientific demonstrations. We have seen that for Averroes sentences are necessary only if they refer to things which always exist, if you will, natural kinds. Since the task of science is to provide us with knowledge of the essence of things the propositions of science will always refer directly to objects of this kind. Gersonides disagrees, I think, both on the basic conception of science as well as the logical structure of the sentences of science. What science discovers is not merely the essence of things but rather the intelligible order of reality, what he calls elsewhere its law or *nomos*. He views sentences that are incidentally necessary as fitting premises for demonstrations because they express the necessary connection of species and genus, of definition and definitum.

Gersonides does not enunciate this conception of science in his logical writings, but it can be inferred from some of the arguments which he brings against Averroes' treatment of sentences such as (2). For example, he argues that Averroes' theory cannot account for clearly

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<sup>8</sup> On this point see Averroes' third and fifth *Questions on Logic* which appear in Latin in the *Junctas* edition (Venice 1562-1574; rept. Frankfurt am Main 1962), vol. 1. The fifth "Question" was translated into Hebrew in Gersonides' lifetime, and Gersonides wrote a commentary thereon. An English translation from the Arabic of the third "Question" appears in Nicholas Rescher, *Studies in the History of Arabic Logic*, (England 1966), pp. 91-105.

<sup>9</sup> *Correct Syllogism*, I:1, Parma Hebrew MS. Biblioteca Palatina II v.67 2723 (De Rossi 805), fol. 94v.



necessary sentences that express natural laws such as 'An eclipse of the moon occurs when the moon enters the shadow of the earth,' for the event designated by the phrase 'eclipse of the moon' is transitory. Furthermore, Gersonides argues that Averroes' theory must also treat geometrical theorems as contingent, since the geometrical figures which they describe may or may not exist (be instantiated). Yet this contradicts Aristotle's opinion that mathematical statements are most capable of scientific demonstration.

Finally, Gersonides argues that incidentally necessary sentences are *superior* to essentially necessary sentences for the purpose of scientific demonstration, because in cognizing them, the intellect apprehends the necessary connection of subject and predicate *by virtue of the terms themselves*. Gersonides remarks:

In fact, the demonstrations which are best verified by the intellect are those which are composed of incidentally necessary premises, because the very terms themselves entail that the predicate will be affirmed or denied of the subject. These necessary premises appear to be both necessary and essential because we cannot suppose that the opposite of such a sentence will exist at some time. [This is so] since a definition will not be separated from its definitum, nor a genus from its species.<sup>10</sup>

What is of interest here is Gersonides' juxtaposition of an argument on behalf of the value of incidentally necessary statements for scientific demonstration with an argument for their necessity. Once again considerations of scientific utility are marshalled in the context of a purely logical discussion.

My final example concerns yet another debatable doctrine of Gersonides, the doctrine of the fourth syllogistic figure. Unlike most medieval logicians, Gersonides defends at length the necessity of positing a fourth syllogistic figure, in which the minor term is the predicate in the minor premise and the major term is the subject in the major premise.

I emphasize that Gersonides' defense is not merely of the validity of the fourth-figure moods but also of the necessity of positing a separate figure. In fact he argues that their validity follows self-evidently from the validity of the corresponding first-figure moods, for the order of the premises does not affect the satisfaction of the first-figure

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<sup>10</sup> *Correct Syllogism*, II:11, fol. 43r.

sylogistic conditions.<sup>11</sup> He was also aware that Averroes had suggested that the fourth-figure moods be treated as indirect moods of the first-figure, a position which can be traced to Theophrastus, and perhaps to Aristotle himself.

What was at stake for Gersonides in positing the fourth-figure was not so much the *validity* of these premise-pairs, as their *utility* in pursuing scientific inquiries. To understand this point a few words should be said about the place of syllogistic in those inquiries. In the Arabic and Hebrew tradition of logic, syllogisms were constructed so as to answer the question, 'Is  $A C$  or is it not?' The answer to this question, the technical term for which in Hebrew is *derush* or *mevukash* (*quaesitum*), was considered to be the aim of a syllogistic demonstration. Syllogisms as a result were constructed to yield the *derush*; if they did not, i.e., if they yielded a conclusion whose minor and major terms were reversed, then such syllogisms were considered to be of no value for scientific demonstration.

With this in mind we can appreciate the following argument for the fourth figure offered by Gersonides: If one fails to arrange the fourth-figure moods in a separate figure, but rather treats them as indirect moods of the first-figure, they do not yield the *derush*, which means that they are without value for scientific demonstration. In three of the indirect moods (Bramantip, Dimaris, Camenes) one can convert the conclusion so as to yield the *derush*, but in the two moods where the conclusion in particular negative (Fesapo and Fresison), this is not possible.<sup>12</sup> Only if we posit a separate figure, argues Gersonides, will we be able to produce all the concludent premise-pairs that yield the *derush*. And since these premise-pairs may arise in one's scientific investigations, it is important to arrange them in a separate figure.

Here, then, we see the extra-logical criterion of scientific utility informing Gersonides logic, without impinging upon the strictly logical concept of inferential validity. This should be contrasted with Averroes' view, which Gersonides cites and rejects, that syllogisms that do not yield the *derush* are, strictly speaking, not valid syllogism at all. Granted,

<sup>11</sup> *Correct Syllogism*, II:6, fol. 114r.

<sup>12</sup> This point was noted by J. N. Keynes in *Studies and Exercises in Formal Logic* (London 1894), p. 291.

says Gersonides, that such a syllogism is useless for scientific inquiry, but as long as the conclusion follows from more than one premise necessarily and not *per accidens* then there is a valid syllogism.<sup>13</sup>

Moreover, he argues that considerations of scientific utility should outweigh psychologistic scruples about the so-called naturalness of the fourth figure. To my knowledge Gersonides is the first logician to dismiss as irrelevant the claim that the fourth figure represents an unnatural way of thinking, a charge which appears in logic-textbooks through the nineteenth century. His response to this charge sheds a great deal of light on his own conception of logic, and its relationship to scientific inquiry:

As for Averroes' statement that we do not possess this figure naturally - even if we concede this point it is no objection against us. For when we mistakenly consider two inconcludent premises to be concludent, as in the case of two affirmative premises in the second figure, this art corrects our error and provides us with knowledge of which we were ignorant at the beginning of our speculation. But if this art investigated only by means of that which we know naturally, then our exertions in it would be an idle exercise. For it would not inform us of anything which we did not already know. This is completely evident.<sup>14</sup>

It is possible to understand Gersonides' response to Averroes in two ways. He may be saying simply that the "unnaturalness" of the fourth figure does not diminish its logical importance, for logic takes us beyond what we know by nature, i.e., originally, or in our natural state. But he may be making the stronger point that the oddness or counter-intuitiveness of certain valid patterns of inference are an insufficient ground for rejecting them. On the contrary, since logic proceeds from what is known to what is unknown, it is likely that there will be such strange patterns of inference; if our reasoning leads us to these patterns, or if we find it useful to retain them, then we cannot reject them because they represent an "unnatural" way of thinking about things.

I have attempted to show here that to support several key logical doctrines Gersonides appeals to their scientific utility, and in this respect there is an important connection between logic and science in his logical writings. Whether the connection exists in Gersonides' scientific writings is a separate question that awaits investigation. One can only speculate

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<sup>13</sup> *C. Prior Analytics*, Leiden Hebrew MS. Warnero 42, fol. 129v.

<sup>14</sup> *Correct Syllogism*, II:6, fol. 114r.

that the importance Gersonides attached to science, and particularly astronomy, might have had some influence on the inclusion of scientific considerations in his logic. In any event, such an inclusion follows naturally from the Aristotelian view of logic as a tool for the acquisition of knowledge.

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**Bradwardine and the Use of *Positio* as a Test of Possibility**

Thomas Bradwardine's *De Causa Dei, Contra Pelagium Et De Virtute Causarum* <DCD> published in 1344 is an account of God's relationship to creation based on Duns Scotus' theory of the will and its freedom.<sup>1</sup> In this paper I will examine the logical device which Bradwardine uses throughout his book as a test for possibility and ask what its use can tell us about mediaeval theories of modality.

At the very beginning of his book Bradwardine sets out a principle which he takes to be most certain:<sup>2</sup>

- (1) God is to the highest degree perfect and good, in as much as nothing might be more perfect and better.

The principle is supported with references to a large number of authorities but we are also offered a proof the first part of which requires that we consider a definition of what it is to be possible:

For the purpose of abbreviation let 'A' stand for something so perfect and good that nothing is capable of being more perfect or better. 'Possible' is understood in the usual way of speaking, or if necessary, to the highest degree absolutely; for that, that is to say, which *per se* and formally simply does not include a contradiction or repugnance. From which, namely, posited and admitted as absolutely possible according to the variety of obligation known as *positio*, there never follows in a good and simply formal consequence the absolutely impossible. That is to say, there does not follow something which *per se* and formally simply includes a contradiction. For every repugnance gives rise to and spawns a contradiction.<sup>3</sup>

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<sup>1</sup> Thomae Bradwardini, *De Causa Dei, Contra Pelagium Et De Virtute Causarum*, London, 1618, Photoreprint, Minerva Verlag, Frankfurt, 1964. The work seems to have been available in some form for up to ten years before its publication. See W.J. Courtenay, *Adam Wodeham: An Introduction To His Life And Writings*, Leiden, Brill, 1978, p. 117, n. 5.

<sup>2</sup> *DCD*, I.1, p. 1.

<sup>3</sup> *DCD*, I.1, p. 2. Presumably Bradwardine means by 'a repugnance' an impossibility such as 'a man is an ass'. This would yield a contradiction by the application of the general topical principle that if one of a pair of opposites inheres then the other cannot and the claim that being a man and being an ass are opposed in this way. In the twelfth century this principle was not universally accepted but it would apparently have been acceptable to Bradwardine. For more details on opposites see my 'Embarrassing Arguments and Surprising Conclusions in the Development of Theories of



In the fourteenth century logic it was usual to require in order for a consequence to be good that is impossible for the logically antecedent propositions all to be true while the consequent proposition is false. No distinction was made between the validity of argument and the truth of a conditional.

Two different methods of classifying consequences were generally introduced. According to the first, a consequence is *formally* good if it holds for all uniform substitutions from some class of expressions. For example, Aristotelian categorical syllogisms and Boethian hypothetical syllogisms hold for all uniform substitutions of common nouns. A consequence is *materially* good if it is good but not formally good.

According to the second classification, a consequence is *simply* good if it is at no time possible for the antecedent propositions all to be true and the consequent false. A consequence is good *ut nunc* if it cannot now be the case that all antecedent propositions are true and the consequent false, though this may be so at some time. A consequence holding *per se* and simply formally would thus, presumably, be one which is good at all time and is so in virtue of its form.

Bradwardine claims that no-one who accepts only what follows simply formally from the supposition 'A exists' in an obligation of *positio* can be led to an absolute impossibility and infers from this that it is possible that A exists. The second step of the proof rests upon the claim that a *per se* necessary being is more perfect than a simply actual being which is in turn more perfect than a merely possible being.<sup>4</sup> Thus A is a necessary being and it has been shown that it possibly exists. The third step is another application of a *positio* to prove that a contradiction follows from the supposition that A is a necessary being but that it does not exist.<sup>5</sup> Finally we have the result desired that A exists necessarily and, of course, since A is a description of God, a proof that the existence of God is necessary.

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the Conditional in the Twelfth Century' to appear in the *Proceedings of the Seventh European Symposium on Mediaeval Semantics*, Poitiers, June 1985.

<sup>4</sup> Something is *per se* necessary if it never was, is not, nor ever will be able not to be so. It is to be contrasted with the *per accidens* necessary which is not and never will be able not to be so but which was able not to be so.

<sup>5</sup> Bradwardine also supports this claim by considering the attribution of a potential to something which does not exist. Such a potential would have to be passive and so the non-existent would be dependent on that with the corresponding active potential and thus could not satisfy the definition of A.

The obligation of *positio* is thus crucial to Bradwardine's proof and in general for his account of possibility. In fact *positio* was used from the twelfth century on to explore possibility and consequence and in the fourteenth century in particular it played a central role in philosophical and theological discussions.

Bradwardine is perfectly explicit about the importance of *positio*. It provides him with his interpretation of Aristotle's definition of contingency:

... the Philosopher in *Prior Analytics*, 1, defines contingent <contingens>, the opposite of necessary, in the following way: "I apply the terms 'to be contingent' and 'contingent' to that which does not exist necessarily, that is to say absolutely, but with which posited in being, nothing which is impossible will come about on account of it." "With which posited in being", he says, that is in that species of obligation which is called *positio*, "nothing will come about", that is fall out in a simply formal consequence "which is impossible", that is to say simply and entirely absolutely what formally implies and includes a contradiction.<sup>6</sup>

The obligation of *positio* thus formalizes for Bradwardine what we may call Aristotle's Principle of Actualization.<sup>7</sup> Whatever Aristotle understood by this principle, it is clear that for Bradwardine the only objection to a claim that something is possible is that to suppose it actual would entail a contradiction. He associates possibility in this sense with God's absolute power:

Power considered simply and absolutely is an active power, in so far as it precedes an act and it is not limited or determined by something. That may be called absolute power, or the power for non-repugnance, in virtue of which that is said to be possible which does not formally include a contradiction or repugnance in a good simply formal consequence.<sup>8</sup>

In order then to properly understand Bradwardine's notion of absolute power we need to understand the workings of the obligation of *positio*. Rather than considering only one account from the large number

<sup>6</sup> DCD III, 52, p. 837D. I do not want to criticize Bradwardine's proof for God's existence here but obviously there is at least the appearance of a problem if the criterion of possibility used in the proof is in fact a criterion of contingency. The solution is easy, however, since one may take *positio* as a test of possibility in general and requires for two-sided possibility that both a proposition and its negation each be able to survive as *positum* in any *positio*.

<sup>7</sup> For a discussion of Aristotle's account of possibility in terms of actualization see J. Hintikka, *Time and Modality: Studies in Aristotle's Theory of Modality*, Oxford, 1973.

<sup>8</sup> DCD III, 52, p. 837C. Even more explicit is the continuation of the passage quoted as note 6 'I consider that it is from this power, absolute and for non repugnants, that God is said to be omnipotent and is truly so.'

that are known I give the following outline of *positio* as what seems to be common to them all.<sup>9</sup>

The obligation of *positio* consists of an exchange between an opponent and a respondent. The opponent generally chooses a proposition which is believed to be false but which the respondent grants to be possibly true. He then obligates the respondent to answer his questions as if the proposition were true. The proposition initially supposed to be true is called *positum* and each succeeding proposition a *propositum*. The obligation typically opens with one of the most common expressions found in mediaeval philosophical texts: 'let it be supposed to be the case that ...' '<ponatur in esse ...>' and the use of this expression is thus formalized in the obligation. For the remainder of the exchange, that is until the call 'let the time <of obligation> cease', the aim of the respondent is to reply consistently to the questions put to him. The aim of the opponent is to force his respondent to concede an impossibility.

What accounts as conceding an impossibility will thus determine what is possible and, for Bradwardine at least, what is within God's absolute power. Thus if someone were to hold that the negation of any truth about the past is impossible in the sense forbidden by Aristotle's Principle, this would be revealed in an obligation in which such a proposition is conceded by the respondent. The obligation should then be called to a halt and the respondent accused of an incorrect response. The point is that everyone agrees that the concession of contradictory propositions brings the obligation to an end in failure for the respondent but depending on one's view of possibility there might be other ways of failing.

The rules for proceeding in *positio* may be given as follows:<sup>10</sup>

(R0) The *positum* is to be conceded.

(R1) A *propositum* which follows from any conjunction of propositions already conceded with the negations of propositions already denied is to be conceded.

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<sup>9</sup> For more details see Section 16 of *The Cambridge History of Later Medieval Philosophy*, Cambridge, 1982.

<sup>10</sup> Strictly speaking Bradwardine is using *positio possibilis* in which a *positum* is defensible if and only if it is possibly true. There is another variety of *positio*, *positio impossibilis*, in which one is allowed to consider what follows from an impossibility and which employs a stricter account of truth for consequences. All the remarks which follow concern *positio possibilis*.

- (R2) A *propositum* the negation of which follows from any conjunction of propositions already conceded with the negations of propositions already denied is to be denied.
- (R3) Any *propositum* which is irrelevant to the *positum*, that is to say which is not to be conceded according to (R0) or (R1) or denied according to (R2) is to be conceded if it is in fact true and denied if it is in fact false.

For Bradwardine 'follows' is to be understood as 'follows simply formal consequence' but usually the requirement is only for following in a simple consequence.

These rules recall in a rudimentary form those used in modern logic in the construction of sets of propositions maximally consistent with respect to a given system of axioms and rules of inference. That is to say sets of propositions from which no contradiction may be derived within the system but which are such that if any proposition which is not a member is added, a contradiction is derivable. Any set of propositions consistent with respect to a given logical system has a maximal consistent extension.

Interpreting this, in terms of the modern possible world semantics for modal logic, we may say that the proposition 'p is possible', where 'p' is the name of a proposition, is part of the description of a possible world w, only if p is consistent with the set N consisting of every proposition which is necessarily true of w. If the set consisting of p and the members of N is consistent then it may be extended to a maximal consistent set which is the description of a possible world which is, as we say, accessible from w.<sup>11</sup> The accessibility or relative possibility of one world to another varies according to the different system of modal logic under consideration.

We may think in the same way about the actual world and the possibilities which we suppose to be open to it. If we think in this way, however, the accessibility relation is something to be read off the alternatives which we suppose to be available. Thus if we wished to hold that every non-contradictory world is an alternative to the actual world

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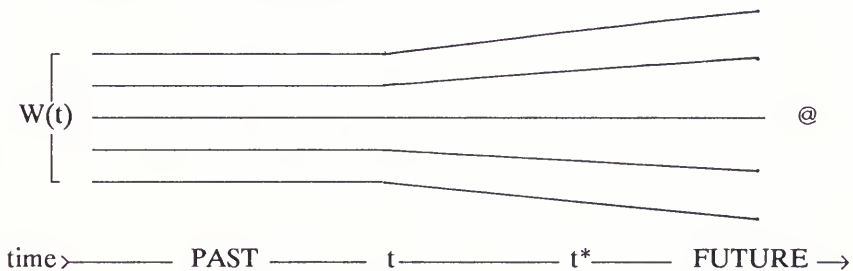
<sup>11</sup> See G.E. Hughes and M. Cresswell, *An Introduction to Modal Logic*, London, 1968, p. 155, lemma 4. Especially striking is the parallel between *positio* and the 'games' which Hughes and Cresswell use to introduce the notion of validity for various modal logics in Ch. 3 of their book.

and to every other possible world, we are committed to understanding possibility in terms of what modal logicians call the system S5.

This account of possibility seems to me to be just the one which is used in *positio*. The proposition 'p is possible', is true of the actual world if and only if no repugnance follows from the assumption that p is true at the same time as all those propositions which are necessarily true of the actual world. This will be so just in case this set of propositions can be extended to a complete description of a possible world.

*Positio* was in fact a rather less general procedure but this makes no difference to its proper construal. The treatment of irrelevant *proposita* means that that the possible world constructed will not differ much from the actual world and it will only be very partially described since the obligation cannot go on for ever.

Different accounts of repugnance and different treatments of *positio* will expose different understandings of what is possible. A very clear example is William of Ockham's treatment of future contingency and divine foreknowledge in his *Tractatus De Praedestinatione Et De Praescientia Dei Respectu Futurorum Contingentium*.<sup>12</sup> Ockham's view may best be presented in a diagram:



$W(t)$  is the bundle of possible histories open to the world at time  $t$ , the present instant. @ is the actual history of the world. Every proposition is assigned a truth-value at every time with respect to each possible history. For every time up to and including  $t$  any proposition which entails nothing about times later than  $t$ , is assigned the same truth-value at that time in all histories. A proposition  $p$  is necessarily true at  $t$ , if and only if it is true at  $t$  in all members of  $W(t)$ . Thus any true proposition which entails nothing about times later than  $t$  is necessarily true at  $t$ . On the other hand a proposition  $q$  simply about the

<sup>12</sup> In Guillelmi de Ockham, *Opera Philosophica*, vol. II, St. Bonaventure, 1978, pp. 505-539.



future <e.g. 'Socrates will sit at  $t^*$ '> is contingently true of the actual world at  $t$  if and only if there is some member  $w$  of  $W(t)$  such that the corresponding proposition about the present <i.e. 'Socrates is sitting'> is true of  $w$  at  $t^*$  and there is some member  $w'$  of which it is not true at  $t^*$ . Furthermore any proposition which entails a proposition contingently true at  $t$  is itself contingently true at  $t$ . Thus there are contingently true propositions about the past, for example 'it was true yesterday that Socrates will sit at  $t^*$ ' which entails 'Socrates will sit at  $t^*$ '. Ockham also holds that God knows that @ is the actual history of the world and so He knows what is contingently true about future.

The class of histories  $W(t)$  provides all the alternatives that are available to Ockham for a *positio* undertaken at  $t$ . Furthermore as he makes clear in a *positio* at the very beginning of *De Praedestinatione* the repugnance associated with alternatives outside of  $W(t)$  is a limitation upon God's absolute power. Even He cannot change the past.

If someone holds there are different sorts of powers and possibilities at work in the world, we would expect these differences to be reflected in *positio*. Thus Robert Holcot in his discussion of future contingents raises an objection in the form of a *positio* to the claim that an event  $A$  will occur but yet it is possible that it will not occur.<sup>13</sup> Granting that in fact  $A$  will occur and that he yesterday conceded that God knows that  $A$  will occur, the respondent accepts the *positum* (Po) 'A will not be'. He must now deny the first *propositum* (Pr1) 'God knew that  $A$  will occur' since it is repugnant to the *positum* on account of God's omniscience and infallibility. However, the next *propositum* (Pr2), 'You conceded the opposite of (Pr1) yesterday under no obligation', is, he claims, irrelevant to the *positum* and so must be conceded. Next (Pr3) is proposed: 'You responded wrongly yesterday'. This must be conceded since 'God knows that  $A$  will occur' was false yesterday in the *positio* but the respondent conceded yesterday, in fact and in the *positio* that God knows that  $A$  will occur. Rather than taking this as a refutation of the claim that  $A$  is possible, however, Holcot cites, as it were, a derived rule for *positio*: 'Given a possible *positum* it is not improper to concede the *per accidens* impossible'. Something is at some time *per accidens* impossible if it

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<sup>13</sup> Robert Holcot, *In Quattuor Libros Sententiarum Questiones*, Lyon, 1518; reprinted by Minerva Verlag, Frankfurt, 1967.

cannot then at any later time be so but at some earlier time it could have been so.<sup>14</sup>

Holcot's approach thus seems to be different to Ockham's. The Venerable Inceptor would presumably have argued that the proposition 'You responded wrongly yesterday' is in fact contingent and so it is within the absolute power of God to make it true today by choosing a *future* different to the one He has in fact chosen. Holcot, on the other hand, takes it to be a truth about the past and his account of it will depend on what he thinks about God's relation to the *per accidens* necessary and the possibility of His choosing a *past* different to the one He has in fact chosen. This point raises interesting questions about Holcot's relationship to Ockham which I will not pursue here since I want now to turn to Scotus' treatment of *positio* and a modern account of it.

Scotus' discussion of the proper definition of what it is for a will to act freely in his commentaries on Distinction 39 of Book I of the *Sentences* is well known. He claims that freedom must be understood in terms of the logical possibility that a being willing to X at an instant t might will not to X at t. That is to say if A wills to X at t and D is a complete description of the world at t, that is the maximally consistent set of all propositions true of the world at t, then A wills to X freely at t if and only if D - {'A wills to X at t'} is consistent with 'A wills not to X at t'. Cast constructively in terms of a *positio* we may say that a will willing to X at t freely wills to X at t if and only if it is possible to will not to X at t, that is to say if and only if a *positio* beginning with the *positum* 'A wills not to X at t' leads to no repugnance.

In his discussion of this possibility Scotus states as an objection to this account of freedom of the will a second derived rule for *positio*:

"If a contingent falsehood is to be posited <as true> of the present instant, then the present instant must be denied to be" - so that if "it is false that you are in Rome", and it is posited that you are in Rome, then the present instant must be denied to exist. Because if that you are in Rome is false of an instant A, it cannot be verified of A; "for either it is verified by motion or by change: not by motion since there is no motion in an instant, not by change because when there is change then there is a limit to the change", and then it would be both true and false in A; therefore if it is

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<sup>14</sup> Holcot, *op. cit.*, ff. h iii ra - va. Reading 'possible <*positum*>' where the printed text has 'impossible'.

posited that you are in Rome is true, since this may not be true in A, as has been proved, A must be denied to be.<sup>15</sup>

Scotus is apparently quoting from William of Sherwood's (?)<sup>16</sup> work on *obligationes* and he goes on to reject the rule by saying simply that *positio* can be conducted perfectly well without it. It should be noted, however, that Scotus' argument only applies to the will. He claims that there is a real potential for opposites in the will corresponding to the possibility defined above but does not claim that this same potential exists with respect to non-voluntary, irrational, causation. Thus so far as creatures are concerned the possibility that a black thing be white, if this is supposed to be based entirely upon non-voluntary causation, corresponds not to logical consistency but rather to change over time. Scotus goes on, however, to associate the same power for opposites with the divine will acting in the eternal present. The exact construal of this power and what it entails for human freedom is a difficult question which I cannot go into here. There is a problem, however, if Scotus wishes to hold that truths about the past are necessary to the extent that God is bound by them.<sup>17</sup>

No such difficulties arise for Bradwardine when, following Scotus, he bases possibility on God's absolute power in the eternal present. The rule governing the present instant does not apply to God since it is based merely on the *per accidens* necessity. All possible histories are available to God and to claim that it is possible for not-p to be true at t when p is in fact true at t is simply to claim that He might choose a different history for the world. Bradwardine goes on to complete the story begun by Scotus:

With <this man> existing in the present instant A in London, if it is posited as absolutely possible and similarly admitted that this man is not in London but in Rome in A, then no contradiction will follow formally nor anything which is absolutely impossible, granted that *ut nunc* and *per accidens* there seems to follow a contradiction and the absolutely impossible, that is to say that this <man> who is in London in A is not in London in A but rather is in Rome in A. This does not follow, however, *per se* and simply and absolutely. For

<sup>15</sup> Ioannis Duns Scoti, 'Lectura in Primum Librum Sententiarum', d. 39, n. 56, *Opera Omnia Studio et Cura Commissionis Scotisticae*, vol. 17, p. 498.

<sup>16</sup> Edited by R. Green in *The Logical Treatise De Obligationibus: An Introduction and Critical Texts of William Sherwood (?) and Walter Burley*, Ph. D. thesis, Louvain, 1963, to be published by The Franciscan Institute, St. Bonaventure, NY.

<sup>17</sup> See Calvin Normore's account of Scotus' view on future contingents in the *Cambridge History of Later Medieval Philosophy*, section 18, pp. 367-9.

that this <man> is in London in A is not absolutely necessary, nor does being in London inhere *per se* and essentially to this <man> in A. Indeed in so far as the nature of the thing and the absolute power of things is concerned it is not repugnant that this not inhere in him in A. He might indeed have taken a journey some time ago and in A or before A have finally arrived in Rome.<sup>18</sup>

Simo Knuuttila has recently argued that Duns Scotus' treatment of possibility marks a radical innovation in mediaeval thought. He claims that before Scotus mediaeval logicians held what has been called a statistical theory according to which possibility was in effect defined as follows:<sup>19</sup>

(S) A proposition p is possibly true at a time t if and only if it is true at t or will be true at some time t' later than t.

According to the theory a dated event is bound necessarily to the time at which it occurs and so the future is determined necessarily to be the way that it will be. Apparent counterexamples are dealt with by distinguishing the supernatural power of God from natural possibility. Aside from the direct evidence to the contrary, the difficulties posed by a definition of possibility like (S) would seem to require that any mediaeval using it offer an argument in its favour. As far as I know, however, none has so far been found. Rather we are referred to the mediaeval distinction between composite and divided readings of propositions such as 'the black thing is possibly white'. This is false read in the composite sense as "the truth of the following is possible: 'that thing which is black is white'" but it may be true read in the divided sense as 'that thing which is now black is possibly white'. Many mediaevals, however, read the divided sense as 'that thing which is now black is possibly white at some later time'. The later time is required since for a white thing to be black there must be an actualization of the potential it has for being black and change, which is the actualization of potential, requires time. It is the need for change, I think, rather than acceptance of the statistical account of possibility which requires the reference to the future.

Somewhat paradoxically the best example of a philosopher holding a statistical account of modality may well be Bradwardine. God has chosen

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<sup>18</sup> DCD III, 52, p. 838.

<sup>19</sup> This is only a crude characterization but it serves to make my point about *positio*. See S. Knuuttila, 'Time in Modality in Scholasticism', in S. Knuuttila ed., *Reforging the Great Chain of Being*, Dordrecht, Holland, 1981, pp. 163-257.



the actual world-history and every possibility is to be analyzed in terms of His absolute freedom of choice. All possibility is thus supernatural and for natural beings there is no alternative to the actual world.

Knuutila has identified Scotus' rejection of the rule concerning the present in *positio* with a move away from the statistical theory of modality. If we examine one of the earliest texts on *positio*, however, we find that there at least the rule seems not to presuppose a statistical definition of possibility.

The *Obligationes Parisiensis*,<sup>20</sup> which apparently dates from the last third of the twelfth century, presents a sophism concerning the use of the rule about the present instant. We are asked to suppose that as a matter of fact Socrates is white and that 'A' is a proper name for the present instant. The *positum* (Po) is 'Socrates is black' and the first *propositum* (Pr1) 'A exists'. If the *propositum* is conceded, the opponent argues that it follows that Socrates is white in A which is impossible and so the respondent must have responded wrongly since he started from something possible. On the other hand, if the respondent, in accordance with the rule, denies (Pr1), (Pr2) is proposed: 'A was going to exist'. Should this be denied the opponent claims that the respondent has denied what is true, and presumably irrelevant, so he has responded incorrectly. If he concedes (Pr2), the opponent proposes (Pr3): 'A has existed'. Should this be conceded the opponent accuses the respondent of conceding a falsehood which does not follow from the *positum*. If (Pr3) is denied, the opponent finally proposes (Pr4): 'A will exist'. This we are told should not be conceded since it is impossible but on the other hand should not be denied since it follows from what has gone before.

The solution to this sophism according to the unknown author is to deny (Pr1): 'A exists'; to concede (Pr2): 'A was going to exist'; to deny (Pr3): 'A has existed' and to *concede* (Pr4): 'A will exist'. Thus the proposition 'Socrates is black' must be supposed true at some time *earlier* than A rather than later as the statistical definition of possibility would require. The author goes on to note that 'A will exist' is *per accidens* impossible but that this does not conflict with its being conceded in the *positio*. Thus even at this early date *positio* as the criterion of possibility seems to be understood in terms of the construction of alternative

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<sup>20</sup> In L.M. de Rijk, 'Some Thirteenth Century Tracts on the Game of Obligation', *Vivarium*, XII, 1974, pp. 94-123. On the basis of references to the Parisian Schools of the later twelfth century I think that these texts should be dated before 1200.



possible histories. Scotus certainly does suggest a new way of looking at these alternatives in terms of his account of the freedom of God's will but this was not obviously a move from a statistical to a non-statistical theory.

I hope that what I have said has shown that an understanding of the obligation of *positio* is important for those studying mediaeval philosophy and theology and that any account of mediaeval theories of possibility should pay attention to the use of this device.

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## VICENTE MUÑOZ DELGADO

### Los enunciados "insolubles" en las sumulas (1518) de Juan de Oria

#### 1. Breve introducción

Juan de Oria ha sido profesor de lógica y filosofía natural en la Universidad de Salamanca por los años 1509-1523. Enseñaba *in via nominalium* y *ad modum parisiensem*, utilizando especialmente a Ockham y Buridán.<sup>1</sup>

En las bibliotecas de la Universidad de Salamanca y de sus Colegios aparece, desde el siglo XV, una notable presencia de manuscritos de autores ingleses, especialmente de Oxford. G. Beaujouan ha estudiado e identificado en Salamanca, entre otros manuscritos, un resumen de los *Sophismata* de Heytesbury, los *Insolubilia* de Wiclef, las obras de W. Burleigh, R. Allington, Bradwardine, Swineshead, etc.

El período de profesorado de Oria es singularmente interesante, porque coincide con la apertura oficial al nominalismo y al París del Monteagudo de Juan Mair, con la traída de nuevos profesores de la capital francesa.<sup>2</sup>

Dentro de ese contexto de relación con Oxford y París, quiero presentar el *Tractatus insolubilium*, que ocupa los fols. 22v-24v, dentro del *Tractatus consequentiarum*, formando parte de sus *Summulae* (Salamanca 1518), de las que estamos publicando una reedición moderna y actualizada. Juan de Oria estudia los insolubles en el horizonte de la inferencia, colocando ese tema a continuación del *Tractatus exponibilium* y antes de las *Obligaciones*.<sup>3</sup>

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<sup>1</sup> V. Muñoz Delgado, 'Introducción al pensamiento de Juan de Oria', *Revista española de Teología* 43(1983) 75-116.

<sup>2</sup> G. Beaujouan, *Manuscrits scientifiques médiévaux de l'Université de Salamanque* (Burdeos 1962) 3,21-31,59; Id., *La science en Espagne aux XIVe et XVe siècles* (Paris 1967) 26-8,33-6. Muñoz Delgado, *La lógica nominalista en la Universidad de Salamanca (1510-1530)* (Madrid 1964) 65-90.

<sup>3</sup> Johannis de Oria, *Summularum volumen primum* (Madrid, CSIC, 1987), con introducción general sobre la obra de Oria.

Oria ha sistematizado la doctrina de los *insolubles* y la expone de manera ordenada. Sigo la disposición de temas del original, de tal forma que este trabajo es, a la vez, un resumen de su exposición y un estudio de sus doctrinas.

## 2. Los enunciados reflexivos y los insolubles

*Reflexivo* es más extenso que insoluble y abarca algunos enunciados que no pueden llamarse propiamente insolubles. El enunciado reflexivo siempre se significa a sí mismo, es decir hay la reflexión de la segunda intención sobre la primera. Por eso Oria, en el *Tractatus de conceptu* (f.52r), había escrito "Secunda intentio est velut conceptus reflexus respectu prime intentionis".

La reflexión de la segunda intención puede ser de manera *inmediata* y *mediata*, como sucede, respectivamente, en estos dos ejemplos, *hec est falsa*, refiriéndose a sí misma, y *hec non est vera*, que de manera mediata se refiere a la contradictoria de la anterior.

Además, es importante observar que la reflexión ha de referirse a la verdad o falsedad. Con palabras de Oria, la reflexiva se significa a sí misma *sub ratione veri vel falsi*, para distinguirla de la autorreferencia en enunciados con nociones trascendentales, o también en relación a propiedades que se derivan de la verdad o falsedad, como *hec est necessaria*, *hec est impossibilis*.

Éstas dos últimas son también reflexivas y Oria destaca que, aunque la verificación y suposición son en realidad propiedades de los términos dentro de la proposición, verdad y falsedad son atributos del enunciado como un todo; sin embargo, las propiedades lógicas de los términos (*suppositio*, *ampliatio*, etc.) se ordenan al todo enunciativo o proceden de él.

La verdad y falsedad son el fundamento de todas las propiedades lógicas. Por tanto la reflexión puede referirse a la suposición de algún término, al todo o propiedades derivadas de cualquiera de esos aspectos.

Por eso, *hoc est hoc*, indicando ambos pronombres el predicado, es reflexiva en orden a la verdad de tal enunciado, porque la suposición de *hoc* se relaciona con la verdad. Igualmente también hay reflexión *sub ratione veritatis* en estas frases *hoc consequens est falsum*, *ergo hec consequentia est vera*. En el antecedente, el primer pronombre produce

una reflexión mediata; en el consiguiente, el segundo pronombre origina una reflexión inmediata dependiente de la primera.<sup>4</sup>

Queda, pues, establecido que la reflexión *sub ratione veri vel falsi* ha de extenderse a las propiedades de los términos, que se relacionan o derivan de la verdad-falsedad del enunciado como un todo. Así también entendemos la doctrina de Oria de que hay enunciados *insolubles*, en cuya formulación no entra la segunda intención ni ninguno de esos tipos de reflexividad, como en estos famosos enunciados *ego nihil dico*, *ego iuro me periurare* y similares. Éstos no serían insolubles en sentido estricto y Oria los trata al final de todo, proponiendo una definición de insoluble algo diferente.<sup>5</sup>

Con esto tenemos explicada la noción de enunciado reflexivo y estamos preparados para entender la definición de Oria: "Propositio reflexiva est propositio significans se mediate vel immediate, sub ratione veri vel falsi vel aliarum passionum has consequentium" (f.22v).

Enunciado reflexivo aparece así abarcando muchos más enunciados que los propiamente insolubles. Lo esencial, en el insoluble, es la autofalsificación, ya de manera directa e inmediata, ya como consecuencia. Insoluble, para Oria, es el enunciado que afirma su propia falsedad. Por ello propone esta definición: "propositio insolubilis est propositio se falsificans mediate vel immediate, sub ratione affirmationis vel intrinsece significationis", como "*hec est falsa, seipsam demonstrando*" (f.22v). Más abajo, apartado 8, proponemos la otra definición.

Hay que notar que la autofalsificación se ha de hacer de manera afirmativa, *sub ratione affirmationis*. En virtud de tal restricción, que será importante en nuestro lógico, un enunciado como *hec non est falsa*, la contradictoria de *hec est falsa*, no es insoluble en rigor.

De este modo la autorreferencia, en el enunciado reflexivo, se hace *sub ratione veri vel falsi* o en orden a propiedades derivadas de la verdad-falsedad y se expresa de manera afirmativa o negativa. En cambio, el insoluble es siempre autofalsificación, es decir *sub ratione falsi*, y expresada de manera afirmativa, mediata o inmediata. Además, la autofalsificación se deriva de que la falsedad se sigue de su propio significado y de ser según ella misma expresada. Por eso este enunciado y

<sup>4</sup> Oria, *Summulae* (Salamanca 1518), *De insolubilibus* f.22v. Salvo indicación contraria, las citas de Oria se refieren siempre a ese tratado y a esa edición.

<sup>5</sup> Oria, *Ibid.*, f.24v. Cf. Bricot, Thomas, *Tractatus insolubilium* (Nimega, Ingenium Publishers 1966) 18,69,70,73,74. V. esa nueva definición de insoluble en el apartado 8.

similares *ego dico falsum*, supuesto que no diga ninguna otra cosa, no es propiamente insoluble, no hay autofalsificación. Oria tampoco tiene dificultad en aplicar a ese enunciado la doctrina de las *obligaciones*, que expresa la codificación de las condiciones de la disputa escolástica. Podría admitirse, según Oria, que *ego dico falsum* se autofalsifica *ex casu* y por convención o acuerdo entre los que llevan la discusión. Pero, en ningún caso, es auténtico insoluble, tanto que se le ponga como *obligatoria*, al modo de Heytesbury, o que se adopte otra posición.<sup>6</sup>

Con Oria podemos inferir estos corolarios de lo dicho: 1º La contradictoria de cualquier enunciado reflexivo es reflexivo. 2º La contradictoria de cualquier enunciado insoluble nunca es insoluble. 3º La contradictoria de un enunciado insoluble es reflexiva. 4º La proposición reflexiva significa *sub ratione veri vel falsi*, en cuanto que verdad y falsedad son el fundamento de todas las propiedades lógicas y la reflexión puede referirse a las propiedades de los términos, al todo o algo derivado de cualquiera de ellos. 5ª El insoluble se formula *sub ratione falsi*, de modo afirmativo.

### 3. Verdad y falsedad en los enunciados insolubles y suposición de los términos

El segundo tema y la segunda dificultad se refiere a las causas de verdad y falsedad en los insolubles. La razón de llamarse *insolubles* esos enunciados se deriva de que aplicando la doctrina de la causa adecuada de la verdad y falsedad de las proposiciones ordinarias a las reflexivas resulta que son al mismo tiempo verdaderas y falsas. Por eso, hay que concluir que la causa de verdad o falsedad del insoluble no se puede resolver con la doctrina ordinaria aplicable a los no-insolubles y no reflexivos. Se les aplica razonablemente el nombre de *insolubles*, porque utilizando la definición común de proposición verdadera conduce a la afirmación de la verdad o falsedad simultánea en dos contradictorias. Lo que en un enunciado ordinario es causa de su verdad (*ita esse sicut per propositionem significatur*) o de su falsedad (*ita non esse sicut per*

<sup>6</sup> Oria, f.22v-23r; Bricot, 74; Alberto de Sajonia, *Peruillus Logica* (Hildesheim, G. Olms Verlag, 1974) 43v; Francesco Bottin, *Le antinomie semantiche nella logica medievale* (Padua, Antenore 1976) 121,128-130; Paul Vincent Spade, 'Insolubilia', en N. Kretzmann, A. Kenny, J. Pinborg, eds., *The Cambridge History of Later Medieval Philosophy* (Cambridge 1982) 252.



*propositionem significatur*) puede resultar aquí al revés, como en *hec est falsa*, que es falsa porque significa ser lo que es.<sup>7</sup>

Por esas razones, en los insolubles, hay que cambiar la definición de enunciado verdadero y enunciado falso. La proposición verdadera se define: "propositio vera est que significat ita esse sicut est et ad ita esse non sequitur ipsam esse falsam". La de la falsa, debe formularse así: "propositio falsa est que significat ita esse sicut non est vel ad ita non esse non sequitur ipsam esse veram" (f. 22v-23r). Es un reajuste muy común en tiempos de Oria, que así acepta la posición más común.<sup>8</sup>

De esa doctrina ampliada sobre los enunciados verdaderos y falsos se siguen algunos corolarios: 1º Cualquier proposición es falsa si significa su propia falsedad tanto de manera mediata como inmediata. 2º Cualquier proposición, que significa que su contradictoria es verdadera, es falsa. 3º Cualquier proposición, que significa que su contradictoria no es falsa, es verdadera y la afirmativa es falsa. 4º En general, toda proposición que se significa a sí misma, como verdadera o como falsa, como no verdadera o no falsa, ha de ser juzgada tal como ella se autocalifica; pero la contradictoria tiene valor opuesto. 5º No hay inconveniente en admitir dos contradictorias falsas. *Hes est vera* y *hec non est falsa*, son ambas verdaderas, pero sus contradictorias son falsas al mismo tiempo, aunque la segunda no es propiamente insoluble. Se entiende, en ambos casos, que la pronombre se refiere a la misma proposición (f. 22v-23r).

Oria propone la regla de que, para juzgar de la verdad y falsedad de esos enunciados, hay que atender especialmente a los enunciados que se autosignifican de manera inmediata.

Como una extensión del tema y como una dificultad pendiente, examina nuestro lógico la famosa regla para determinar la verdad de los enunciados: *una afirmativa es verdadera, cuando sus extremos suponen por lo mismo y, en caso contrario, es falsa*. Oria examina todos los reajustes y condiciones que se han añadido a esas reglas, que se aplican solamente a los enunciados puramente categóricos y no reflexivos. En

<sup>7</sup> "Causa adequate veritatis vel falsitatis in aliis propositionibus, que est ita esse vel ita non esse sicut per propositionem significatur, reperitur in istis cum opposita proprietate, quinimmo causa veritatis in aliis est causa falsitatis in illis", Oria, f.22v. Vid. las notas 15 y 16.

<sup>8</sup> E.J. Ashworth, *Language and Logic in the Post-Medieval Period* (Dordrecht, D. Reidel, 1974) 112; M.L. Roure, 'Le traité des Propositions insolubles de Jean de Celaya', *Archives d'histoire doctrinale et littéraire du moyen âge* 37(1962) 263-64; Bricot, 20-21; Angel D'Ors, 'La doctrina de las proposiciones insolubles en las "Summulae" de Domingo de Soto', *Cuadernos salmantinos de filosofía* 13(1986) 193-95.

efecto, en los enunciados reflexivos los extremos de una proposición pueden suponer por lo mismo y ser falsa, como *hec est falsa* y puede haber enunciados con extremos que no suponen por lo mismo y ser verdaderos, como sucede en *hec est vera*, referida a su contradictoria, que es verdadera.

De manera homóloga, se ha de hablar de la regla para la verdad de los enunciados negativos: *la proposición negativa, cuyos extremos suponen por lo mismo, es falsa y es verdadera cuando sus extremos no suponen por lo mismo*. Esta regla de la verdad-falsedad en las negativas tampoco se cumple en los reflexivos, donde un enunciado como *hec non est falsa*, referida a su contradictoria, es verdadera y los extremos no suponen por lo mismo. Igualmente *hec non est vera* expresada de sí misma, es falsa y sus extremos no suponen por lo mismo.

La razón está en que los insolubles y reflexivos tienen causas de verdad y falsedad distintas de las categóricas ordinarias. Por eso no cumplen las famosas reglas de verdad y falsedad en las afirmativas y negativas.<sup>9</sup>

#### 4. Principales opiniones acerca de la naturaleza de los enunciados insolubles

Ahora nuestro Oria estudia el insoluble en sí mismo, enumerando seis posiciones diferentes con la correspondiente crítica. Nos sirve también como testimonio de los conocimientos que, acerca del tema, circulan en Salamanca por 1518. No cita a ningún autor y solamente expone las doctrinas.

*Primera opinión.* Los insolubles no son proposiciones, porque no tienen verdad y falsedad determinada, lo que es algo esencial en la noción de enunciado. Para encontrar la verdad o falsedad de un insoluble, habría que superar una circularidad infinita y sin término.<sup>10</sup>

Oria refuta esa posición, diciendo que el insoluble representa al entendimiento una significación determinada y una verdad-falsedad también

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<sup>9</sup> Oria, *Summulae*, ed. 1987, I,187-88; Domingo de Soto, *Summulae* (1554) (Hildesheim, G. Olms Verlag 1980) f.36v.

<sup>10</sup> L.M. de Rijk, 'Some Notes on the Medieval Tract De insolubilibus', *Vivarium* 5(1966) 109; Bottin, 47-49.

determinadas. Aún un enunciado como *buf est buf* tiene valor veritativo determinado y lo mismo sucede con proposiciones dudosas como *astra sunt paria*, aunque el entendimiento no esté seguro de cual es su verdad. *A fortiori* enunciados, como *hec est falsa*, tienen valor determinado.

*Segunda opinión.* Enseña que el insoluble tiene valores veritativos determinados, pero uno *simpliciter* y el otro *secundum quid*. Por parte del significado, es verdadero *simpliciter*, por ej. *hec est falsa*; pero, en cuanto al modo de significarse y autofalsificarse, tal enunciado es falso *secundum quid*. De su contradictorio habría que predicar esos valores, pero de manera opuesta. Aquí no habría dificultad para admitir en los contradictorios simultáneamente verdad y falsedad, poniendo un valor *simpliciter* y el otro *secundum quid*.

A Oria le parece una posición contradictoria, porque al admitir dos significados (*ita esse et se esse falsum*) y dos valores, hay que preguntarse si lo realiza de modo copulativo o de manera separada. En el primer caso, la copulativa es *simpliciter verdadera o falsa*. Si la duplicidad se significa de manera *inconiunctim*, se trataría de una *propositio plures* y como tal habría de ser tratada.<sup>11</sup>

*Tercera opinión.* Nunca una parte de la proposición supone por toda la proposición. Cuando se afirma *ego nihil dico*, en el uso común, se excluye la referencia a esa proposición y se entiende *nihil dico aliud ab hac propositione*. En vez de hablar de insolubles y reflexión, de primera y segunda intención, sería mejor atender al sentido común y ordinario de los hombres. Generalmente no se entiende la misma proposición y suele referirse a un tiempo anterior. Según esta opinión, las causas de verdad y falsedad en los reflexivos e insolubles serían las generales.

Oria refuta esta opinión diciendo que no da razón de la verdad-falsedad de enunciados como *hec est falsa*, en autorreferencia.<sup>12</sup>

*Opinión cuarta.* Se supone la distinción de los tres lenguajes, mental, hablado y escrito con la subordinación de estos dos últimos al mental.

<sup>11</sup> Cf. P.V. Spade, 247; M.L. Roure, 'La problematique des propositions insolubles du XIIIe siècle et du debut du XIVE, suivie de l'edition des traités de William Shyreswood, Walter Burleigh et Thomas Bradwardine', *Archives d'histoire doctrinale et littéraire du moyen âge* 45(1970) 216-43.

<sup>12</sup> Spade, 248; Roure, 1970, 270; Bricot, 50; Soto, f. 152r. col.2; Ashworth, *Language and Logic*, 104-105.

Gregorio de Rímini y Pedro de Ailly parten probablemente de la doctrina de Heytesbury de que en el lenguaje mental no hay insolubles ni autorreferencia.

Pedro de Ailly resuelve el problema de los insolubles diciendo que son *propositiones plures*, es decir, por ej., *hec est falsa* se subordina al mismo tiempo a dos proposiciones mentales separadas, una de las cuales es verdadera y la otra falsa. Oria señala que se refiere a dos mentales *inconiunctim*, una de las cuales en virtud de la significación primaria de los términos es falsa y la otra una reflexión sobre esta primaria. Los enunciados mentales a que se subordina el insoluble no son insolubles.

Oria resume esa opinión y la critica diciendo que la proposición mental y la vocal-escrita deben significar lo mismo. Ahora bien, la vocal-escrita no significa que una de las mentales sea falsa. Por lo tanto, tampoco lo significa la mental.<sup>13</sup>

*Opinión quinta.* Los insolubles son enunciados copulativos hipotéticos, compuestos de dos partes, significando la parte primera lo fundamental y la segunda falsifica la parte anterior. Serían enunciados *simpliciter falsos*, porque la parte segunda es falsificante y, en una copulativa, cuando una parte es falsa, lo es el todo. La contradictoria sería *simpliciter vera*.

Ashworth explica que destacan singularmente esta opinión Trutvetter y Jorge de Bruselas, distinguiendo el significado *primario, directo y formal*, expresado por los términos tomados en su sentido normal, y el significado *secundario, indirecto, reflexivo, material*, cuando un término supone por toda la proposición y la falsifica. En esta versión, los insolubles son todos falsos, en virtud de las leyes de la conjunción. El insoluble sería propiamente la significación secundaria, que también es falsa.

Oria critica a esta doctrina, porque con ella no aparecería claro cuando una proposición es copulativa y cuando no lo es.<sup>14</sup>

*Opinión sexta. La doctrina propia de Oria.* Se trata de la doctrina establecida por Oria al explicar, como hemos visto, los cambios que hay que hacer para definir la verdad y falsedad de los enunciados de forma que se pueda aplicar a los insolubles y reflexivos. Son las nuevas

<sup>13</sup> Ashworth, *Ibid.*, 108-110; Spade, 253; Pedro de Ailly, *Concepts and Insolubles* (Dordrecht, D. Reidel, 1980) 3-8.

<sup>14</sup> Ashworth, *Ibid.*, 110-11; Oria, f.23v.

condiciones de verdad y falsedad, que ya hemos visto. En esta opinión, la de Oria, los insolubles son proposiciones puramente categóricas, *simpliciter* verdaderas o falsas, atendiendo a los valores veritativos por parte del significado total.<sup>15</sup>

Esta doctrina procede en lo esencial de Swineshead, que modifica algo de teoría de la verdad como correspondencia, exigiendo ulteriormente que, además de la correspondencia con la realidad, no haya autofalsificación, como se formula en las definiciones de verdad que dejamos transcritas, según el texto de Oria.

La doctrina de Swineshead la describe largamente la *Logica Magna* (f.194-195) de Pablo de Venecia y fue adoptada por Juan Mair, Domingo de Soto, Lax, Celaya y también Oria con algún pequeño reajuste. Según ellos, *hec est falsa* es falsa, porque se autofalsifica y *hec non est falsa* es también falsa, referida a la anterior, porque niega que las cosas sean como son. Éste es el *primer modo*, que también expone Oria y acepta parcialmente con las famosas consecuencias opuestas a las leyes lógicas generales: dos contradictorias pueden ser falsas; una consecuencia correcta puede tener antecedente verdadero y consiguiente falso; dos enunciados sinónimos pueden tener diferente valor veritativo, etc.

Bricot, Tateret, Trutvetter y otros quieren evitar esos inconvenientes y para ello distinguen la proposición afirmativa y la negativa, en cuanto a las normas de verdad. Una afirmativa es verdadera, si cumple las dos condiciones señaladas, es decir, significa las cosas como son y no se autofalsifica. En cambio, una negativa es verdadera, si significa las cosas como no son o si tiene una contradictoria que se autofalsifica. Cualquiera de esas dos condiciones basta para que el enunciado negativo sea verdadero.

Según este *segundo modo* de explicar los enunciados resulta que *hec est falsa* es falsa, porque se autofalsifica, pero *hec non est falsa* es verdadera, porque su contradictoria es falsa.

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<sup>15</sup> Transcribo la nueva versión, que ahora introduce Oria, de la verdad-falsedad en los enunciados: "est significare ita esse sicut est et ad sic esse non sequitur ipsam esse falsam vel suam contradictoriam se intrinsece falsificare. Et hoc quoad veritatem. Vel significare non ita esse sicut est vel ad non sic esse non sequatur ipsam esse veram aut suam contradictoriam esse falsam. Et hoc quoad falsitatem" (f.24r). V. la nota 7. Pone estos dos ejemplos *hec est falsa* y *hec non est vera*, que son ambas falsas. Pero, respecto de la negativa, añade que hay otra manera de entender su valor, haciéndola verdadera, porque su contradictoria *hec est vera* es falsa. Cf. el texto que transcribimos en la nota siguiente.



Oria recuerda aquí las dos modalidades que hay, dentro de esta sexta posición, sin pronunciarse por ninguna ni citar a ningún autor. En *De enunciatione* (f.24r) recuerda también estas dos maneras de solucionar el problema de los insolubles, que estaban de moda en su tiempo, sin pronunciarse tampoco por ninguna.<sup>16</sup>

### 5. Los insolubles y las reglas de la consecuencia

Examina ahora con alguna detención la validez universal de la célebre regla: *ex vero non sequitur falsum*. ¿Se aplica a los razonamientos con insolubles?.

Pone, como ejemplos, estos casos: *hoc est falsum, ergo hoc est falsum*, refiriéndose el pronombre al consiguiente en ambos casos. Igualmente, suponiendo que sólo existe este razonamiento en *Darii*: *Omnia conclusio est falsa, Conclusio de Darii est conclusio, ergo conclusio de Darii est falsa*. Y este otro paralelo: *nulla conclusio est vera, omnis conclusio de Celarem est conclusio, ergo nulla conclusio de Celarem est vera*. Finalmente, pone este ejemplo: *hec non est vera et hec propositio est, ergo hec est falsa*, referido el pronombre al consiguiente.

Los ejemplos son bastante comunes en los lógicos del tiempo. La solución al problema tiene dos salidas, como recuerda Oria, aludiendo a los dos modos de explicar la verdad y falsedad de los insolubles recordados en la última opinión.

Para muchos lógicos, la regla *de lo verdadero no se sigue lo falso* no vale en los enunciados reflexivos y autofalsificantes.

La segunda solución admite la validez universal de las reglas de razonar. Pero los insolubles tienen distinta forma y en ellos la verdad o falsedad se explica de diferente manera. Se trata, por tanto, de

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<sup>16</sup> He aquí las dos reglas de verdad-falsedad en los dos modos que distingue nuestro Oria: "a) *secundum istum modum* ponitur ista regula: *quecumque propositio, que suam contradictoriam formaliter verificat, seipsam falsificat et est falsa et sua contradictoria vera...* b) *Sed, secundum priorem modum, dicitur oppositum; quecumque propositio, que seipsam intrinsece falsificat vel se non verificat, est falsa et sua contradictoria vera*", Oria, f.24r. Cf. Bricot, 21-22; Celaya, en Roure, 1962, 263-64; Spade, 250-51; Ashworth, *Language and Logic*, 112-13; Id., 'Thomas Bricot (d.1516) and the Liar Paradox', *Journal of the History of Philosophy* 15(1977) 267-80.

enunciados distintos y de formas lógicas diferentes. En los ejemplos puestos no hay propiamente argumentación.<sup>17</sup>

#### 6. *Los enunciados sinónimos y sus valores veritativos*

El problema consiste en si, dentro de la esfera de los insolubles, pueden darse dos enunciados sinónimos con diferente valor veritativo, es decir que uno sea verdadero y el otro falso. Por ej., *hec est falsa* y *hec est falsa*, refiriéndose ambas a la enunciada primeramente. Parecería que la primera formulación es falsa y la segunda verdadera, porque afirma la falsedad de la primera.

Este es el problema. Oria distingue tres maneras de resolverlo y de dar una respuesta adecuada. Naturalmente, las tres soluciones dependen de la definición de proposición verdadera. Explica las tres sin pronunciarse en favor de ninguna.

El *primer modo* de solución sostiene que las dos proposiciones del ejemplo son sinónimas y ambas falsas, porque *hec est falsa* se autofalsifica a sí misma y a su sinónima y lo mismo sucede con la segunda formulación. Porque toda proposición autofalsificante también falsifica a su sinónima. Lo mismo sucedería con la que se autoverifica que también hace verdadera a su sinónima. De este modos dos enunciados sinónimos tienen siempre el mismo valor veritativo.

El *segundo modo* de responder a nuestro problema defiende que las dos proposiciones del ejemplo no son sinónimas, porque son dos modos de significar diferentes: uno mediante el cual un enunciado se autofalsifica y otro mediante el cual se significa que *otra* proposición es falsa. No hay pues sinonimia, porque son dos modos de significar diferentes y, en general, ninguna insoluble, como la primera, es sinónima de la no insoluble, como la segunda. Se trata de enunciados codiferente estructura.

El *tercer modo* admite que dichas proposiciones son sinónimas, pero la primera es falsa y la segunda verdadera. Razonar *a sinonimis* sigue siendo formalmente correcto, aunque tengamos antecedente verdadero y

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<sup>17</sup> Oria, f.24r; Soto, *Summulae*, f.154r; Muñoz Delgado, *La lógica nominalista en Salamanca*, 145-155, 349-153.

consiguiente falso, como ya queda indicado al hablar de las reglas consecuenciales.<sup>18</sup>

### 7. Verdad y falsedad en los enunciados contradictorios

El tercer modo de resolver el problema de los sinónimos parece simpatizarle a Oria, aunque no se pronuncia por ninguno. En efecto, estudia ahora una nueva dificultad y es si ese tercer modo evita que haya que conceder en los insolubles dos contradictorias simultáneamente verdaderas o falsas.

Oria refuta a los que admiten que, de ese modo de explicar los enunciados sinónimos, se siga la existencia de dos contradictorias verdaderas y aún de dos falsas al mismo tiempo, refutando argumento por argumento. El problema era muy famoso y los lógicos españoles del tiempo suelen tratarlo en referencia a Bricot, dentro del contexto de su posición anteriormente expuesta.<sup>19</sup>

### 8. Los insolubles sin términos de segunda intención

Termina Oria con una breve consideración acerca de los insolubles en cuya formulación no entran términos de segunda intención ni se auto-significan *sub ratione falsi*, como los ha definido al principio del tratado.

Propone ahora Oria una noción de insoluble algo más amplia, en contraposición a la noción inicial que unía insoluble y reflexivo y, por tanto, siempre entra la segunda intención. Esta noción más amplia de insoluble sería formulada así: "insolubile est propositio ad quam sequitur oppositum eius quod significatur per ipsum immediate". Esta definición algo ampliada permitiría tratar como insolubles a *ego nihil dico*, *ego iuro me periurare* y a otros, que no estarían comprendidos en la primera

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<sup>18</sup> Oria, f.24r; Ashworth, 1977, 269-79.

<sup>19</sup> Oria, *Ibid.*; Soto, *Summulae*, f.153; Pedro de Espinosa, *Liber insolubilium* (Salamanca c.1533) sin paginar. Espinosa cita varias veces a Bricot y a Heytesbury; Domingo de Soto a Ockham, Bricot y Martín de Magistri. Me refiero solamente a los tratados de insolubles.

definición con que comenzamos este trabajo. Tales insolubles son comúnmente tratados en los lógicos del tiempo.<sup>20</sup>

### 9. *Conclusión*

He seguido, en la exposición, el texto de Oria de tal manera que estas páginas son también un resumen. Me parece que queda claro que el centro de la versión de Oria está en la noción de verdad y sus causas. Puede advertirse algo de incoherencia que le permite atender a varias de las opiniones sin pronunciarse entre distintas alternativas. El tratado es breve, pero suficiente para ver que conoce lo principal del tema y está en la línea de Bricot, Juan Mair, Celaya, etc. sin que se decida por los diferentes matices de esos autores.

Probablemente toda su información le viene a través del París de Monteagudo, ya que de ese ambiente vienen varios a Salamanca a enseñar en los años de Oria, como Alonso de Córdoba, Martínez Silíceo, Domingo de San Juan, etc. Todos ellos eran aficionados a la lógica. Bricot y Heytesbury parecen haber sido especialmente populares en el tema de los insolubles en Salamanca.<sup>21</sup>

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<sup>20</sup> Bricot, 18,44,50,69-70; Bottin, 64-65. En el apartado 2 hemos transcrito otra definición de insoluble, según Oria.

<sup>21</sup> Véase la nota 2.

PAOLA MÜLLER

*The Descensus ad Inferiora*  
in William of Shyreswood and Peter of Spain

13th century logicians acknowledged four properties of terms: signification, supposition, appellation and copulation. Supposition was the most studied property in the development of *proprietas terminorum*, playing, in fact, a central role in medieval logic, taking on numerous syntactical and semantical functions. Recent research has shown the fundamental divisions in supposition theory, where it is possible to find some groups common to different authors and the use of similar techniques to characterize the different suppositions. In these techniques it is interesting to focus on the *descensus ad inferiora*, that can be considered a logical procedure through which we can establish the truth or the falsity of a proposition. This technique, as supposition theory, undergoes a gradual evolution up to the 14th century theory. During the 12th century we can simply note some references to *descensus* without a definite theory and sometimes even without an adequate exemplification, while in the 13th century the *descensus* theory begins to develop with the exemplifications of logical inferences from a single proposition including a common term to a unique singular sentence or to the conjunction or the disjunction of correspondent singulars. In following such evolution it is interesting to study the positions of William of Shyreswood and Peter of Spain, as two examples of attempts to apply this technique to the division of supposition. To analyze the *descensus ad inferiora* it must be included within the treatment of the theory of supposition, exactly as is stated in the treatises of Shyreswood and Peter of Spain.

*William of Shyreswood*

The Oxford logician William of Shyreswood, in approximately 1250, wrote a logical treatise, *Introductiones in Logicam*. In line with medieval



tradition he devotes an important section to the properties of terms,<sup>1</sup> especially signification (*praesentatio alicuius formae ad intellectum*) and supposition (*ordinatio alicuius intellectus sub alio*), specifying that such definitions are referred to as *secundum quod sunt in actu*. *In habitu*, instead, the supposition is the *significatio alicuius ut subsistentis*, that is a sort of signification or, more precisely, the signification of subsistent things, or those that are put to *sub-iacere*.<sup>2</sup>

Shyreswood proceeds to subdivide supposition further.<sup>3</sup> The first differentiation of actual supposition, characterized by the syntactical context, is between material supposition, which cannot meaningfully express the supposed term, and formal supposition, including the various significative suppositions: the simple, when the term supposes for the meaning in itself, and the personal, when it supposes for the things acting as subject. Formal supposition can be further divided into common and discrete.

Both simple and personal supposition branch out further: the simple in accordance with the different significant ways of the *dictio*, the personal<sup>4</sup> is instead distinguished in determinated, when the term supposes for some things individual, and in confused, when it supposes for many. This confused supposition is further subdivided into merely confused and into confused and distributive, when the term stands for many, so as for every individual represented. The confused and

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<sup>1</sup> For the definitions of the properties of terms see: William of Shyreswood, *Introductiones in Logicam*, ed. C.Lohn-P.Kunze-B.Mussler, "William of Shyreswood, *Introductiones in Logicam*", *Tradiitio* 39 (1983), pp. 219-299, p.265 5.01.

<sup>2</sup> "Ex hiis patet, quod significatio est in omni parte seu dictione orationis, suppositio autem in nomine substantivo tantum vel pronomine vel dictione substantiva. Haec enim significat rem ut subsistentem et ordinabilem sub alio. Copulatio autem in omnibus adiectivis et participiis et verbis." (*Ibid.*, p.265 5.03)

<sup>3</sup> For the distinctions between suppositions see: *Ibid.*, p.266 5.1.2-4.

<sup>4</sup> "Item personalis dividitur sic. Quaedam est determinata et quaedam confusa. Confusa sic. Quaedam confusa tantum, quaedam confusa et distributiva (...). Et est determinata, quando poterit exponi locutio per aliquod unum. Et hoc est, quando dictio supponit pro aliquo uno, ut cum dico: homo currit. Ita potest esse vera quolibet currente. Confusa autem, quanto dictio supponit pro multis (...). Confusa suppositio est, quando dictio supponit pro multis vel pro uno multotiens sumpto cum potentia ibidem tenendi pro multis, ut si quilibet videat Sortem tantum, tunc omnis homo videt hominem. Hic homo non supponit pro multis, sed pro uno multotiens sumpto cum potentia etc. Sed si dicatur: omnis homo videt Sortem, hic Sortes, licet supponit multotiens, non tamen potest cerni ibi pro multis et ideo non stat confuse." (*Ibid.*, p.265 5.1.6., p.269 5.1.13)

distributive supposition can be *mobilis* or *immobilis*,<sup>5</sup> according to the possibility of operating the descending from the common term of the analyzed proposition to the few individuals included in the term. So we have come to the application of *descensus* to the singulars. Shyreswood, in fact, thinks that an expression meaning a multiplicity in a proposition, even though showing the different corresponding individuals, creates the possibility of applying a logical inference to any singular and supposes in a confused and distributive way. Shyreswood, however, does not specify what type of inference can be applied, if to the disjunction or to the conjunction; but by referring to the assertion: "supponit pro multis, ita quod pro quolibet", we can presume that it is correct to pass from the original proposition to the corresponding singulars. For Shyreswood, then, it is possible to descend to individuals in every distributive proposition, when they are considered in themselves; such descent however can be prevented by the addition of some syncategorematic words. For example, while from the proposition: "omnis homo currit" it is correct to argue: "ergo Sortes currit", from the expression: "tantum omnis homo currit"-similar to the precedent, but for the addition of *tantum* - it is not proper to infer: "tantum Sortes currit", because other men can run too.

Shyreswood gives such great importance to confused supposition that he specifies some rules, by which it is possible to find the application of the logical inference to singulars.

Specifying the different means of distribution of affirmative and negative signs<sup>6</sup> when they are added to terms, William says that while it is correct to descend from a negative universal proposition to the corresponding singular (e.g., from "nullus homo est asinus" to "ergo nullus homo est iste asinus"), it is not correct to do the same from an affirmative universal proposition (e.g., from "omnis homo est animal" we cannot infer "omnis homo est iste animal"). This difference depends on

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<sup>5</sup> "Confusa et distributiva quaedam mobilis, quaedam immobilis (...). Mobilis autem, quando potest fieri descensus, ut in praedicto exemplo in hoc termino homo. Immobilis est, quando non potest fieri descensus. Dictio enim supponit distributive, quae supponit pro multis ita quod pro quolibet. Ergo potest fieri descensus ad quodlibet. Et dicendum, quod in omni distributiva suppositione potest fieri descensus quantum est de se, potest enim impediri per aliquod adiunctum." (*Ibid.*, p.266 5.11.6-7)

<sup>6</sup> "Omne signum distributivum confundit terminum sibi immediate adiunctum confuse et distributive. Sed signum affirmativum confundit terminum remotum confuse et distributive. Unde sequitur: nullus homo est asinus. Ergo nullus homo est iste asinus. Sed non sequitur: omnis homo est animal. Ergo omnis homo est hoc animal." (*Ibid.*, p.269 5.1.14)

the property - affirmative or negative - of universal signs following the analyzed term. Moreover, this logical descent does not concern the subjects of the two propositions A and E, but their predicates. Shyreswood denies the possibility of applying the *descensus* technique to A propositions' predicate, because he has not had the intuition of logical inference to a proposition including a predicate as being the disjunction of single terms. This descent, in fact, can be correct because it leads to a categorical composed of the subject and the disjunction of the predicate of the original proposition. Exemplifying what is said: while it is not correct to infer "omnis homo est animal, ergo omnis homo est iste animal", it is correct to say: "omnis homo est animal, ergo omnis homo est iste animal vel ille vel ...".

With respect to the predicate of negative universal proposition, Shyreswood affirms that it is correct to descend to the corresponding singular. In the example given by William the singular is unique in that it is not connected to others by disjunction or conjunction or by punctuation marks. Successive authors, instead, will point out that from the predicate of the E proposition it is possible to descend to the conjunction or to the disjunction or to the conjunction of corresponding predicates. So Shyreswood intends by *descensus* a valid inference from a proposition, the subject of which is a common term, to a unique singular proposition, the subject of which is a discrete term included under the common term in the line of predication.

In the exposition of the rules of confused supposition Shyreswood speaks about *ascensus in subiecto*,<sup>7</sup> without specifying the meaning or giving an adequate exemplification. The ascent from singular, possible when one can infer a proposition including a general term from a singular one arbitrarily corresponding, will be, especially in the 14th century, the technique following the logical descent to singulars in the explanation of the differentiations of supposition. Shyreswood asserts, in fact, that it is possible to pass from a confused and distributive supposition to a determinate one and not to the merely confused, because in some cases distribution could remain immobile. To explain this affirmation, Shyreswood asserts that: "non dicitur immobilis, quia non

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<sup>7</sup> "Sciendum quod non dicitur immobilis, quia non possumus ascendere in subiecto, sed quia non possumus descendere. Distributio est enim ipsorum suppositorum. Ergo cum hoc non possumus descendere ad supposita, quia suppositio est pro supposito." (*Ibid.*, p.271 5.1.18)

possumus ascendere in subiecto, sed quia non possumus descendere. Distributio enim est ipsorum suppositorum." So William reaffirms once again that what characterizes supposition's mobility or immobility is the descending to singulars.

Shyreswood formulates the *descensus ad inferiora* theory in a very simple way while speaking about supposition, without profiting from or theorizing about the different articulations that will be studied by posterior logicians (logical descending to conjunction or to disjunction, to conjunctive or disjunctive predicate); without applying it to different types of personal supposition, but only to mobility or immobility. Shyreswood introduces the speech about logical descending even with regard to copulation, that is *ordinatio alicuius intellectus supra alium*. Shyreswood distinguishes copulation in a way very similar to supposition. Concerning the subdivision of confused copulation, William asserts that copulative signs,<sup>8</sup> as *qualislibet* or *quantuslibet*, distribute as regards their substantives. E.g., from the proposition: "qualislibet homo currit" it is possible to descend to the so called *copulata specialia*, that is to the determinate singulars' copulation: "ergo albus homo currit et niger etc.". However Shyreswood specifies that the expression *homo* in the said example supposes in a merely confused way, because it is correct to descend to correspondent singulars. That is from *qualislibet homo* does not follow *ergo Socrates*; it depends on the sign indicating a certain accident and distributing as to substantive. In William of Shyreswood we find therefore an application of the theory of the logical descent to singular to the distinction of confused supposition's mobility or immobility; this is an as yet simple and not well defined application, even if at the level of exemplification there are already intuitions, that will be developed and included in the theory of personal supposition.

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<sup>8</sup> "Huiusmodi signa copulativa distribuunt respectu suorum substantivorum, unde sua copulatio distributiva est. Suppositio autem suorum substantivorum confusa tantum, ut cum dico: 'qualislibet homo currit', illa copulatio distribuunt. Unde possumus descendere ad copulata specialia sic: 'qualislibet homo currit, ergo albus homo currit et niger etc.' (...). Dictio significat accidens aliquod et istud distribuunt respectu sui substantivi." (*Ibid.*, p.271 5.1.27)

*Peter of Spain*

Peter of Spain in the VIth Treatise of his *Tractatus*, called afterwards *Summulae Logicales*, dedicated to the analysis of the properties of terms, points out immediately the distinction between supposition and signification:<sup>9</sup> there is signification because someone - *impositor* - attributes to an articulate sound or *vox* the function of designating something, standing out from William of Shyreswood, who identifies the significative character of a term with its referring to actually subsistent things. Supposition, instead, is secondary as regards signification, because it is the use of a term, having *qua talis* already a meaning, to designate something.<sup>10</sup> Given this introductory distinction, Peter of Spain analyzes different types of supposition, depending on whether the supposing term is common or discrete. The most important subdivision of common supposition is into natural and accidental supposition.<sup>11</sup> Peter of Spain defines the natural supposition as the use of a common term for all the individuals participating in universal nature designated by the analyzed term. Accidental supposition is the use of a common term for those individuals to the specification of which it is necessary to add something more (*exigit adiunctum*), that is it is included in a syntactical context. So there will be different suppositions, depending on what is added to the starting term. But, once the name is included in a proposition, syntactical context has, among other powers, the capacity to modify what is supposed by the term. Accidental supposition, in fact, is subdivided into simple and

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<sup>9</sup> For the different acceptions of *significatio* and *suppositio* see: Peter of Spain, *Tractatus called afterwards Summulae Logicales*, ed. L.M. de Rijk, Van Gorcum & Comp. B.V., Assen 1972, pp. CXXIX-303, Tract. VI p.79 11-14, p. 80 8-16.

<sup>10</sup> It recalls Frege and Saussure, asserting that the Sinn is the condition of the Bedeutung. But while for Peter of Spain just certain terms - substantives - can suppose, in a Fregeian or Saussurian perspective every term can refer. Ever Shyreswood points out that just the substantives or substantivated terms can have supposition. These affirmations show up a certain distance between the mentality of medieval and modern logicians. What characterizes substantives with medieval grammars, is their possibility of presenting objects, substantial property that adjectives and verbs do not have. From this come out as signification and supposition bind the word to reality: in the first case as universe of forms, in the second one as universe of existents.

<sup>11</sup> For the distinction between common and discrete supposition, see: *Ibid.*, p.80 19-22, p.81 1-6.



personal.<sup>12</sup> Simple supposition does not concern individuals - that is the name's natural suppositives -, but the name's meaning, the form common to its natural suppositives. Peter of Spain asserts simply that in the expression "omnis homo est animal" the term *animal* has simple supposition and it is put for its own meaning, that is animal nature. Considering instead the proposition "homo est species", the term *homo* has simple supposition and stands for an extramental reality of which *species* can be predicated. In examining the above mentioned exemplifications<sup>13</sup> Peter of Spain asserts that it is correct to do a process carrying from the general proposition to a particular one, that is passing from simple supposition to a personal one. There is in fact personal supposition when a common term is used for all the individuals it includes (*pro suis inferioribus*). Peter of Spain affirms, without adopting the technical expression *descensus*, but using *processus*, that it is correct to descend to a particular, to only one particular from the general and not to the conjunction or the disjunction of corresponding singulars.

For Peter of Spain, like for Shyreswood, personal supposition is differentiated by determinated and confused.<sup>14</sup> It is determinated when the common term, assumed indefinitely or with a particular sign, supposes for all the individuals included under itself; however truth conditions are relative to predication. E.g., in the expression "homo currit", the word *homo* - in an extrapositional context - refers to, and so supposes for, all individuals, either running or not running; but, included in the said proposition, it makes the sentence true if it refers to whom is running ("reddit locutionem veram pro currente"). Peter of Spain, to clarify this position, adopts the following example: "animal est Sortes, animal est

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<sup>12</sup> "Accidentalium suppositionum alia simplex, alia personalis. Simplex suppositio est acceptio termini communis pro re universali significata per ipsum." (*Ibid.*, p.1 11-13)

<sup>13</sup> Cfr. *ibid.*, pp.81s 19-30, 1-9.

<sup>14</sup> "Personalium suppositionum alia determinata, alia confusa. Determinata suppositio dicitur quam habet terminus communis indefinite sumptus vel cum signo particulari, ut 'homo currit' vel 'aliquis homo currit'. Et dicitur utraque istarum determinata quia licet in utraque illarum iste terminus 'homo' supponat pro omni homine tam currente, quam non currente, tamen uno solo homine currente vere sunt. Aliud enim est supponere et aliud est reddere locutionem veram pro aliquo. In praedictis enim, ut dictum est, iste terminus 'homo' supponit pro omni homine tam currente quam non currente, sed reddit locutionem veram pro currente. Quod autem utraque illarum sit determinata patet, quia cum dicitur 'animal est Sortes, animal est Plato, animal est Cicero, et sic de aliis; ergo animal est omnis homo', hic est figura dictionis a pluribus determinatis ad unam." (*Ibid.*, p.82 13-26)

Plato, animal est Cicero, et sic de aliis; ergo animal est omnis homo". In this way he points out how it is possible to ascend from the complete series (*et sic de aliis*) of singular propositions to a unique proposition including a common term and an affirmative universal sign. Peter of Spain does not use yet the term *ascensus* - as before he spoke of process and not of logical descending - neither does he theorize about this technique, but more simply, after having explained the example, asserts; "hic est figura dictionis a pluribus determinatis ad unam". It is interesting to notice that Peter of Spain does not join the different singular propositions with the conjunction *et*, rather he connects them with a punctuation mark: the comma, indicating a very short pause used in the enumerations. The *et* instead joins like terms in a proposition. The choice of a comma instead of the conjunction brings the discussion to a level more grammatical than strictly logical. Peter of Spain does not theorize about the doctrine of logical ascending from particular to general.

Concerning confused supposition and its eventual division, Peter of Spain first asserts a position and then explains some doubts about it, to confute it in the end.<sup>15</sup> Peter of Spain in fact initially affirms that confused supposition can be distinguished as *confusa necessitate signi vel modi*, when the term at issue points out any *suppositum*, and as *confusa necessitate rei*, when the term supposes for all the indicated essences. But later he asserts: "destruimus quandam divisionem antecedentem, hanc scilicet: confusarum suppositionum alia est confusa necessitate signi vel modi, alia necessitate rei. Dicimus enim quod omnis confusio est necessitate modi." So what produces confusion is the sign following the term in question and not the object: so we are in a linguistic context.

Peter of Spain after the initial division, later refuted, asserts that a term can suppose in a mobile or in an immobile way, according to the possibility - or the impossibility - of descending to any singular included in the considered term. In this case Peter of Spain uses the technical expression *descensus* and applies this technique in the exemplification.<sup>16</sup>

<sup>15</sup> "Suppositionum confusarum alia est confusa necessitate signi vel modi, alia est confusa necessitate rei." (*Ibid.*, p.83 4-5) For the exposition of the doubts cfr. *ibid.*, pp.83ss 24-27, 1-29, 1-23, 1-8.

<sup>16</sup> "Sed confuse et distributive supponit quia tenetur pro omni homine; mobiliter vero, quia licet descensum fieri pro quolibet supposito, ut 'omnis homo; ergo Sortes' vel 'omnis homo; ergo Plato'. Sed iste terminus 'animal' dicitur confundi immobiliter, quia non licet fieri descensum sub eo, ut 'omnis homo est animal; ergo omnis homo est hoc animal'; sed ibi est processus a simplici ad personalem." (*Ibid.*, p.83 13-19)

In fact from the expression "omnis homo" it is correct to descend "ergo Sortes" or "ergo Plato". The analysis of this example gives rise to some remarks. First, the *descensus* does not occur in a syntactical context, but is applied to substantives taken for themselves: from a term with an affirmative universal sign to a singular, individual one. Second, there is a form of logical descending to disjunction, but it is not from a proposition including a common term to the disjunction of correspondent singular propositions, rather it is to the disjunction of two singular logical descents: from "omnis homo" does not follow "ergo Sortes or Plato or ...", but rather "omnis homo, ergo Sortes or omnis homo ergo Plato, ...". In this way Peter of Spain does not unite two predicates with the disjunction, but two logical descents well distinguished between themselves, even if originating from the same common term.

Confused supposition can be immobile when it is not correct to descend to singulars. In fact from the expression "omnis homo est animal" we cannot descend to "ergo omnis homo est iste animal", because this represents the passage from simple supposition to a personal one. It must be pointed out that Peter of Spain meanwhile to explain confused supposition's mobility - that is the possibility to infer from the general to the particular - had to adopt an extrapositional example, to exemplify immobility uses the previously analyzed syntactical, again joining the study of the relation between simple and personal supposition. Peter of Spain goes on to analyze mobility and immobility of confused supposition considering it impossible that a common term used as a predicate could have a confused supposition mobile or immobile when the proposition's subject is with an affirmative universal sign, as in the aforementioned example.

The theory of logical descending comes out even in regards to the analysis of the distributive sign *nullus*<sup>17</sup> and, in consequence, in the exemplification of negative universal propositions. Peter of Spain in fact asserts that from the sentence "nullus homo est asinus" it is possible to descend both to the conjunction of corresponding subjects - "ergo Sortes non est asinus, neque Plato, et sic de aliis" - and to the conjunction of

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<sup>17</sup> "De hoc signo 'nullus' talis datur regula: quotiescumque hoc signum 'nullus' immediate adiungitur termino communi, confundit ipsum distributive et mobiliter; et similiter terminum cui adiungitur mediate. Ut 'nullus homo est asinus'. Unde potest fieri descensus sub subiecto sic: 'ergo Sortes non est asinus neque Plato' et sic de aliis, et sub praedicato sic: 'nullus homo est asinus; ergo nullus homo est Brunellus neque Fanellus' et sic de aliis." (*Ibid.*, p.219 10-18)

predicates - "ergo nullus homo est Brunellus neque Fanellus et sic de aliis" -, going on more than Shyreswood.

The examination of the positions of William of Shyreswood and Peter of Spain reveals that the 13th-century technique of logical descent to singulars was present in logical treatises to establish mobility or immobility of confused supposition, but it was not yet developed and theorized in its own articulations. The logical descent is adopted simply as a mechanism to facilitate the understanding of the mobility and the immobility of the supposition in the exemplifications. It is a theme whose progress will proceed at the same rate as supposition theory and will find its fortune in the logical doctrines of the masters of logic of the 14th century.

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### Ockham on Time and the Nature of Logic

To fully understand Ockham's logic we must understand how Ockham distinguishes *logica* from other sciences. This paper considers the question with special attention to the status of temporal inferences which seem to be plausibly classified either as part of logic or as part of natural philosophy. It concludes that Ockham has no principled way of distinguishing logic from other sciences.

For Ockham a science is a collection of *habitus*. He insists that it has no more than an accidental unity and that to ask of (say) natural philosophy its subject as if it had only one "is a question similar to asking who is king of the world".<sup>1</sup> The habits of which a science is a collection are either mental sentences or dispositions to produce mental sentences. Ockham seems to think that it is normally the latter but would not, I think, deny the label to the former. I shall argue later that the collection of habits which make up a science is closed under entailment. If this is correct then a science in Ockham's sense is very much like what contemporary logicians would call a true theory.

A fundamental distinction among sciences which Ockham is concerned to draw is that between *scientia realis* and *scientia rationalis*. Sciences of all kinds are collections of mental sentences but the subjects and predicates of these sentences differ in kind. A *scientia realis* is a collection of mental sentences whose subjects are of first intention. A *scientia rationalis* a collection of sentences whose subjects and predicates are of second intention. Ockham's distinction between first and second intention is not easy to draw correctly and may indeed be incoherent, but one way of getting a strict construction of the term is by first picking out the universe of objects (call these zero intentions). A concept is of first intention if it only signifies things of zero intention. A concept is

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<sup>1</sup> Guillelmus de Ockham, *Expositio in Libros Physicorum Aristotelis*. Prologus et Libri I-III, ed. V. Richter and G. Leibold in *Opera Philosophica* IV (St. Bonaventure, N.Y. 1985) Prol. s.3, p.10, line 103.



of second intention otherwise. This has the odd consequence that all transcendental terms, including 'being', are of second intention. A less strict construction might assign concepts first intention just in case *some* of what they signify is of zero intention and so on ...

However exactly the distinction between first and second intention gets drawn, Ockham's taxonomy raises another curious question: how different do sciences have to be to be distinct? The answer seems to be "not very"? Ockham seems happy to admit that the same subject [term] can appear in several sciences. Indeed he goes further, admitting that different sciences can share the same sentence. He writes:

To the third it is evident from the first question that it is not inappropriate for the same thing to be the subject in some truth pertaining to different sciences on account of the different principles through which the same conclusion is derived. Similarly it is already evident that it is not inappropriate for the same thing to be the subject of different sciences because of its different characteristics (*passiones*). So it is in the case proposed because this truth 'God is the first cause' pertains to metaphysics and to theology, because the one science infers it from principles different from [the principles of] the other.<sup>2</sup>

Not only can different sciences share the same sentences but, Ockham admits, a single science can have some sentences whose subjects are of first intention and others whose subjects are of second intention. Ockham admits this in the same passage which I think establishes the earlier claim that sciences are closed under entailment.

It should be said that the Philosopher not only here but in many other places in natural philosophy and other *scientiae reales* is speaking of terms and for terms so that terms stand for terms not for things. This is because such propositions in which terms stand for terms not for things frequently follow from propositions in which terms stand for things. And so it is evident that this proposition "Substance is the subject of quality" in which the terms stand for terms not for things follows from propositions in which terms stand for things. Hence this proposition is not inappropriately placed among the others in natural philosophy. Thus it is evident that some part of natural philosophy which was treated by Aristotle is not a *scientia realis* unless it is just as logic is a *scientia realis*; Nor is this anything disturbing.<sup>3</sup>

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<sup>2</sup> Guillelmus de Ockham, *Scriptum in Librum Sententiarum Ordinatio*. Prologus est Distinctio Prima, ed. G. Gál et S. Brown in *Opera Theologica I* (St. Bonaventure's 1967) Prol. q.IX, p.275, 18ff.

<sup>3</sup> Ockham, *Exp. in Lib. Phy.* I, c.4 in O.P.IV p.58, 128-129.

The first part of this quote would be bootless if *scientiae* were not closed under entailment because the fact that certain sentences follow from others is given as *the* reason why they are in the same science. But (and this is why I did not want to introduce this text prematurely), Ockham explicitly says that sentences whose terms are of second intention (*supponunt pro terminis*) may follow from terms of first intention (*supponunt pro rebus*). This result guarantees that the boundary between (say) logic and physics cannot be a simple matter of the intention of terms in each.

Exactly how much interpenetration between the levels of terms will be forced to allow? So far as I can see the answer is - an enormous amount. For example:

Animal is the genus of human.  
 A genus can be predicated of the instances of its species.  
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 Every human is an animal.

Here we have a prototype for a whole class of inferences, so distinguishing the sciences on the basis of intention seems a hopeless task.

There may be other distinguishing characteristics one could use. For example Ockham suggests that

it doesn't pertain to logic to know particular consequences but only the nature of consequence in general,<sup>4</sup>

and in discussing physics he suggest that

It should be noted that according to the Commentator in comment 16 that it pertains to logic to consider in general how one science differs from another but it pertains to this science to consider how it differs from that.<sup>5</sup>

These texts suggest that logic is distinguished from the other sciences by its generality. In what might such generality consist?

The texts quoted suggest that logic is concerned with the general conditions which govern arguing or distinguishing. This would explain why first and second intentions might be thought to yield an approximation to the needed distinction. The general conditions for arguing and discussing, because they concern relations among ways of relating and classifying will

<sup>4</sup> Ockham, *Sent.* Prol. q.VII in O.T.I, p.201, 10.

<sup>5</sup> Ockham, *Exp. in Lib. Phy.* Bk.II Sec.4 in O.P.IV, p.258, 18ff.

be given in second-intentional terms. Because this is so sentences of logic will have terms of second intention in subject position - at least *principaliter* - but that would not be what generates the distinction between logic and the other sciences.

One might think that what does mark logic off from (say) natural philosophy is that logic is especially formal. Something like this seems suggested by Ockham's claim that logic helps us diagnose the formal but not the material defects of arguments. But what does the metaphor of form and matter come to here?

Ockham never says what the form and matter of sentences and arguments is but what he does say suggests that he would accept Albert of Saxony's identification of the matter of a sentence with its subject and predicate terms and the form with its copula and associated syncategoremata. If this is correct then the generality of logic derives from its concern with relations among syncategoremata.

There is some evidence that this is Ockham's view but at least two considerations militate, decisively I think, against it. One is that *validity*, the paradigmatic logical relation, is not itself a formal concept. Unlike those who claim that an argument is valid just in case every argument of the same form which has true premisses has a true conclusion, Ockham claims that an argument is valid just in case it is *impossible* for its premisses to be true and its conclusion false, and he is very clear that the impossibility involved here is not a formal matter. One consequence of this is that there are valid arguments which are not formally valid. If logic considers such cases it considers matters other than relations among forms. The second consideration begins with the fact that syncategoremata differ greatly. In *Quodlibet* II q. 19 Ockham includes adverbs and conjunctions among syncategoremata and in *Quodlibet* V q. 9 he seems to include prepositions, at least by example.<sup>6</sup> It is not particularly implausible to think of conjunctions like *et*, *vel*, *non* and even *si* or *ergo* as formal in some clear sense, but Ockham counts as adverbs all the terms in the category *Quando*.<sup>7</sup> The category includes words like *nunc* and *in futuro*, which are terms whose signification is determined by the

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<sup>6</sup> Guillelmus de Ockham, *Quodlibeta Septem*, ed. Joseph C. Wey in *Opera Theologica* IX (St. Bonaventure, N.Y. 1980). cf. Quod.II q.19, p.193, 19 and Quod.V q.9, p.516, 65ff.

<sup>7</sup> Guillelmus de Ockham, *Summa Logicae*, ed. P. Boehner, G. Gál, and S. Brown in *Opera Philosophica* I (St. Bonaventure, N.Y. 1974). cf. S.L. I, c.59. l.l. p.180ff.

natural philosopher and not the logician because they require for their understanding an understanding of time. If logic explored the relations among them it would be parasitic upon the conclusions of physics. This reflects a deep feature of Ockham's philosophy to which Marilyn Adams has recently drawn attention, that for Ockham the ways in which things are are as much experienced as the things themselves.<sup>8</sup> But we express the ways things are using complexes of categorematic terms and syncategoremata. If the syncategoremata express how we experience things to be it seems they may well be acquired in experience. If this is so their treatment may well belong to Natural Philosophy.

We can give some flesh to these general considerations by looking more closely at Ockham's discussion of temporal inferences. Temporal inferences are those in which temporal words are crucial. A word is crucial in an inference if the validity of the inference depends on it in the sense that the uniform replacement of it by another grammatically acceptable word can yield an invalid inference.

Striking about Ockham's treatment of temporal logic in his explicitly logical works is its superficiality. The only inferential relations which Ockham considers in his discussion of truth-conditions for tensed sentences or in his discussion of immediate inferences involving them are ones involving the scope of the tense indicator - cases like whether we can infer "Deus semper fuit creans" from "Creans semper fuit Deus". (We can't.) The only inferences Ockham treats in his discussions of *incipit* and *desinit* are ones which merely reflect the fact that on Ockham's exposition, sentences involving these terms have one negative and one affirmative exponent. Even Ockham's temporal syllogistic is, in a sense, entirely superficial. It can be modelled completely merely by supposing that the tense of the copula makes the subject and predicate terms of tensed sentences stand for objects which may or may not be those these terms stand for in present-tensed contexts, and by then applying standard syllogistic to the 'new' terms thus generated.<sup>9</sup> Only one of Ockham's

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<sup>8</sup> cf. Marilyn M. Adams, *William Ockham* (Notre Dame, Indiana, 1987) ch. 9.

<sup>9</sup> Ockham's discussion of truth conditions for tensed sentences can be found in S.L.II, c.7, his discussion of immediate inferences involving them in S.L.II, c.22. He discusses *incipit* and *desinit* in S.L.I, c.75, S.L.II, c.19 and 23 and S.L.III-I, c.5. His fullest discussion of temporal syllogisms is in S.L.III-I, c.17-19.

discussions of temporal logic seems to require more substantive assumptions; the context is future contingents.

It is well known that Ockham develops two theories of future contingents, one of which he ascribes to Aristotle and the other of which he adopts himself. These two theories differ significantly but they share some crucial theses. Both recognize a difference in the modal status of the past and future which seems at least to require that time is not circular. Both accept the necessity of the 'genuine' (as opposed to the future-infected) past and so seem to accept a close interweaving of time and modality. To explore the physical consequences of these views we must look at Ockham's account of time.

Ockham provides the nominal definition of time at several places in his work. One such is in the *Summula Philosophiae Naturalis*. The text reads:

Since therefore all agree that time is a measure of temporal things and of change (*motus*) and rest, that thing will be time which we can certify about the duration of temporal things and of change and rest. Thus, this can be a description picking out what the term means (*quid nominis ipsius*): time is a measure of all things whose duration the intellect can certify through something better known.<sup>10</sup>

Here Ockham makes clear that 'time' *means* a standard of the duration of things, of change and of rest. But this conceptual analysis is only the starting point for the physicist's analysis of time. The physicist aims to discover what time really is. This is done by discovering what can serve as a standard of the kind required. The physicist notes that a change could be such a standard "if we consider a changed thing which we know to be uniform, that is always changed uniformly, that is equally quickly".<sup>11</sup> Ockham finds such a thing in the *primus motus*. Physics tells us that its motion is the fastest and most uniform and so it is uniquely suited to be the standard we need.<sup>12</sup>

So what time is is the first moved thing - the outermost sphere of the Aristotelian universe. This is not a conceptual point any more than is the discovery that Venus is the morning star, but is a physical discovery. Moreover time is the *primum motus* but as measurable by the mind and

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<sup>10</sup> Guillelmus de Ockham, *Summula Philosophiae Naturalis*, ed. S. Brown in *Opera Philosophica* VI (St. Bonaventure, N.Y. 1984) Lib.IV, c.3, p.352, 184-89.

<sup>11</sup> Ockham, *ibid.* 1.98-100.

<sup>12</sup> Ockham, *Summula* Lib.IV, c.7, in O.P.VI, p.358.



usable by the mind as a standard of measurement. Time is the *primum motus* but 'time' does not mean '*primum motus*'. The relevant measurement is the measurement of duration. What is duration?

Ockham says of duration that "to endure is only to exist while (*dum*) time exists".<sup>13</sup> Ockham uses this account to explain why perpetual things and sudden changes are not in time. They are, respectively, too long and too short to be measured by the parts of time. Time, then, is that which measures the existence of temporal things, motion and rest. It is a certain motion - namely that of the *primum mobile*. What, then, is a motion?

In several places Ockham speaks of change as involving a difference in what is changed. For example in his *Expositio Physicorum* he writes

It should be understood that the Philosopher's reason consists in this, that nothing is said to be changed with respect to something more now than before, unless it has something different now than before.<sup>14</sup>

Elsewhere he explains that to have something different now from before need not mean for there to exist a thing or quality which did not exist before, and this is *because* a thing's having a place it did not have before is sufficient. For example, he writes

And if it is said that it is impossible to pass from contradictory to contradictory without any change (*mutatio*) but through every change something is acquired and when someone first sits and afterwards does not sit, there is a passage from contradictory to contradictory, therefore something is acquired, it should be said that all such [sentences] are verified through local motion and therefore it is frequently possible that a place is acquired.<sup>15</sup>

Since the change of the *primum motus* is local motion we may conclude that time consists in the differences in the places occupied by the *primum motus*. But not the differences in places occupied by the *primum motus* as a whole because, since it merely rotates, the *primum motus* as a whole does not change places. The relevant differences are the differences in places occupied by parts of the *primum motus*.

But not just any differences of place would do. To serve as a measure of the kind required, the differences in place must obey

<sup>13</sup> Ockham, *Summula* Lib.IV, c.13, in O.P.VI, p.382, 78.

<sup>14</sup> Ockham, *Exp. in Lib. Phy.* L.III, c.3, s.2, in O.P.IV, p.456, 18-20.

<sup>15</sup> Guillelmus de Ockham, *Expositio in Librum Perihermenias Aristotelis* c.16, ed. A.Gambatese et S.Brown in *Opera Philosophica* II, p.300, 72ff.

constraints. For example, they must be continuous and they must be uniform (or at least uniformly diform) in direction. But to speak of a change of place as uniform in direction we must be able to order the different states of the moving body by a method different from the spatial dimension of the places it occupies. Let a, b, and c be distinct places on some line:

a                    b                    c  
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To say that a body is first at a and then at b and finally at c rather than (say) first at c and then at b and then at a we need a way of assigning priority. Since places can be traversed in either direction they do not have an intrinsic ordering which will do the job.

In at least one place Ockham suggests that the ordering of time may be in some sense a logical ordering. He writes:

Besides, whenever there are some things ordered of which one is in one signa or instant and another in another, although it would be repugnant for the posterior to be in the first instant with the prior, however it would not be repugnant for the prior to be together with (*simul*) the posterior in the second instant. For although the prior and posterior are not together in the first instant of duration, yet they can be together in the second instant of duration.<sup>16</sup>

Thus we can tell the prior from the posterior in time because the prior can endure to be together with the posterior but what is posterior cannot 'predeur' to be together with the prior. This accords nicely with the Aristotelian intuition that change is a passage from potency to act and so has a natural direction, and, more important for present purposes, it dovetails nicely with the claim, common to Ockham's two theories of future contingents, that the past is necessary while the future is not. If there were in something at t a power to be at t', then t' would be either identical with or later than t. It is precisely the ordering of powers which provides the temporal ordering. Here the claims about inference which Ockham makes (for example) in *De Praedestinatione*, are interwoven with his claims about the physics of time. It is because time is as the physicist determines it to be that we can accept principles like that asserting that if a proposition is about the past *secundum rem* then if true it is necessarily true. I do not see how Ockham could in a principled way avoid assigning it to both sciences.

<sup>16</sup> Guillelmus de Ockham, *Scriptum in Librum primum Sententiarum Ordinatio*. Distinctiones IV-XVIII, ed. G. I. Etzkorn in *Opera Theologica* III, d.9 q.3, p.296, 15-22.

What is the upshot? Ockham seems not to have a principled way of distinguishing logic from other sciences. But why should this bother him? I would like to conclude by suggesting that it would not. Ockham's heart is not in the distinction of sciences because he has nothing invested in the programme which sees the sciences as fundamentally different. But that is another subject.

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## La logique comme science pratique selon Occam

A la toute fin de son introduction à sa série de commentaires sur la logique aristotélicienne, Occam pose que la logique est une science "pratique et non spéculative"<sup>1</sup>. Je voudrais d'abord élucider le sens de cette affirmation, puis soutenir qu'il nous faut la prendre très au sérieux dans l'interprétation de la logique d'Occam pour bien comprendre certaines particularités de son approche qui, autrement, semblent déroutantes.

### 1. La notion de science pratique

Rappelons d'abord que pour notre auteur une discipline intellectuelle comme la logique ou la théologie n'est pas une entité numériquement une, mais "une collection de multiples habitus"<sup>2</sup>, dont chacun est une qualité psychologique réelle d'un esprit individuel. Chacun de ses habitus est un savoir distinct -une connaissance distincte - dans la mesure où il concerne telle proposition plutôt que n'importe quelle autre. La science théologique, par exemple, comporte (entre beaucoup d'autres choses) la connaissance de la proposition "Dieu est à la fois triple et unique", et elle comprend aussi la connaissance de cette autre proposition: "Dieu a créé le monde". Ces deux connaissances sont distinctes l'une de l'autre; elles peuvent, dit Occam, ne pas être acquises en même temps<sup>3</sup>. Et chaque connaissance de ce genre est une entité singulière *réelle*; c'est un accident - ou une qualité, si l'on veut - de l'esprit individuel qui la possède. Occam, en bon nominaliste, refuse de traiter une discipline scientifique ou

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<sup>1</sup> "...ista scientia est practica et non speculativa" (*Expositionis in libros artis prooemium*, *OPh* II, p. 7). Toutes les références au texte d'Occam renvoient aux deux séries de volumes éditées par l'Institut Franciscain de l'Université Saint-Bonaventure (N.Y.) : les *Opera philosophica* (*OPh*) et les *Opera theologica* (*OTh*). J'utilise les abréviations habituelles pour les titres de traités.

<sup>2</sup> "...una collectio multorum habituum" (id. p. 4).

<sup>3</sup> *Ordinatio* I, Prol., q. 12 (*OTh* I, p. 337-40).

un savoir comme une réalité abstraite indépendante des sujets connaissants individuels: "il n'y a pas de théologie en soi, écrit-il par exemple, qui ne soit pas en quelque intellect"<sup>4</sup>.

Cela explique pourquoi on peut distinguer, comme il le fait au début de son *Commentaire des Sentences*, deux sens du mot "scientia"<sup>5</sup>. En un premier sens, une science est une discipline intellectuelle, comme la théologie ou la logique, qui se résoud en une multiplicité de connaissances distinctes mais ordonnées entre elles. En un deuxième sens, "scientia" désigne chacune de ces connaissances distinctes, c'est-à-dire chaque habitus psychologique réel de connaissance, chaque connaissance par un sujet donné d'une proposition donnée.

Quand on dit, donc, que la logique est une science pratique, on prend le terme de "science" dans son premier sens, celui de "collection d'habitus intellectuels".

Quant à savoir ce qu'il veut dire en parlant de science pratique plutôt que spéculative, Occam s'explique brièvement là-dessus au début de certains de ses commentaires du corpus aristotélicien<sup>6</sup>, et surtout il y consacre un important développement dans le Prologue de son *Commentaire des Sentences* à l'occasion d'une discussion détaillée du statut épistémologique de la théologie comme science: est-ce une science spéculative ou une science pratique? Les trois dernières questions du Prologue portent là-dessus, près d'une centaine de pages au total dans l'édition Saint-Bonaventure<sup>7</sup>. La question 10, d'abord, examine la notion de "praxis", qui désigne, pour l'essentiel, toutes les opérations qui sont en notre pouvoir et qui peuvent faire l'objet d'un choix volontaire et rationnel. La question 11 porte sur la distinction générale entre science spéculative et science pratique; j'y reviendrai dans un instant. La question 12, enfin, s'attaque directement au problème de savoir si la théologie est spéculative ou pratique. La conclusion d'Occam, soit dit en passant, est que la théologie est une collection de connaissances diverses dont certaines sont d'ordre spéculatif (comme "Dieu a créé le monde", "Dieu est à la fois triple et un") et d'autres sont d'ordre pratique (comme "Dieu doit être aimé de tout notre coeur", "le sabbat doit être respecté").

<sup>4</sup> "...nulla est theologia in se ita quod non sit in aliquo intellectu". (id., p. 342).

<sup>5</sup> *Ord. I, Prol.*, q. 1 (*OTh I*, p. 8-15).

<sup>6</sup> Voir les prologues de l'*Exp. in libr. Praedicamentorum* (*Oph II*, p. 137), de l'*Exp. super libr. Elenchorum* (*Oph III*, p. 4) et de l'*Exp. in libr. Physicorum* (*Oph IV*, p. 14).

<sup>7</sup> *Ord. I, Prol.*, q. 10-12 (*OTh I*, p. 276-370).



Il ressort de ces divers passages que, pour Occam, les conclusions d'une science pratique se caractérisent par deux traits distinctifs. Premièrement, ce sont des propositions qui portent sur nos oeuvres, sur cela qui peut être accompli par nous<sup>8</sup>. La logique, par exemple, porte sur certains de nos actes intellectuels, comme nos actes de raisonnement ou nos actes judiciaires - ce sont là des oeuvres intérieures, dit Occam -, tandis que la physique, qui est surtout spéculative, a principalement trait à d'autres choses qu'à nos propres opérations. En certains endroits, Occam s'exprime comme si cette première particularité était à la fois nécessaire et suffisante pour différencier les sciences pratiques des sciences spéculatives<sup>9</sup>. Mais dans le *Commentaire des Sentences*, il reconnaît que cette condition - nécessaire - n'est pas suffisante: "de nos oeuvres, écrit-il, il peut y avoir une science spéculative"<sup>10</sup>. Et il en donne pour exemple la psychologie (c'est-à-dire le savoir tiré du *De Anima* d'Aristote), qui peut être classée comme spéculative bien qu'elle concerne en grande partie les oeuvres humaines.

C'est qu'il y a une deuxième condition qu'une science pratique doit remplir: les conclusions qu'elle tire doivent être des propositions directives (*directivae*). Elles doivent directement guider l'action. Je dis bien "directement", parce qu'il est admis en toutes lettres par Occam qu'en un sens n'importe quel principe peut servir à orienter l'action si on lui adjoint d'autres prémisses. Par exemple, la connaissance de la proposition "tout triangle a trois côtés" peut être utile de diverses façons dans les arts mécaniques, mais il ne s'agit pas pour autant d'un savoir pratique parce que la proposition en question n'est pas elle-même une proposition directive<sup>11</sup>.

Une science pratique, donc, est une science dont les conclusions sont des propositions qui (1) portent sur nos propres opérations, et (2) sont directement directives. A partir de là, Occam distingue deux sortes de connaissances pratiques<sup>12</sup>:

<sup>8</sup> "In illa autem conclusione quae scitur notitia practica ponitur aliquid operabile a nobis (...) cum notitia practica sit de operibus nostris..." (Id., q. 11, p. 315).

<sup>9</sup> Voir par exemple l'*Exp. in libr. artis prooemium* (OPh II, p. 7).

<sup>10</sup> "...de operibus nostris (...) potest esse scientia speculativa" (OTH I, p. 315).

<sup>11</sup> Id., p. 314-315.

<sup>12</sup> Id., p. 316-317.

- la connaissance pratique dictative (*dictativa*), qui dicte ce qui doit être fait et ce qui ne doit pas l'être; elle fixe les fins et les devoirs;
- la connaissance pratique ostensive (*ostensiva*), qui se contente d'indiquer comment une certaine entreprise peut être accomplie, sans dire si elle doit l'être ou non.

La logique, précise-t-il, appartient à cette deuxième catégorie, tout comme la grammaire, la rhétorique et l'art mécanique. Ce dernier, par exemple, ne nous dit pas si une maison doit être construite ou non (cette décision, dit Occam, relève de la "*prudentia*"), mais si on veut construire une maison, l'art mécanique nous apprend comment faire pour qu'elle tienne debout. De même, la logique ne nous dit pas s'il faut ou non faire un syllogisme dans telles circonstances, ni quand discourir et quand se taire (cela doit, j'imagine, relever aussi de la "*prudentia*"); mais elle nous montre comment réussir un raisonnement ou un discours qui tienne debout si on a décidé d'en faire un.

Bref, chez Occam, dire que la logique est une science pratique, c'est dire qu'elle est une collection ordonnée de connaissances directives et ostensives, portant sur certaines de nos opérations mentales, en l'occurrence nos actes intellectuels de discours et de raisonnement.

## 2. Quelques conséquences dans la *Summa logicae*

Cette conception du statut de la logique a d'importantes répercussions sur la façon dont Occam aborde *effectivement* les questions particulières dont traite cette discipline. Ses traités de logique doivent être vus comme des ouvrages pédagogiques, par lesquels l'auteur visait à développer chez ses lecteurs et chez les étudiants en général des aptitudes déterminées à accomplir correctement et de façon consciente et réfléchie certaines *opérations*, dont il nous fournit lui-même la liste: (1) l'aptitude à discerner le vrai du faux; (2) la promptitude à répondre aux arguments et aux objections; (3) la facilité à distinguer chez les auteurs ce qui doit être pris au sens littéral et ce qui n'est que façon de parler<sup>13</sup>. Dans cette perspective, un traité de logique doit être abordé comme une espèce de guide de la *praxis* intellectuelle, et non pas, par exemple, comme une

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<sup>13</sup> *Exp. in libr. artis prooemium* (OPh II, p. 6).

entreprise théorique fondationnelle au même titre que celles de Frege ou de Russell. Cela jette, me semble-t-il, un éclairage révélateur sur divers passages de la *Summa logicae* en particulier, qui ont parfois intrigué et dérouteré les commentateurs. En voici quelques exemples.

Premier exemple: l'attitude d'Occam à l'endroit des paradoxes sémantiques comme celui du menteur. Sur les huit cent cinquante pages que compte la *Summa logicae* dans l'édition Saint-Bonaventure, trois seulement sont consacrées aux paradoxes ou "*insolubilia*"<sup>14</sup>. Occam y esquisse une solution, fort intéressante du reste, au paradoxe du menteur et il conclut lapidairement qu'à partir des mêmes principes le chercheur studieux pourrait résoudre tous les autres "*insolubilia*", "ce que, dit-il, je laisse aux ingénieurs, car je n'ai parlé de cela ici que pour rendre le présent traité complet"<sup>15</sup>. Le contraste est frappant par rapport aux logiciens d'aujourd'hui, qui voient dans les paradoxes logico-sémantiques une menace grave aux fondements de la rationalité. Et il l'est tout autant par rapport à d'autres médiévaux à peine plus tardifs: Jean Buridan, par exemple, discute longuement et en détail un grand nombre de paradoxes apparents. Cela peut s'expliquer d'une part par le fait que pour Occam, les fondements de la rationalité ne sont nullement en cause *dans* la logique elle-même comme discipline pratique, et par ceci, d'autre part, que les paradoxes comme celui du menteur n'interviennent en réalité à peu près jamais dans le travail intellectuel et scientifique courant: leur résolution ne présente guère d'intérêt pratique. L'importance accordée aux paradoxes chez un Buridan me semble être l'indice de ce que déjà la logique commence à être développée chez cet auteur à un niveau proprement spéculatif et pour elle-même en quelque sorte, plutôt que pour sa valeur instrumentale.

Deuxième exemple: les définitions de la signification et de la supposition. Lorsqu'au chapitre 33 de la première partie de la *Summa*, Occam veut définir le verbe "signifier" ("*significare*"), il utilise dans sa définition la notion de "*suppositio*"<sup>16</sup>. Or il admet très clairement ailleurs que la propriété sémantique de "*suppositio*" - la référence, si l'on veut-

<sup>14</sup> *Summa logicae*, III-3, 46 (*OPh* I, p. 744-6).

<sup>15</sup> "Quod relinquo ingeniosis, quia ista (...) non inservi nisi propter istius *Summulae* complementum..." (id., p. 746).

<sup>16</sup> *S.L.* I, 33 (*OPh* I, p. 95).

n'advient aux termes que lorsqu'ils sont utilisés dans des propositions<sup>17</sup>. Certains commentateurs ont vu là la preuve d'une priorité, pour Occam, du complexe propositionnel sur le terme isolé, une sorte de holisme à la Davidson. Michael Loux va même très loin dans cette direction en reconnaissant dans ce passage de la *Summa* la marque d'une véritable rupture avec l'atomisme sémantique qui prévalait jusque là dans la philosophie occidentale<sup>18</sup>. J'ai discuté cette question en détail ailleurs<sup>19</sup>, mais je veux seulement rappeler ici que lorsque vient pour Occam le moment de définir la "*suppositio*" et ses diverses subdivisions, il recourt inversement à la notion de signification<sup>20</sup>: ses définitions sont en l'occurrence circulaires; elles ne permettent donc pas d'attribuer une priorité conceptuelle à l'une ou l'autre des deux notions.

Une telle circularité ne fait problème que si on aborde la logique comme un système constructionnel au sens de Carnap, c'est-à-dire comme une série ordonnée de définitions qui, partant de certains concepts primitifs non définis, introduirait progressivement, sur cette base, tout un arsenal de notions de plus en plus complexes. Mais ce n'est pas ce que fait Occam et ce n'est pas non plus son idéal. Si l'on accepte sa caractérisation de la logique comme science pratique, on comprend qu'il cherche plutôt, par ses définitions, à fournir à ses lecteurs des outils qu'ils soient capables de *manipuler* dans leurs propres opérations intellectuelles. Il se permet, pour ce faire, de miser dans les premiers chapitres de la *Summa* sur une certaine familiarité préthéorique que les étudiants ont acquise à la petite école avec des notions comme celle de "*suppositio*". L'ordre conceptuel n'est pas ici celui de la construction théorique, mais celui d'un apprentissage progressif et de plus en plus raffiné.

Je tirerai mon troisième exemple de la théorie des conditions de vérité exposée dans la deuxième partie de la *Summa logicae*. Occam y formule, en termes de comparaison entre la "*suppositio*" du sujet et celle du prédicat, les conditions de vérité de diverses sortes de propositions.

<sup>17</sup> S.L. I, 63 (OPh I, p. 193).

<sup>18</sup> Loux, M., "*Significatio* and *Suppositio*: Reflections on Ockham's Semantics", *The New Scholasticism*, 53 (1979), p. 407-27.

<sup>19</sup> C. Panaccio, C., "Guillaume d'Occam: signification et supposition", dans *Archéologie du signe* (sous la dir. de L. Brind'Amour et E. Vance), Toronto, Inst. Ponti. d'Et. Médiév., 1983, p. 265-86; et "Propositionalism and Atomism in Ockham's Semantics", *Franciscan Studies*, 44(1984), p. 61-70.

<sup>20</sup> S.L. I, 63-64 (OPh I, p. 193-196).

J'ai suggéré ailleurs (et de façon plus détaillée dans un ouvrage en préparation) que cette théorie peut être grandement simplifiée en ramenant certaines formes propositionnelles qui, chez Occam, font l'objet d'un traitement séparé, à l'une ou l'autre des quatre formes canoniques du carré aristotélicien: l'universelle affirmative, l'universelle négative, la particulière affirmative ou la particulière négative<sup>21</sup>. Mais ce qui m'intéresse pour l'instant, c'est que notre auteur, lui, ne procède pas à cette simplification. Pourquoi? Parce que, me semble-t-il, ce genre de simplification théorique, qui est tellement prisé par les mathématiciens et les logiciens d'aujourd'hui (et à juste titre, sans nul doute), ne présente pas d'avantage pratique ou pédagogique. Il est bien connu, par exemple, que la réduction des connecteurs vérifonctionnels à un seul qui a été accomplie par Sheffer en 1913 ne facilite en rien l'apprentissage du calcul propositionnel ni le contrôle pratique des inférences, bien au contraire! Son intérêt est purement théorique: il s'agit de restreindre le plus possible le nombre de concepts primitifs requis dans un certain système formel, de façon à en maximiser l'élégance et la cohésion d'ensemble et à focaliser, du même coup, le travail fondationnel. Occam, lui, veut enseigner comment discerner *efficacement* le vrai du faux dans l'enquête scientifique courante. C'est pourquoi les exigences de simplification qu'il s'impose ne sont pas de même nature que celles dont les logiciens contemporains sont coutumiers.

Un dernier exemple, enfin, me permettra de conclure, celui de l'attitude d'Occam à l'endroit de la taxonomie aristotélicienne des sophismes. Il s'en sert, bien sûr, comme cadre général de son exposé sur les sophismes dans la troisième partie de la *Summa*, mais sans, de toute évidence, la considérer comme un instrument scientifique très fécond. L'intéressant ici est qu'il s'en explique lui-même au passage en discutant un cas particulier, celui de la distinction entre sophismes par composition et sophismes par division: "Quant à savoir, écrit-il, s'il faut entendre de telle façon la distinction entre ces sophismes, je ne m'en soucie pas beaucoup, car je ne crois pas que ce savoir soit très utile pour les

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<sup>21</sup> Cf. Panaccio, C., "Pour une théorie occamiste des conditions de vérité", dans *Matériaux pour une histoire des théories linguistiques* (sous la dir. de S. Auroux et al.), Lille, Univ. de Lille III, 1984, p. 211-6.



sciences particulières"<sup>22</sup>. Ce qui importe, ajoute-t-il, c'est d'être capable de distinguer les divers sens d'un discours ambigu et non pas de savoir classer un sophisme dans telle catégorie plutôt que telle autre. Le point de vue pragmatique est nettement affirmé dans ces lignes et, ce qui est encore plus révélateur, il est mis en relation directe avec la pratique des *sciences spéciales*: Occam prend au sérieux le rôle traditionnellement dévolu à la logique, celui d'être l'*instrument* des autres disciplines. Ce court passage récapitule exactement ce que j'ai voulu ici mettre en évidence.

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<sup>22</sup> "Utrum tamen isto modo sit accipienda distinctio istarum fallaciarum non multum curo, quia hoc scire non reputo multum utile scientiis specialibus". (*S.L.* III-4, 8, *OPh* I, p. 787).

VLADIMIR RICHTER

**Historische Bemerkungen  
zu "De regulis generalibus consequentiarum"  
in Ockham und Burley**

1. *De regulis generalibus consequentiarum* ist eine spezifische Leistung der "British Logic" der 1. Hälfte des 14. Jh. Ihre Darstellungen im Rahmen von *De consequentiis* in Ockhams *Summa logicae*<sup>1</sup> und in Burleys Traktaten *De puritate artis logicae* (*Tractatus longior* und *Tractatus brevior*)<sup>2</sup> gelten als repräsentativ für diese Ära.<sup>3</sup> Historisch dürfte der Logikteil *De consequentiis* aus der Kommentierung der Topik entstanden sein. Die *Summa* z.B. hat hier folgenden Inhalt:<sup>4</sup>

a) Zusammenfassung der Topik der Boethianischen Tradition, Kap. 1-9;

b) Theorie der Consequentiae der Modallogik (Kap. 10-16), darunter 3 Kapitel *De aequipollentiis modalium* (Kap. 14-16);

c) Summe der Topik der aristotelischen Tradition (Kap. 17-37), darunter 6 Kapitel *De inductione* (Kap. 31-36) und ein Kapitel über die Äquivokation (Kap. 37);

d) *De regulis generalibus consequentiarum* (Kap. 38);

e) *De obligationibus* (Kap. 39-45);

f) *De insolubilibus* (Kap. 46).

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<sup>1</sup> Wilhelm v. Ockham, *Summa logicae*, ed. Ph. Boehner, St. Bonaventure, N.Y., 1975, Teil III-3.

<sup>2</sup> Walter Burley (Burlough), *De puritate artis logicae Tractatus longior, with the Revised Edition of the Tractatus brevior*, ed. Ph. Boehner, St. Bonaventure, N.Y., 1955.

<sup>3</sup> Siehe die Beiträge von E. Stump, "Topics: Their Development and Absorption into Consequences", und von I. Boh, "Consequences", in: N. Kretzman, A. Kenny, J. Pinborg (eds.), *The Cambridge History of Later Medieval Philosophy* (Cambridge 1982), 273-299 und 300-314. - N.J. Green-Pedersen, "Early British Treatises on Consequences", in: O. Lewry (ed.), *The Rise of British Logic* (Toronto 1983), 287-307.

<sup>4</sup> O. Bird, "Topic and Consequence in Ockham's Logic", in: *Notre Dame Journal of Formal Logic* 2(1961) 65-78.

Die letzten zwei Teile *De obligationibus* und *De insolubilibus* fehlen in einer Reihe von Hss.<sup>5</sup> Außerdem sind diese Teile in der Hss.-Familie *Intacta* erst hinter dem letzten Teil *De fallaciis* (Teil III-4). Auch das Kap. über die Äquivokation hat keinen einheitlichen Ort. Z.B. steht in einer Erfurter Hs. (CA O.67) und in der Basler Hs. (Bibl. univ. F.II.25) dieses Kapitel hinter dem Kapitel 30. *De aequipollentiis* fehlt auch in einigen Hss. Diese Instabilität der handschriftlichen Überlieferung der *Summa* ist ein Zeichen dafür, daß diese keine einheitliche Entstehungsgeschichte hat.

2. Für die relative Chronologie dieser drei Werke hat Ph. Boehner folgende Hypothese aufgestellt:<sup>6</sup> *Tractatus brevior* vor der *Summa* und diese wieder vor dem *Tractatus longior*. Für den zweiten Teil der Relation, *Summa* vor dem *Tractatus longior*, besitzen wir ein wohl verlässliches Zeugnis von Frater Johannes Nicolai, zusammen mit dem *Terminus ad quem* für den *Tractatus longior*: 1329. Daß der *Tractatus brevior* vor der *Summa* entstanden ist, ist Boehners Vermutung.

Dazu zwei kritische Bemerkungen. Die *erste* betrifft den zuletzt genannten *Tractatus brevior*. Nach meiner Meinung handelt es sich um eine Kompilatio aus dem *Tractatus longior*. Daher kann seine Abfassungszeit auch bis nach dem Datum 1329 als möglich angesetzt werden. Der Prolog seiner Absichtserklärung, die nur fragmentarisch eingelöst wird, paßt wenig in Burleys Lebensabschnitt nach 1327, da er sich mehrere Jahre als Abgesandter des englischen Königs Edward III. am päpstlichen Hof in Avignon aufhielt.<sup>7</sup> Daher betrachte ich auch Burleys Autorenschaft für diesen *Tractatus* als fraglich.

Die *zweite* Bemerkung betrifft das Verhältnis der *Summa logicae* zum *Tractatus longior*. Die Editoren der *Summa* nehmen an, diese sei noch vor 1324, während Ockhams Kommentierung der *Physik* entstanden, möglicherweise als "Ferienarbeit".<sup>8</sup> Diese Annahme habe ich unlängst einer

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<sup>5</sup> *Summa*, 7\* ss.

<sup>6</sup> *De puritate*, pag. VIII.

<sup>7</sup> Zur Biographie von Burley siehe: C. Martin, "Walter Burley", in: *Oxford Studies presented to Daniel Callus* (Oxford 1964) 194-230.

<sup>8</sup> *Summa*, 36\* .

Kritik unterzogen.<sup>9</sup> Auch die Autorenschaft Ockhams für die *Summa* habe ich dabei in Frage gestellt. Als Terminus ante quem der Abfassungszeit der *Summa* kann etwa das Jahr 1328 angenommen werden. Ob diese Annahme der späteren Abfassungszeit für die *Summa* mit Burleys Autorenschaft des *Tractatus longior* verträglich ist, halte ich ebenso für fraglich. Auf jeden Fall sind diese Fragen der Authentizität sowie der Abfassungszeit und des Abfassungsortes beider Werke heute noch nicht definitiv beantwortet. Dies wäre aber sehr wichtig für die Geschichte der Logik des 14. Jh., auch besonders im Zusammenhang der frühen Rezeption von Ockhams Denken in Paris in der zweiten Hälfte der zwanziger Jahre des 14. Jh.<sup>10</sup>

3. Salamucha 1938 und Ph. Boehner 1952<sup>11</sup> haben auf die Bedeutung des Kapitels *De regulis generalibus consequentiarum* in der Logik des 14. Jh. hingewiesen. Dieses Kapitel enthält eine Reihe von Regeln, die als eine mittelalterliche Form (Theorie) der Aussagenlogik betrachtet werden kann. In der *Summa* steht dieses Kapitel am Ende des Teils *De consequentiis* (Kap. 39). Denn *De obligationibus* und *De insolubilibus* sind wahrscheinlich erst später hinzugekommen und sind im Grunde eigene Traktate (Teile) der Logik. Es war daher ein Fortschritt ein systematischer Absicht, als die Traktate *De puritate artis logicae* dieses Kapitel bereits am Beginn ihrer Abhandlungen *De consequentiis* behandelt haben. Sowohl der Autor des *Elementarium logicae* als auch der des *Tractatus minor* (zwei unter dem Einfluß der *Summa* in den vierziger Jahren des 14. Jh. entstandene kleine Summen der Logik, die Ockham zugeschrieben werden),<sup>12</sup> sind dem Gedanken des *Tractatus longior* gefolgt und haben dem Kapitel *De regulis generalibus consequentiarum* den ihm gebührenden Platz am Beginn der Lehre *De consequentiis* (*De locis*) zugewiesen.

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<sup>9</sup> V. Richter, "In Search to the Historical Ockham: Historical Literary Remarks on the Authenticity of Ockhams Writings", in: *Franc. Studies* 45(1985), 93-105.

<sup>10</sup> W.J. Courtenay, "The Reception of Ockham's Thought at the University of Paris", in: Z. Kaluza, P. Vignaux (eds.), *Preuve et raisons à l'Université de Paris. Logique, ontologie et théologie au XIV<sup>e</sup> siècle* (Paris 1984), 43-64.

<sup>11</sup> Ph. Boehner, *Medieval Logic*, Manchester 1952, 52ff.

<sup>12</sup> Die Edition dieser Werke wurde von E.M. Buytaert besorgt. *Franc. Studies* 24(1964) 34-100; 25(1965) 151-276; 26(1966) 66-173.

4. Inhaltlich wurde dieses Kapitel von *De puritate* durch I. Boh 1962<sup>13</sup> analysiert. Es zeigt sich, daß hier eine logische Theorie der Implikation, der Verbindung *et* und der Negation vorliegt. Hier noch zwei interpretative Bemerkungen zu diesem Kapitel und zur Analyse von Boh.

Die erste Hauptregel lautet: "In omni consequentia bona simplici (...) antecedens non potest esse verum sine consequente".<sup>14</sup> I. Boh interpretiert diese Regel u.a. auch als eine Regel der Modaltheorie, wie folgt: " $P \rightarrow Q \Rightarrow \neg \Diamond(P \cdot \neg Q)$ ". Zu dieser Interpretation habe ich einen Vorbehalt. Denn dies ist doch kein Satz und keine Regel irgendeiner modallogischen Theorie. Das *non potest* ist hier nur eine *façon de parler*, deren man sich öfters bedient, wenn man z.B. sagt, daß aus dem Definiendum "notwendig" die Definitio folgt und umgekehrt.

Die zweite Bemerkung betrifft die zweite Hauptregel. Diese ist nichts anderes als die Transitivitätsregel und lautet in zwei äquivalenten Varianten wie folgt: "Quidquid sequitur ad consequens, sequitur ad antecedens. ... Quidquid antecedit ad antecedens, antecedit ad consequens".<sup>15</sup> Diesen Hauptregeln sind zwei Regeln beigelegt, welche der Widerlegung einer sophistischen Argumentation dienen: "Quidquid sequitur ad antecedens, sequitur ad consequens. ... Quidquid antecedit ad consequens, antecedit ad antecedens." In allgemeiner Form findet man diese Transitivitätsregel in *Tractatus longior* an einer anderen Stelle, im *Tractatus brevior* aber gleich im Anschluß an diese Hauptregel.<sup>16</sup> Im Anschluß an diese Hauptregel erwähnen die beiden Traktaten *De puritate* noch zwei weitere abgeleitete Regeln, von denen die erste lautet: "Quidquid sequitur ex consequente et antecedente, sequitur ex antecedente per se."<sup>17</sup> Diese Regel ist im Grunde eine spezielle Form der "Schnittregel" (so von Gentzen 1934<sup>18</sup> genannt):

$$P \rightarrow Q, Q.P \rightarrow R \Rightarrow P \rightarrow R$$

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<sup>13</sup> I. Boh, "A Study in Burley: Tractatus De regulis generalibus consequentiarum", in: *Notre Dame Journal of Formal Logic* 3(1962) 83-101.

<sup>14</sup> *De puritate*, pag. 61, lin. 30ss.; pag. 199, lin. 26s.

<sup>15</sup> *Ibid.*, pag. 62, lin. 10ss.; pag. 200, lin. 11-14.

<sup>16</sup> *Ibid.*, pag. 69, lin. 16ss.; pag. 200, lin. 20ss.

<sup>17</sup> *Ibid.*, pag. 62, lin. 12s.; pag. 203, lin. 7s.

<sup>18</sup> G. Gentzen, "Untersuchungen über das logische Schließen", in: *Math. Zeitschr.* 39(1934) 176-210, 405-431 (Reprint, Darmstadt 1969).



Dieser hat die Bedeutung dieser Regel in der Metamathematik unseres Jh. entdeckt. Im Mittelalter wird diese Regel zwar auch weiters z.B. im *Elementarium* (nicht im *Tractatus minor*) erwähnt, bleibt aber praktisch "ohne Anwendung" und gerät daher in Vergessenheit, samt der gesamten "Aussagenlogik" des Mittelalters, bis diese in der modernen Logik wiederentdeckt wurde.

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**Predicazione essenziale ed *intentiones*  
secondo Gentile da Cingoli**

1 *La logica a Bologna nel XIII secolo*

Le nostre conoscenze sull'insegnamento della logica in Italia nel XIII secolo sono tuttora assai scarse. Benché collocato in posizione strategica nel curriculum scolastico medievale - e pertanto certamente materia di insegnamento sia nelle università sia negli *studia* degli ordini mendicanti sia nelle scuole cattedrali - , lo studio della logica non sembra aver lasciato tracce numerose nella produzione letteraria dei *magistri* italiani del Duecento. Fa eccezione - e quindi assume particolare spicco in questo contesto - la figura di Gentile da Cingoli, maestro di logica e di filosofia naturale a Bologna negli ultimi anni del secolo.

Dobbiamo innanzitutto alle ricerche di Martin Grabmann (*Grabmann 1941*), poi alle precisazioni fornite da altri studiosi, le poche notizie raccolte intorno alla sua vita (*Hissette 1979*). Dopo aver studiato a Parigi probabilmente negli anni ottanta del secolo, Gentile dovette iniziare il suo insegnamento bolognese intorno al 1295. In quella che era allora la più importante università della Penisola, egli entrò a far parte della cerchia di dotti che si riuniva attorno alla figura di Taddeo Alderotti, medico insigne e tra i primi rappresentanti della rinascita dell'aristotelismo in Italia. Proprio l'originale connubio tra rinnovamento della tradizione medica e promozione della nuova filosofia segnava in quel periodo il clima culturale della Facoltà di Medicina ed Arti di Bologna, che - del resto - si andava allora formando anche dal punto di vista istituzionale (*Siraisi 1981*). Tra i discepoli dell'Alderotti, Gentile è l'unico che rinuncia alla promettente carriera di medico per rimanere fedele all'insegnamento della logica e della filosofia. La sua attività come *magister* dovette protrarsi fino alle prime decadi del XIV secolo e fu senz'altro esercitata con risultati degni del massimo rispetto, se si deve giudicare dalla qualità di allievi quali Guglielmo da Varignana, che fu medico apprezzato, Angelo d'Arezzo, successore di Gentile sulla cattedra di logica, e il misterioso

Urbano Averroista, cui si deve un'amplissima *Expositio* del commento averroistico alla *Fisica* di Aristotele.

Anche per questo, oltre che per l'effettiva influenza che le sue dottrine dovettero esercitare, Gentile può essere senz'altro considerato come l'iniziatore di quella tradizione autonoma - in logica e in filosofia naturale - che caratterizzò l'ambiente universitario bolognese nel corso del XIV secolo (Maier 1955).

## 2 L'insegnamento logico di Gentile da Cingoli

Dell'attività di Gentile come maestro di logica ci rimane soprattutto uno *Scriptum super artem veterem*, conservato in 4 manoscritti. Ad esso si possono aggiungere un *Tractatus de universalibus*, delle *Questioni*, giunteci purtroppo incomplete, sull'*Isagoge* di Porfirio ed infine un *Commento* agli *Analitici primi*, la cui autenticità non è stata tuttavia ancora assicurata. Si tratta di un *corpus* di tutto rispetto, grazie al quale si potrebbe delineare un profilo sufficientemente articolato delle dottrine logiche di questo maestro. Può suscitare quindi un certo stupore che, a differenza di quanto è avvenuto per le sue teorie grammaticali, la logica di Gentile non sia stata ancora oggetto di attenzione da parte degli studiosi. La spiegazione, almeno parziale, di questa lacuna può essere trovata nello stato tuttora incoativo delle nostre conoscenze intorno alle dottrine logiche che venivano insegnate nelle università alla fine del XIII secolo.

Sono trascorsi infatti solo 12 anni da quando lo scomparso Jan Pinborg è riuscito a sintetizzare, in un saggio magistrale, il nuovo paradigma teorico giunto a maturazione con Radulphus Brito e che egli ha inteso caratterizzare come "logica dei modisti" (Pinborg 1975). Durante questi anni, la pubblicazione delle opere di commento agli *Elenchi Sofistici* dovuti alla scuola di Pietro di Alvernia e a Simone di Faversham ha fornito nuovi importanti contributi di conoscenza. Ma ciò che manca tuttora è un panorama sufficientemente ampio e dettagliato del periodo che vide la gestazione e l'affermazione delle teorie semantiche imperniate sul concetto di *intentio* - vale a dire, grosso modo, del periodo che va dal 1275 al 1300. La difficoltà di ricostruire con precisione un quadro di riferimento teorico può quindi senza dubbio scoraggiare chi voglia intraprendere lo studio delle opere di Gentile. Tanto più se si considera che anche in questo, come in altri periodi creativi della storia della

logica, il metalinguaggio della teoria, pur se in decisa evoluzione verso la costituzione di una terminologia tecnica formalmente precisa e relativamente autonoma, risente tuttavia degli schemi epistemologici allora normativi, quelli della metafisica e della teoria della conoscenza. Nonostante questo - e anzi, proprio in ragione di queste difficoltà - credo possa risultare utile l'abbozzo di analisi che mi propongo in questa sede di tentare in relazione alla dottrina degli universali di Gentile da Cingoli e, in particolare, alla sua teoria della predicazione essenziale. Si tratterà, per quanto si è detto, di una presentazione ancora provvisoria, in cui si vogliono fissare i primi risultati di una ricerca sulla logica bolognese del XIII e XIV secolo.

### 3 *La teoria delle intentiones*

E' naturale, nel caso di un logico medievale come Gentile da Cingoli, rivolgersi al commento all'*Isagoge* per trarre indicazioni circa la sua dottrina degli universali. In maniera conforme ad altri commentatori di quel periodo, anche Gentile identifica come oggetto del trattatello porfiriano l'universale inteso come *secunda intentio*. Con questa assunzione, la teoria dei predicabili viene a trovarsi fondata su di una precisa concezione del processo di formazione dei concetti e di invenzione dei nomi: si tratta qui infatti del luogo teorico in cui si incontrano semantica e gnoseologia (Ebbesen 1981). La formazione dei concetti è spiegata da Gentile facendo ricorso al modello classico della teoria dell'astrazione. L'intelletto umano - egli sostiene - , nella sua continua opera di classificazione e identificazione degli oggetti, giunge ad un certo punto ad isolare una classe di individui che mostrano di possedere caratteristiche comuni, i cosiddetti *modi essendi* o *proprietates*. Più precisamente, l'intelletto è in grado di attribuire una caratteristica comune a questi individui, poiché nota che ciascuno di essi è in grado di compiere un tipo di operazione affatto peculiare, come ad esempio l'eseguire ragionamenti nel caso degli uomini. Questo tipo di operazione distintiva veniva detta *apparens* nella terminologia dell'epoca. Sulla base dell'uniformità dell'*apparens* rispetto ad un insieme di individui, l'intelletto è dunque in grado di inferire che una *proprietas* comune può essere attribuita a questi individui, ad esempio la razionalità. Tale *proprietas*, a sua volta, è il prodotto di un'essenza comune (o *quidditas*) che ora

l'intelletto è in grado di isolare, attraverso un processo di astrazione, dalle caratteristiche accidentali di ciascun individuo.

A questo punto, entra in gioco un'altra capacità peculiare dell'intelletto, quella di stabilire una relazione convenzionale tra i nomi e gli oggetti della propria attività. Si tratta del processo che veniva allora designato come *impositio nominum ad significandum*. Secondo la teoria dei logici modisti, l'imposizione è un procedimento intellettuale complesso attraverso cui è possibile assegnare un oggetto o una classe di oggetti come significato ad un nome, a partire dalle modalità cognitive secondo cui quello o quegli oggetti sono dati all'intelletto. In forza dell'*impositio*, dunque, il nome significa la *res ut intellecta est*. Applicando questa concezione al caso della formazione dei predicati universali, ne deriva che un termine come "*homo*" significherà ciascuno degli individui che condividono la stessa *quidditas*, sulla base della modalità cognitiva secondo cui quella *quidditas* è stata isolata dall'intelletto. Questa modalità cognitiva è chiamata dai logici modisti *ratio intelligendi* o *modus intelligendi* o anche *intentio*. Gentile afferma dunque che, secondo la sua prima accezione, il termine "universale" significa la *res intellecta sub prima intentione*. L'universale assunto in questa accezione, cioè come *res*, non costituisce ancora tuttavia l'oggetto formale della *scientia Porphyrii*.

La *quidditas* isolata dall'intelletto attraverso il processo di astrazione può infatti essere intesa anche secondo una modalità cognitiva di diverso tipo, la quale, poiché presuppone logicamente la precedente, viene detta dai logici del periodo *secunda intentio*. In questo caso, la *res intellecta sub secunda intentione* è la *quidditas* considerata secondo la sua proprietà di essere predicabile di molti, cioè appunto di essere universale. Lo studio delle intenzioni seconde, vale a dire di quelle modalità cognitive su cui si fondano le relazioni formali tra i predicati, è allora secondo Gentile l'oggetto proprio della teoria logica degli universali, così come essa viene formulata nell'*Isagoge* di Porfirio.

#### 4 Predicazione essenziale ed intentiones

La teoria semantica messa in opera da Gentile nel suo Commento a Porfirio considera dunque all'interno del significato di ogni nome comune un elemento estensionale, la *res*, e un elemento intensionale, l'*intentio*. Sulla base di questa distinzione fondamentale vengono affrontati anche i



due nuclei problematici principali del trattato di Porfirio, quello dell'ordinamento dei predicati secondo il noto modello dell'*arbor Porphyriana* e quello della predicazione essenziale.

L'ordinamento dei predicati essenziali secondo genere, specie e differenza è dovuto infatti, secondo Gentile, alle relazioni sussistenti tra le prime intenzioni, le quali, a loro volta, sono fondate direttamente sulle relazioni estensionali che sussistono tra le *proprietates* o *modi essendi* da cui sono tratte le prime intenzioni. Così "animal" è genere rispetto ad "homo" perché la proprietà da cui è tratto (essere sussistente, corporeo, animato, sensibile) è più generale di quella da cui è tratto "homo" (essere sussistente, corporeo, animato, sensibile, razionale) e gli individui cui inerisce quest'ultima proprietà sono una parte di quelli cui inerisce la prima. Dal punto di vista intensionale, tuttavia - se cioè si considerano non le *res ut stant sub primis intentionibus*, bensì le prime intenzioni in sé - , l'ordine si inverte ed è l'*intentio speciei* che contiene l'*intentio generis*. Nell'intenzione della specie infatti sono contenute tutte le intenzioni dei generi superiori, più una. Da parte sua, la differenza occupa una posizione, per così dire, "collaterale" rispetto a genere e specie. Essa è dovuta, secondo Gentile, al fatto che la differenza è tratta da una proprietà semplice e non-indipendente. L'*intentio differentiae* non contiene in sé le intenzioni di altre differenze e tuttavia essa implica un soggetto, un ente sussistente. Per questo essa si predica *per modum qualis*, mentre generi e specie si predicano *per modum quid*.

In questo modo, con la sua trattazione dei predicabili essenziali, Gentile disegna un ordine intensionale di contenuti semplici e composti (*rationes intelligendi* o *intentiones*), sulle cui relazioni si fonda la possibilità della predicazione essenziale. Elencando le condizioni secondo cui un predicato di livello superiore si può predicare di un suo inferiore, Gentile sottolinea infatti quella dell'inclusione intensionale del primo nel secondo: "oportet quod ratio superioris includatur in inferiori". La *ratio* o *intentio* secondo cui, ad esempio, il nome "animal" è stato istituito mediante l'*impositio* costituisce un segmento di quella secondo cui è stato istituito il nome "homo". Poiché dunque "in propositionibus dicendo hoc est hoc significatur esse predicatum quodammodo in subiecto", con la proposizione "homo est animal" viene asserita un'identità a livello delle *res*, mentre viene reso esplicito un rapporto di inclusione a livello delle *intentiones*. In questo caso, infatti, giacché si tratta di una predicazione

essenziale, soggetto e predicato si riferiscono ad un'unica *quidditas*, intesa tuttavia *sub diversis rationibus intelligendi*.

Si tocca qui un nodo centrale dell'intera semantica modista, in cui viene alla luce un'opzione preliminare di carattere metafisico, un *metaphysical commitment*, che governa le scelte fondamentali della teoria delle *intentiones*. L'interpretazione della predicazione essenziale, e di conseguenza tutta la teoria dei predicabili, è dipendente, per un logico medievale, dalla soluzione del problema metafisico riguardante la composizione dell'essenza delle sostanze composte. Tale problema, nel periodo in cui operò Gentile, veniva affrontato secondo due possibili e alternativi schemi di soluzione, a seconda che ci si pronunciasse per l'unicità o per la pluralità delle forme sostanziali (Roos 1974). Secondo la teoria dell'unicità della forma - che era stata quella di Tommaso, ma anche degli aristotelici radicali come Sigieri di Brabante e Boezio di Dacia - , ad ogni predicato essenziale - da quello di genere sommo a quello di specie - corrisponde *in re* una sola forma sostanziale, quella specifica. Della diversità dei predicati viene perciò dato conto facendo riferimento ai diversi *modi essendi* che concorrono a costituire la forma sostanziale e che sono principio delle diverse *operationes* o *apparentia* da cui l'intelletto è in grado di trarre le *intentiones* mediante cui significare, sotto diversi punti di vista, la medesima *quidditas*. Viceversa, per i sostenitori della pluralità delle forme, ad ogni predicato essenziale corrisponde *in re* una diversa forma o *quidditas* e da esse l'intelletto trae direttamente le sue intenzioni. Ne consegue che, mentre per gli oppositori dell'unicità della forma il rapporto tra *res* e *intentio* è un rapporto biunivoco - ad ogni diversa intenzione corrisponde una diversa *res* - , al contrario per i sostenitori della teoria una stessa *res* può essere considerata secondo diverse intenzioni. Di qui discendono ovviamente due diverse possibili teorie del significato, che infatti si contesero il campo per un lungo periodo della storia della logica medievale.

Gentile da Cingoli fu deciso e coerente sostenitore di una di queste teorie, quella tipica dei logici modisti, secondo cui non c'è corrispondenza biunivoca tra le cose e i concetti. L'importanza storica della sua scelta consiste nel fatto che essa costituì un paradigma teorico autorevole per i rappresentanti della scuola bolognese di logica per tutto il XIV secolo.

Riferimenti bibliografici

Per il testo di Gentile da Cingoli mi sono servito della trascrizione da me compiuta dello *Scriptum super Porphyrium* contenuto nel ms. Firenze, Biblioteca Nazionale Centrale, Conventi Soppressi J. X. 30 e di quella, gentilmente messa a mia disposizione dall'amico Roberto Lambertini, del *Tractatus de universalibus*, contenuto nel ms. Firenze, Biblioteca Mediceo Laurenziana, Stroziano 99.

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Simone di Faversham e le scienze

In questa comunicazione ci proponiamo di esaminare alcune opere di Simone di Faversham concernenti il rapporto tra scienza e logica. Limiteremo la nostra indagine ai testi seguenti: *Quaestiones super libro Porphyrii*<sup>1</sup>, *Quaestiones super libro Praedicamentorum*<sup>2</sup>, Commento ai *Tractatus (Summulae logicales)*<sup>3</sup> e *Quaestiones super libro Elenchorum*<sup>4</sup>.

Nel proemio alle *Quaestiones super libro Porphyrii*, che è una sorta di introduzione generale a tutta la logica, parlando della utilità di questa disciplina per chiunque si dedichi alla ricerca, viene affermata, sulla scorta della tradizione aristotelica, la priorità della logica su tutte le altre singole scienze.

Ipsa enim tradit modum secundum quem in singularibus scientiis ex aliquo noto oporteat devenire in cognitionem alicuius ignoti, sic ut non quaeratur aequalis certitudo in omnibus, nisi secundum exigentiam naturae subiectae. Et ideo logica, licet sit quaedam scientia in se, est tamen modus sciendi aliarum.<sup>5</sup>

L'Autore ribadisce il concetto che "omnis scientia per quandam investigationem rationis ex cognito devenit in cognitionem alicuius incogniti"<sup>6</sup> e che il modo secondo cui la ragione passa da ciò che è noto a ciò che non lo è ancora, "modus sciendi communis omnibus scientiis",<sup>7</sup>

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<sup>1</sup> Magistri Simonis Anglici sive de Faverisham, *Opera omnia*, vol. I, *Opera logica*, T.us prior, cura et studio Paschalis Mazzarella, Cedam, Padova 1957.

<sup>2</sup> Carmelo Ottaviano, Le "Quaestiones super libro Praedicamentorum" di Simone di Faversham, Memoria di C. Ottaviano, Reale Accademia Nazionale dei Lincei (Anno CCCXXVII, Serie VI, vol. III, fasc. IV) Roma 1930.

<sup>3</sup> Cf. Lambert Marie de Rijk, "On the genuine text of Peter of Spain's Summulae logicales, II, Simon of Faversham (d. 1306) as a Commentator of the Tracts I-V of the Summulae", *Vivarium* VI (1968), 69 e segg.

<sup>4</sup> Simon of Faversham, *Quaestiones super libro Elenchorum*, ed. by Sten Ebbesen, Thomas Izbicki, John Longeway, Francesco del Punta, Eileen Serene, Eleonore Stump, Pontifical Institute of Mediaeval Studies, Toronto 1984.

<sup>5</sup> *Quaest. sup. Porph.* cit. 13.

<sup>6</sup> *Ibid.*

<sup>7</sup> *Ibid.* Cf. Alberti Magni, *Logica*, Liber I, De Praedicabilibus, Trac. I,1 De natura Logicae, cap. I (Ed. A. Borgnet, Paris, Vivès 1890), pp. 1-2: "... quamvis scientiae sint multae, et quaelibet specialem habet modum, qui differt a modo alterius, sicut et

va appreso prima di ogni altra disciplina. Non si possono imparare contemporaneamente la logica e le altre scienze, se non si vuole correre il rischio di sovvertire l'ordine del sapere. Coloro che trascurata la logica si dedicano alle arti lucrative, mostrano di preoccuparsi più dei beni del corpo che di quelli dell'anima. Uomini di tal fatta sono del tutto inadatti all'impresa scientifica.

Poiché "omnes artes et scientiae inventae sunt secundum aliquem istorum modorum, videlicet diffiniendo, dividendo vel syllogizando"<sup>8</sup> e poiché queste tecniche vengono insegnate dalla logica, è chiaro perché questa non può essere trascurata e non può stare se non al primo posto.

Nella prima delle Questioni su Porfirio, l'Autore si chiede se la logica sia scienza pratica o razionale. Dopo aver precisato che una scienza puramente speculativa "considerat naturas et quidditates rerum", mentre la logica, propriamente parlando, non considera le res, ma le intentiones, risolve la questione, affermando che la logica è sia pratica che speculativa:

practica, quia docet syllogismo operari: docet enim syllogizare, diffinire et dividere et talia. Speculativa autem est, quia omnia ista non docet propter opus, sed propter scientiam; docet enim logica syllogizare, ut per doctrinam illam possimus nos rectificare in aliis scientiis.

Nella seconda questione discutendo se dell'universale possa esservi scienza, l'Autore afferma che la "scienza è una conoscenza intellettuale" e che di tutto ciò che è per se intellegibile può esservi scienza sia per

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unaquaeque scientia differt ab altera: est tamen unus communis modus scientiae per quoddam commune quod est in omni scientia. Et hoc est quod per investigationem rationis ex cognito devenitur ad cognitionem incogniti: hoc enim fit in omni scientia quocumque modo dicta, sive sit demonstrativa, sive non demonstrativa. Et gratia illius communis, est in omni scientia modus communis omnis scientiae. Et hic modus est per actum rationis, qui ratiocinatio sive argumentatio est, de cognitione cogniti procedens in scientiam ejus quod erat incognitum, secundum quod Isaac in libro de Diffinitionibus (ed. J.T. Muckle, *Isaac Israeli, Liber de Definicionibus*, AHDLMA XII/XIII (1937/1938) p. 321.) rationem diffiniens, dicit quod ratio est animae intellectualis virtus, faciens currere causam in causatum. Causam generaliter vocans et large, omne quod secundum intellectum simpliciter, vel quoad nos antecedit ut cognitum, per cujus cognitionem ductu rationis devenitur in notitiam incogniti." La teoria secondo la quale non si possono apprendere contemporaneamente la scienza e il modo di essa si trova in Aristotele, *Metaf.* II, 3: "... absurdum est simul quaerere scientiam et modum scientiae", *Arist. Lat.* XXV 2 (Leiden 1976) 39-40.

<sup>8</sup> *Quaest. sup. Porph.* cit. 13-14.

<sup>9</sup> *Ibi*, 17-18.



definizione sia per dimostrazione. La sua conclusione è che dell'universale può esservi scienza.<sup>10</sup>

La prima delle Questioni sulle categorie si domanda anch'essa se delle categorie possa esservi scienza. Nel corso della sua argomentazione Simone trova modo di affermare che "omnis scientia est per causam, ... quia scire opinamur unumquodque cum causas cognoscimus, et quod illius est causa";<sup>11</sup> viene ancora ricordato che "omnis scientia habetur per diffinitionem vel per demonstrationem".<sup>12</sup> Poco più avanti l'Autore sostiene che può esservi scienza di tutto ciò intorno a cui accade che si possa errare o agire rettamente, perché la scienza è direttiva in tutte quelle cose circa le quali può accadere di errare o di agire rettamente.<sup>13</sup> Viene poi detto che affinché di qualcosa possa esservi scienza si richiedono tre condizioni: cioè che quel qualcosa sia un ente, che esso sia intellegibile e che abbia parti che lo costituiscano e proprietà e affezioni intorno a cui possano essere eseguiti procedimenti probativi.<sup>14</sup> E' necessario che ciò di cui vi è scienza sia intellegibile dal momento che la scienza è un abito intellettuale.<sup>15</sup> E' necessario poi che abbia parti che lo costituiscano dal momento che tutto è conosciuto per mezzo della definizione e la definizione è un discorso che ha parti. Occorre infine che abbia proprietà e affezioni che si possano dimostrare di esso, dal momento che la conoscenza avviene per dimostrazione. A proposito della definizione di scienza come "habitus acquisitus per demonstrationem", egli ricorda la celebre distinzione della demonstratio *quia* e *propter quid*, aggiungendo che anche la scienza è duplice: quella che si acquista der

<sup>10</sup> *Ibi*, 19: "... de omni eo quod est per se intellegibile potest esse scientia vel per diffinitionem, vel per demonstrationem ...".

<sup>11</sup> *Quest. s. libro Praed.* cit. 261.

<sup>12</sup> *Ibid.*

<sup>13</sup> *Ibid.*: "De omni eo de quo contingit errare et recte agere potest esse scientia; scientia enim est directiva in hiis circa quae contingit errare et recte agere; sed circa praedicamenta contingit errare et recte agere; ideo etc. Minor probatur, quia praedicamentum non est nisi coordinatio praedicabilium [probabilium *Ottaviano*] secundum sub et supra; coordinare autem praedicamenta secundum sub et supra contingit recte et non recte; ideo etc."

<sup>14</sup> *Ibi*, 263-264: "Ad hoc enim quod de aliquo possit esse scientia tria requiruntur, scilicet quod ipsum sit ens et quod ipsum sit intelligibile et quod habeat partes constituentes ipsum, proprietates et passiones quae possunt probari de hoc". Per il concetto secondo cui si può avere scienza solo di ciò che è, cf. Aristotele, *Anal. Secondi*, 71b25-26: οὐκ ἔστι τὸ μὴ ὄν ἐπίστωθαι; *Categ.* 7b23-8a12.

<sup>15</sup> "Scientia quidam habitus intellectualis est; est enim perfectio intellectus; et ideo scibile oportet esse intellegibile; et ideo illud de quo est scientia oportet esse intellegibile", *Quaest. s. libro Praed.* cit. 263-264.

dimostrazione *propter quid* e quella che si acquista per dimostrazione *quia*.<sup>16</sup> Per mezzo di quest'ultima constatiamo che la cosa è così, non risaliamo alla sua causa<sup>17</sup> ma ci accontentiamo di sapere l'oti'. La dimostrazione e la scienza *propter quid* ci danno invece le cause, permettendoci di risalire al 'dioti'.

Nel commento ai *Tractatus* Simone dà una errata etimologia del termine scienza, quando a proposito della parola logica scrive:

uno modo 'loyca' dicitur a logos, quod est sermo, et 'ycos' scientia quasi *rationalis scientia*; et per istam interpretationem est una de sermocinalibus scientiis et extendit se ad trivalem scientiam. Alio modo dicitur a 'logos' grece, quod est *ratio* latine, et 'ycos' *scientia*, quasi *rationalis scientia*, que est directiva rationis alicuius, que est propria operatio hominis.<sup>18</sup>

Simone riporta l'opinione di Alberto secondo cui:

alię scientie comparantur ad loycam sicut idiota ad sapientem. Idiota enim nescit se errare nec errorem aliorum corrigere. Et ideo dicit quod aliquis sciens alias scientias preter loycam, ipse est sciens, nescit se tamen scire sicut ignis comburit, nescit se tamen comburere.<sup>19</sup>

Più oltre spiegando l'incipit dell'opera di Pietro Ispano, "Dialectica est ars artium et scientia scientiarum ad omnium methodorum principia viam habens", Simone afferma:

<Scientia nichil aliud nominat quam quemdam habitum intellectualem in anima quiescentem.> Et hoc possumus trahere ex diffinitione scientiæ, quam ponit Philosophus Sexto Ethicorum quod scientia est

<sup>16</sup> *Ibi*, 266: "Scientia est habitus acquisitus per demonstrationem; demonstratio autem duplex est, scilicet demonstratio quia et demonstratio propter quid; et ideo scientia duplex est, quaedam acquisita per demonstrationem propter quid et quaedam acquisita per demonstrationem quia, prima habetur per causam, secunda non."

<sup>17</sup> Cf. Aristotele, *Metaph.* I. 1 "Expertes enim ipsum sciunt quia, sed propter quid nesciunt; hii (artifices) autem propter quid et causam cognoscunt." *Aristoteles Latinus* (XXV, 2) *Metaphysica*, transl. Anonyma sive 'Media', ed. Gudrun Vuillemin-Diem, Brill, Leiden 1976, 8 15-16. Idem, *Analitici Secundi*, 78a13; 78b12-13; 78b34; 79a2-3, 12, 14-16. La distinzione tra conoscenza *quia* e *propter quid* si trova in molti autori medievali e meriterebbe da sola una specifica trattazione. Si veda, per es. Pietro Rossi, "La classificazione delle scienze in Roberto Grossetesta", in *L'Homme et son univers au Moyen Age. Actes du septième congrès international de Philosophie médiévale*, ed. Christian Wenin, Louvain-La-Neuve 1986, II, 648-651; Idem, Roberto Grossetesta, *Metafisica della luce*, Rusconi, Milano 1986, Introduzione pp. 37-42; vedi anche Graziella Federici Vescovini, che se ne occupa a proposito di Grossetesta e precisa che la scienza subalterna o superiore è quella che fa conoscere secondo la causa sostanziale o il *propter quid* del fenomeno, mentre la scienza subalternata o inferiore fa conoscere solo il *quia*, presentandoci la cosa secondo le particolarità accidentali, *Vivarium* VI (1968) p. 40.

<sup>18</sup> de Rijk, "On the genuine ...", cit. 78.

<sup>19</sup> *Ibid.* Cf. Aristotele, *Metaph.*: "... ut cum ignis exurit..." *Arist. Lat.* cit. 8, 20; vedi *Aristotelis Opera omnia, graece et latine*, Firmin-Didot, Parisiis 1983, vol. II, 469, 19 (*Metaph.* I,1).

habitus intellectualis in anima existens verus et semper firmus. Per artem nichil aliud intelligimus nisi quemdam habitum intellectualem per applicationem ad opus. Dicitur ars per applicationem ad intellectum, dicitur scientia secundum quod quiescit in anima.<sup>20</sup>

E poco più avanti, parlando dei rapporti tra la dialettica e le altre discipline aggiunge:

Notandum quod <non> dicitur ars artium scientia scientiarum ex eo quod excellat omnes alias scientias, <quia Philosophus> Sexto Ethicorum dicit quod sapientia, idest metaphysica est caput aliarum artium et scientiarum et vult quod omnes scientiae sine metaphysica sunt acephale, idest sine capite. Et ita metaphysica excellit omnes alias scientias. Et ideo loyca sive dialectica non dicitur ars artium ex eo quod excellat omnes alias artes et scientias. Sed est intelligendum, secundum quod Philosophus dicit III De anima, quod manus est organum organorum non quod in dignitate excellat alia organa, quia cor est dignius organum quam manus et similiter caput, sed intelligendum quod maius est organum pro tanto, quia omnibus aliis organis necessaria ministrat, ut capiti capucium, calceos pedibus, et sic de aliis. Sic dico in proposito quod dialectica non dicitur ars artium pro tanto quod in dignitate excellat alias scientias sed dicitur ars artium ex eo quod aliis scientiis necessaria porrigit et ministrat. Aliae enim scientiae per dialecticam praeparantur. Quod enim aliae scientiae habent modum diffiniendi, dividendi et argumentandi, hoc totum habent per loycam, quia loyca omnia ista docet. Sic ergo <patet> quod logica sive dialectica in dignitate excellit alias scientias, sed hoc modo ut dictum est.<sup>21</sup>

Simone rileva poi che una scienza si dice più degna di un'altra in tre modi: o per la dignità dell'oggetto di cui si occupa, come la metafisica che si occupa di Dio; o per la sua tecnica di dimostrazione; o, infine, perché regola e dirige i procedimenti delle altre scienze. La logica o dialettica è prima rispetto alle altre scienze, in quest'ultimo senso, cioè perché regola e dirige i procedimenti delle altre scienze. E' per questo che si dice che la logica apre la via ai principi di tutti i metodi.<sup>22</sup>

<sup>20</sup> de Rijk, cit. 81. Cf. Aristotele, *Fisica*, VII, 3: τῷ γὰρ ἡρεμῆσαι καὶ στήναι τὴν διάνοιαν ἐπίστασθαι καὶ φρονεῖν λέγομεν. Sul rapporto arte-scienza si veda il recente articolo di Helene Merle, "Ars", in *Bulletin de Philosophie médiévale* 28 (1986) 95-133; in particolare le pp. 115-130 dedicate al concetto di arte nel XIII secolo e la bibliografia pp. 130-133.

<sup>21</sup> de Rijk, cit. Ho modificato que e là il testo dell'ed. de Rijk, basandomi sul ms. della Bibl. Antoniana di Padova Scaff. XX 429.

<sup>22</sup> Su questa nozione aristotelica della dialettica che leggiamo in *Top.* 101b3-4: ἐξεταστικῆ (διαλεχτικῆ) γὰρ οὕσα πρὸς τὰς ἀπασῶν τῶν μεθόδων ἀρχὰς ὁδὸν ἔχει in cui methodos significa scienza, ecco quanto scrive Simone. "Ad evidentiam istius est notandum quod via nichil aliud est quam medium deveniendi ab ignorantia ad ipsam scientiam. Illud declaro in naturalibus, quia in via naturali requiruntur tria, scilicet ipsa via, requiritur etiam quod non sit impedimentum in ipsa via, requiritur etiam quod ille habeat potestatem et facultatem (facultatem?) et valetudinem corporis adveniendi ad illum terminum. Si enim via fit opposita et habet pedes (pedem Padova) ineptos, faciliter non potest venire ad talem terminum. Logica enim omnia ista facit, quia per

Anche nelle *Quaestiones super libro Elenchorum* troviamo la teoria secondo cui la logica è la via che conduce a tutte le altre scienze,<sup>23</sup> speculative e pratiche, e che per questo motivo Aristotele dice che la "dialettica essendo arte della ricerca apre la via ai principi di tutti i metodi".<sup>24</sup> Anche qui troviamo, ma in forma più sintetica, gli stessi concetti che si leggono nella introduzione alle Questioni su Porfirio. Viene ribadito che chiunque voglia perfezionarsi nelle scienze altissime, quali sono quelle speculative, bisogna che si perfezioni prima nella logica, che è il modo stesso del conoscere.<sup>25</sup> In maniera ancora più efficace nel proemio alle *Quaestiones novae super libro Elenchorum* viene affermata la funzione "organica" della logica, in quanto tutto il suo frutto consiste nel fatto che essa è ordinata alle altre scienze come a suo fine. E se le altre scienze non ci fossero, a nulla servirebbe la logica; di conseguenza è

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logicam < tamquam > per medium homo devenit ab ignorantia ad ipsam scientiam, ut in libro *Priorum et Posteriorum*; dat viam ad alias scientias logica, et est via media per quam remouentur impedimenta aliarum scientiarum, ut in libro *Ethicorum* et in *Fallaciis*. Logica etiam dat potestatem et valetudinem deveniendi ad alias scientias ut in libro *Topicorum* Aristotelis, quia ibi docet arguere (*de Rijk*; agnoscere Padova). Ex dictis omnibus sequitur quod ipsa est viam habens ad alias scientias, et ideo dicit Auctor quod ipsa logica docet medium deveniendi de cognito ad incognitum, et ipse Auctor optime dicit quod est habens viam ad principia omnium methodorum id est scientiarum. Notandum circa hoc quod dicit *principia*, quia logica determinat de principiis aliarum scientiarum, ideo nota quod principia duobus modis considerantur: uno modo quantum ad id realitatis quod est in ipsis, et hoc modo metaphysica determinat de principiis aliarum scientiarum. Alio modo considerantur quantum ad id rationis quod est in ipsis et hoc modo logicus determinat de principiis aliarum scientiarum; et declaratur sic: accipias illud principium: triangulus est figura plana, tribus lineis contenta, habens tres < angulos > aequales duobus rectis. Hic duo sunt considerare: quantum ad modum diffiniendi est ens rationis < et hoc > modo logicus idem principium considerat. Alio modo potest considerari quantum ad id realitatis quod est in ipso (?) et hoc modo metaphysicus ipsum considerat. Et sic glosandus est iste textus *habens viam ad omnium methodorum principia*, supple, quantum ad modum sciendi, qui est in ipsis et quantum ad id quod est rationis. Nota quod methodus et facultas idem sunt, differenti tamen modo, facultas dicitur de trivialibus, methodus vero de quadrivialibus, et ideo dictum est quod methodus sumitur hic large secundum quod extendit se tam ad scientias triviales quam quadriviales et ad omnes alias scientias. Ipsa enim logica dat modum sciendi aliis scientiis, et, quod plus est, ipsa dat modum sciendi ad se ipsam." Ed. de Rijk cit. 82-83 rivista sul manoscritto di Padova cit.

<sup>23</sup> *Quaestiones veteres super libro Elenchorum* ed. cit. 27.

<sup>24</sup> *Ibi*, 27.

<sup>25</sup> Si ricordi che Alberto Magno ha insegnato nel Trattato I intorno ai Predicabili che la logica ha il privilegio di essere scienza in se e nel contempo uno strumento per la costruzione di tutte le altre scienze. Essa può essere paragonata al martello che il fabbro con un'arte speciale costruisce nella sua fucina e che, una volta costruito, serve a costruire tutti gli altri strumenti: "Patet igitur quod logica una est specialium scientiarum, sicut in fabrilis in qua specialis est ars fabricandi malleum: cuius tamen usus omnibus adhibetur quae arte fabrilis fabricantur", D. Alberti Magni, *Logica*, Liber I, De Praedicabilibus, Tractatus I, De natura Logicae, cap. I, p. 2 (Ed. A. Borgnet, Paris, Vivès, 1890).



giustissimo affermare che la logica è l'organo delle scienze e senza di essa non si avrebbe perfetta conoscenza di nessuna cosa.<sup>26</sup> Anche qui la scienza è definita come conoscenza intellettuale.<sup>27</sup>

Pensiamo che i brani che abbiamo sopra riportato siano sufficienti a darci una prima informazione sulla dottrina di Simone intorno alla scienza e a mostrarci la sua prossimità alle dottrine di Alberto Magno. Una maggiore conoscenza dei rapporti tra Simone e i suoi contemporanei si potrà avere quando si disporrà delle edizioni delle opere di Simone la maggior parte delle quali sono ancora manoscritte.<sup>28</sup>

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<sup>26</sup> *Quaestiones super libro Elenchorum*, cit. p. 102: "Et ista advertens Simplicius super librum Praedicamentorum dicit quod philosophia in tres partes dividitur, scilicet in speculativam, practicam et organicam; partem philosophiae organicam appellans ipsam logicam. Et valde rationabiliter: organum enim non est sui ipsius gratia, sed gratia cuiusdam alterius institutum est. Unde et servus, quia non est sui ipsius gratia sed alterius, ideo convenienter organum dici potest, ut apparet per Philosophum I Politicorum qui dicit quod "servus est organum animatum homo alterius existens". Totum autem fructus logicae consistit in hoc quod ordinatur ad alias scientias sicut ad finem. Unde si non essent aliae scientiae ad nihil utilis esset logica, et ideo convenientissime logica organum scientiarum est, et sine illa nullius rei habetur perfecta notitia."

<sup>27</sup> *Ibi*. p.107: "Dicendum est quod proprie accipiendo nomen scientiae, quaelibet scientia in se specialis est, et nulla est communis. Proprie enim accipiendo nomen scientiae, cum scientia sit quaedam cognitio intellectualis, ipsa erit de iis quae sunt per se et principale obiectum intellectus. Per se autem obiectum intellectus est quidditas rei. Et ideo proprie accipiendo nomen scientiae, scientia est de rebus et quidditatibus rerum."

<sup>28</sup> Le informazioni più aggiornate su Simone di Faversham si possono leggere nel vol. cit. Simon of Faversham, *Quaestiones* etc. Si veda in particolare l'Introduction di Ebbesen, pp. 1-22. Si veda anche l'articolo del compianto P. Osmund Lewry, "The commentary of Simon of Faversham and Ms. Merton College 288", in *Bulletin de Philosophie médiévale* 21 (1979) 73-80. Andrea Tabarroni, "Simon of Faversham and Durandus de Alvernia on the Science of Logic", *Knowledge and the Sciences in Medieval Philosophy. Abstracts*, Reports from the Department of Systematic Theology, University of Helsinki, VI, 1987, p. 178, riferisce di un codice miscelaneo (Ms Palermo, Biblioteca Comunale 2. Qq. D. 142) contenente un certo numero di opere logiche scritte da autori anonimi o scarsamente conosciuti fra il 1250 e il 1350 circa. In un commento, finora non noto, all'*Ars vetus* attribuito nel codice a Durando di Alvernia si trovano dottrine affini a quelle di Simone di Faversham e frequenti richiami a Alberto Magno e Pietro di Alvernia. Questi ultimi due Autori, come è noto sono presenti negli scritti del Maestro inglese, come hanno fatto rilevare Grabmann e, recentemente, Ebbesen (op. cit. in particolare p. 13): "There are also remarkable similarities between other of Simon's and Peter's works; Simon's *Quaestiones* on Porphyry, for example, share much with Peter's."



MIKKO YRJÖNSUURI

*Obligationes, Sophismata* and Oxford Calculators

Some modern commentators of the *logica moderna* genre of *obligationes* have suggested that the disputational rules discussed in these treatises were followed in disputations *de sophismatibus* belonging to the curriculum of late medieval universities.<sup>1</sup> This would naturally imply a close connection between treatises on obligations and collections of sophisms. This connection has nevertheless not been studied carefully.

In this paper I will discuss the concepts of *casus* and *positum*, which seem to be connected to each other, and which seem to illuminate the relation between obligations and *sophismata*. I will begin from Walter Burley's and William Ockham's treatises on obligations, and then go on to Richard Kilvington's *Sophismata* and William Heytesbury's *Regulae solvendi sophismata*.

1. *Obligations*

Treatises *de obligationibus* discuss rules of correct response in special disputations. They ask which sentences should be granted and which denied if the respondent is given a *positum* which he must hold as true. The answer to this question is given in the form of rules, whose basic idea is that propositions which follow from the *positum* must be granted, repugnant propositions must be denied and others, called irrelevant, must be treated in accordance to their truth value. In any case, contradiction must not arise. The logic of the rules is propositional. Often the rules of obligations are discussed by examples and sophisms.<sup>2</sup>

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<sup>1</sup> See e.g. Alan R. Perreiah, "Logic examinations in Padua circa 1400", *History of Education*, 13 (1984), pp. 85-103; C. L. Hamblin, *Fallacies*, Methuen, London, 1970, pp. 125-134.

<sup>2</sup> For introduction to obligations, see e.g. Ignacio Angelelli, "The Techniques of Disputation in the History of Logic", *Journal of Philosophy*, 67 (1970), pp. 800-815; Simo Knuuttila and Mikko Yrjönsuuri, "Norms and Action in Obligational Disputations", *Die Philosophie im 14. und 15. Jahrhundert. In Memoriam Konstanty Michalski (1879-*

Obligational disputations in Walter Burley's<sup>3</sup> and William Ockham's<sup>4</sup> treatises often begin with double structure of suppositions. The respondent is given both *casus* and *positum* by the opponent. In the following disputation sentences entailed by the *casus* are granted only when they are irrelevant to the *positum*. Often the rules force the respondent to grant sentences inconsistent with the *casus*.

According to Burley's explicit statement *casus* certifies the state of matters behind the false *positum*.<sup>5</sup> Burley's examples show that he did not mean that *casus* would be true. Rather it sets a falsehood as the basis of a disputation in a way different from the *positum*. It seems that *casus* must be understood semantically, as describing possible configuration of things determining the truth-values of propositions put forward in the disputation, while *positum* just gives a certain status for a proposition indifferent to its truth-value. Ockham follows Burley in this issue. According to Ockham *casus* concerns some particular thing (*de re particulari*) while *positio* concerns propositions.<sup>6</sup>

Let me clarify the relation of *positum* and *casus* by discussing one sophism presented in Burley's treatise *De obligationibus*. Burley gives a rule according to which it may be granted that "*positum* is false", although we may not grant that "*p* is false", if *p* is the *positum*. According to Burley the rule is useful, but not essential to the art of obligations.<sup>7</sup>

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1947), Olaf Pluta (ed.), (Bochumer Studien zur Philosophie 10), B. R. Grüner, Amsterdam, 1988, pp. 191-202; Paul Spade, "Obligations: B. Developments in the Fourteenth Century", Kretzmann et al. (eds.), *The Cambridge History of Later Medieval Philosophy (CHLMP)*, Cambridge University Press, pp. 335-341; Eleonore Stump, "Obligations: A. From the beginning to the Early Fourteenth Century", *CHLMP*, pp. 315-334.

<sup>3</sup> Burley treatise has been edited by Romuald Green in his dissertation *An Introduction to the Logical Treatise "De obligationibus"*, part II, Louvain, 1963. Partial translation in *The Cambridge Translations of Medieval Philosophical Texts*, vol. I, N. Kretzmann and E. Stump, Cambridge University Press 1988.

<sup>4</sup> Ockham's discussion of obligations is in chapters 39-45 of part III-3 of his *Summa logicae* (P. Boehner, G. Gál, S. Brown (eds.), (*Opera Philosophica* 1), St. Bonaventure, N. Y., The Franciscan Institute, 1974, pp. 731-744.)

<sup>5</sup> "Sed casus non obligat sed certificat, et quia possum esse certus de veritate unius oppositorum et sustinere reliquum pro vero, potest admitti positio que ponit Socratem esse album, prius dicto in rei veritate: 'Socrates est niger'." Burley, *op. cit.*, p. 46.

<sup>6</sup> "Item, casus semper debet esse de re, et de re particulari, positio autem potest esse unius propositionis indefinitae vel particularis", Ockham, *op. cit.*, p. 735.

<sup>7</sup> "Alia regula est: quando positum est falsum, concedi potest haec propositio: de eo tamen, quod ponitur, numquam est concedendum ipsum esse falsum." Burley, *op. cit.*, p.

As an apparent objection to the rule Burley imagines a situation where the *positum* is "You are in Rome". As a *casus* Burley assumes that nothing else is *positum*. In this situation it is proposed that "*positum* is false", which is granted in accordance to the rule because it is true and irrelevant - the *positum* 'You are in Rome' is in fact false even if the respondent is committed to defend it in certain way. Then it is proposed that "only this is *positum*", referring to the *positum* 'You are in Rome'. According to Burley it is granted because of the *casus*. After this it is proposed that "'You are in Rome' is false". It follows from the two earlier propositions, and according to Burley's general rules it should be granted as sequent, but according to the rule discussed it should not be granted that "'You are in Rome' is false" if 'You are in Rome' is the *positum*.<sup>8</sup> The disputation can be summarized as follows:

- |                                   |   |
|-----------------------------------|---|
| 1. You are in Rome                | accepted as possible                    |
| 2. nothing else is <i>positum</i> | assumed as <i>casus</i>                 |
| 3. <i>positum</i> is false        | granted, irrelevant and true            |
| 4. only this is <i>positum</i>    | granted, true according to <i>casus</i> |
| 5. 'You are in Rome' is false     | granted, follows                        |

Burley's solution of the sophism is that "only this is *positum*" must be denied, because it is repugnant.<sup>9</sup> It makes no difference that it is true according to *casus*. The set of propositions "You are in Rome", "*positum* is false" and "'You are in Rome' is the *positum*" is inconsistent, since "'You are in Rome' is false" and "You are in Rome" are inconsistent. According to Burley's rules we must deny the last member of an inconsistent set of propositions, when other members are already either accepted as *positum* or granted when proposed.

The sophism is interesting since it shows that Burley thought that obligational disputation may very well be conducted with full acceptance

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<sup>8</sup> "Contra illud arguitur: ponatur te esse Romae; et volo quod nihil aliud sit positum. Deinde: positum est falsum. Debet concedi per se. Deinde: tantum hoc est positum (demonstrato posito). Hoc debet concedi, quia verum per casum. Deinde: 'te esse Romae' est falsum. Si concedas, concedis de eo, quod est positum, ipsum esse falsum. Si neges, cedat tempus, tu negas sequens. Sequitur enim: positum est falsum, et tantum 'te esse Romae' ponitur, igitur 'te esse Romae' est falsum." Burley, *op. cit.*, pp. 62-63.

<sup>9</sup> "Dicendum est: negando istam "tantum 'te esse Romae' ponitur", quia repugnans est." Burley, *op. cit.*, p. 63.

of the fact that the *positum* defended as true is false. Burley's procedure cannot be connected to modern subjunctive counterfactuals<sup>10</sup>, since it is clear that no one would accept a subjunctive conditional whose consequent asserts that antecedent is false.

As Burley elsewhere remarks, often the respondent must not respond as he would if the *positum* were true.<sup>11</sup> The disputation where *p* is true often differs from the disputation where *p* is *positum*. Burley's procedure is also here different from subjunctive counterfactuals. Subjunctive suppositions are in some way assumed to be true: *positum* is not assumed to be true, the respondent is only in his answers committed to the *positum*. He may not grant anything which logically entails the denial of the *positum*, but he may, and in many of Burley's examples he does grant irrelevant propositions, which are true just because *positum* is false. The semantic falsity of the *positum* is accepted, but not granted in the disputation.

## 2. Richard Kilvington's Sophismata

The 47th sophism of Kilvington's *Sophismata* looks like obligational sophism, as it contains discussions of the correct rules of obligations, but the sophism is not formed like Burley's obligational sophisms. Kilvington's sophism contains only a *casus*. The sentences in the proof and the disproof are granted as regulated by the rules of obligations supposing that the *casus* is read as a *positum*.<sup>12</sup>

The sophisma sentence of this sophism is "You know that the king is seated" (=  $K_a p$ ). The *casus* given by Kilvington is "If the king is seated, you know that the king is seated, and if the king is not seated, you know that the king is not seated" (=  $(p \rightarrow K_a p) \ \& \ (\sim p \rightarrow K_a \sim p)$ ). Because

<sup>10</sup> Paul Spade has argued that obligations amount to a theoretical account of counterfactual reasoning. See esp. his "Three Theories of Obligations: Burley, Kilvington and Swyneshed on Counterfactual Reasoning", *History and Philosophy of Logic*, 3 (1982), pp. 1-32.

<sup>11</sup> "Nec deberes respondere ac si positum esset in re verum", Burley, *op. cit.*, p. 53.

<sup>12</sup> This sophism has been discussed by some modern authors considering theory of obligations. Cf. E. J. Ashworth, "Ralph Strode on Inconsistency in Obligational Disputations", forthcoming in *Proceedings of Eight European Symposium for Medieval Logic and Semantics (Freiburg 24-27 May 1988)*, (Analytica), Philosophia Verlag; Spade, "Three theories ...", pp. 19-28; E. Stump, "Roger Swyneshed's Theory of obligations", *Medioevo*, 7 (1981), pp. 143-153; E. Stump, "Obligations: A.", pp. 329-332.

the king either is or is not seated, the *casus* implies the disjunction "You know that the king is seated or you know that the king is not seated" ( $= K_{ap} \vee K_a \sim p$ ), as Kilvington recognizes. With this disjunction Kilvington formulates the proof and the disproof of the sophisma sentence.<sup>13</sup>

Let us look first at the proof. According to rules of obligations it must be granted that "You do not know that the king is not seated" ( $= \sim K_a \sim p$ ), because it is true and in no way inconsistent with the *casus*. However, a disjunction ( $K_{ap} \vee K_a \sim p$ ) and the negation of its second disjunct ( $\sim K_a \sim p$ ) imply the first part ( $K_{ap}$ ). The sophisma sentence is thus proved.

The disproof is formulated in similar way. Kilvington connects the negation of the first disjunct, or "You do not know that the king is seated" ( $= \sim K_{ap}$ ) with the whole disjunction ( $K_{ap} \vee K_a \sim p$ ), and thus the second disjunct ( $K_a \sim p$ ) is proved. As it is inconsistent with the sophisma sentence, we have the disproof.

Both the proof and the disproof depend on a premise which is granted as true and irrelevant. Kilvington's solution of the *sophisma* is based on the idea that these reasons are not sufficient.<sup>14</sup> According to Kilvington there are propositions that are true and irrelevant, but must be denied because they would not be true if the *positum* were true. According to Kilvington's solution of the *sophisma*, the irrelevant premises of the proof and the disproof must be doubted. Also the sophisma sentence should not be granted nor denied, it must be doubted.<sup>15</sup> However, Kilvington remarks that "must be doubted" (*est dubitandum*) is not equivalent to "is doubtful" (*est dubium*).<sup>16</sup> Thus Kilvington is not maintaining that one may be in doubt whether one knows. Instead Kilvington simply points out that often the respondent must respond with doubt to propositions he knows. Kilvington says that

<sup>13</sup> See Spade, "Three Theories ...", pp. 19-20; Stump, "Roger Swyneshed's Theory of Obligations", pp. 144-145 and Stump, "Obligations, A.", p. 329-330.

<sup>14</sup> Stump discusses (in "Roger Swyneshed's Theory of Obligations", pp. 146-149) three different solutions, but shows that two of them are rather weak. I omit here these two.

<sup>15</sup> See Spade, "Three Theories ...", p. 22 and Stump, "Roger Swyneshed's Theory of Obligations", pp. 151-152.

<sup>16</sup> "Et tamen, licet ista propositio sit dubitanda a te, non tamen est concedendum quod ista propositio 'Rex sedet' est tibi dubia. Unde iste terminus 'dubitandum a me' est superius ad istum terminum 'dubium mihi.'" Text cited in Stump, "Roger Swyneshed's Theory of Obligations", p. 151, footnote 27.



the respondent must doubt whether the king is seated, although according to the *casus* he knows whether the king is seated.

It is important to notice that if Burley's rules of obligations are followed as Kilvington supposes, it is not possible to form both the proof and the disproof of this sophism in the same disputation. The opponent must choose either one of them. Therefore the sophism needs a solution only if it must be consistent in a sense defined by Paul Spade as follows: "No two disputations constructed from the same *positum* and differing only with respect to the order in which sentences are proposed are such that the respondent is required to concede a sentence in one disputation and to deny the same sentence in another disputation."<sup>17</sup>

However, this sense of consistency is pertinent only to disputations where the respondent judges propositions with respect to a fixed model where they are true or false. It seems that Burley did not think that *positum* would fix this kind of model. In obligational disputations of Burley propositions are answered one by one with differing criteria for granting them. As Kilvington thinks that the *sophisma* needs a solution, he seems to have a different conception of the status of *positum* in an obligational disputation.

It may be that Kilvington's terminology is related to this interpretative viewpoint. As I already noticed, Burley and Ockham made the distinction between semantically understood *casus* and purely inferentially followed *positum*. According to Ockham the respondent can easily follow *casus*, if he knows how to follow *positum*.<sup>18</sup> He does not discuss the rules of *casus*, he just points out some differences between *casus* and *positum*. Kilvington seems to use the concepts *casus* and *positum* interchangeably and, it seems, in the sense reserved for *casus* in Ockham and Burley.

If *casus* is a counterfactual supposition about things, it seems quite natural to think that it fixes a semantic model or, in other words, some imagined alternative of the actual world as the basis of the disputation. If the *casus* of Kilvington's *sophisma* fixes a semantic model for the disputation, Kilvington's views seem quite natural. According to the model

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<sup>17</sup> Spade, "Three Theories ...", p. 9. See also p. 11.

<sup>18</sup> "Sed iste modus opponendi et respondendi non servatur quando ponitur casus, propter quod differt casus a positione. Scito tamen quomodo respondendum est facta aliqua positione, potest leviter sciri quomodo respondendum est posito aliquo casu, et ideo sufficiat pro nunc de positione tractare." Ockham, *op. cit.*, p. 736.

we are informed about king's sitting, but we cannot determine whether the king according to the model is seated; consequently we cannot determine whether we know according to the model that the king is seated.

It may be that this *sophisma* discusses rules for semantic casus suggested but not discussed by Ockham. If so, it is quite natural that it gives rules of obligations different from the rules for *positum* given by Burley and Ockham, because their *positum* is understood to be followed only inferentially.

### 3. William Heytesbury's *Regulae solvendi sophismata*

John E. Murdoch has argued that Heytesbury has metalinguistic strategy in the *Regulae*.<sup>19</sup> Heytesbury is concerned with disputational situations, and he aims at giving correct and easy-to-use rules for answering to different kinds of problems in disputation.<sup>20</sup> According to Murdoch these rules are usually metalinguistic.

Most of the text of *Regulae* consists of disputational situations in which the rules apparently give wrong response. Heytesbury solves these sophisms one by one in order to show that his rules are valid in any situation. Heytesbury also gives some clear examples of his rules, but the purpose of the discussed sophisms seems to be providing apparent counter-examples of his rules. Most of the considered sophisms are formed by imagining a *casus* involving some limit-decision problem. It has often been pointed out by modern commentators that *casus* may according to Heytesbury be impossible in nature, if it only is free from

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<sup>19</sup> See e.g. John. E. Murdoch, "Propositional Analysis in Fourteenth-Century Natural Philosophy: A Case Study", *Synthese*, 40 (1979), pp. 117-146; "Scientia Mediantibus Vocibus: Metalinguistic Analysis in Late Medieval Natural Philosophy", *Sprache und Erkenntnis im Mittelalter, Akten des VI. internationalen Kongresses für Mittelalterliche Philosophie der Société Internationale pour L'Etude de la Philosophie Médiévale* 29, August-3.September 1977 in Bonn, (*Miscellanea Mediaevalia* 13/1), Walter de Gruyter, Berlin, 1980, pp. 73-106.

<sup>20</sup> I have used the 1494 edition by Bonetus Locatellus, Venice, of many of Heytesbury's works. The prologue and first chapter of *Regulae solvendi sophismata* has been translated by Paul Spade (William Heytesbury, *On "insoluble" sentences*, (*Mediaeval Sources in Translation* 21), Pontifical Institute of Mediaeval Studies, Toronto, 1979). Heytesbury states the aim of his work quite explicitly in the prologue (f. 4va in the 1494 edition, pp. 15-17 in Spade's translation).

contradictions.<sup>21</sup> As an imagined *casus* gives the basis for putative counter-examples, the allowance of logically possible natural impossibilities shows that Heytesbury's rules must hold in any logically possible *casus*. This brings the rules nearer logical than physical truths.

In connection to obligations the metalinguistic character of the rules suggests that Heytesbury would be leaning towards Burley's theory and rejecting Kilvington's revisions.<sup>22</sup> In fact, this seems to be the case. The chapter on epistemic logic in *Regulae* argues against Kilvington's views. When commenting on obligations Heytesbury almost explicitly restates Burley's and Ockham's theory.<sup>23</sup>

Let us now turn to one of the epistemic sophisms of Heytesbury as an example. This sophism tries to prove that You both doubt and know "*hoc est Socrates*", which is repugnant with Heytesbury's general rule stating that no one cannot know what one doubts. Heytesbury gives his *casus* as follows:<sup>24</sup>

[A] Ponatur quod [1] tu scias quod hoc sit hoc, demonstrato Sor, [2] et nescias tu quod hoc sit Sor, [3] scias tamen quod haec propositio 'hoc est hoc' significat precise quod hoc est hoc, [4] et etiam quod ista propositio 'hoc est Sor' significat precise quod hoc est Sor. [B] Sit enim Sor coram te, quem scias esse hominem, et nescias ipsum esse Sortem.

It is very interesting to notice that this *casus* is divided into two parts (above marked by A and B). A seems to give a list of propositions (1-4), which are posited (*ponatur*), while B describes a situation. However, part B is not referred to in the discussion, it seems to serve only the purpose of making more clear how the four propositions in part A are to be understood. The problem in the sophism is to determine what is implied by the four propositions in part A. Heytesbury uses quite often the phrase *sequitur ex casu*.

<sup>21</sup> John Murdoch, "Philosophy and the Enterprise of Science in the Later Middle Ages", in Y. Elkana (ed.), *The Interaction between Science and Philosophy*, Humanities Press, 1974, p. 69; Edith D. Sylla, "The Oxford Calculators", *CHLMP*, pp. 557-558 and Curtis Wilson, *William Heytesbury. Medieval Logic and the Rise of Mathematical Physics*, (University of Wisconsin Publications in Medieval Science, 3), Madison, 1956, p. 24-25.

<sup>22</sup> However, it must be noticed that Heytesbury uses the word *casus* in a way terminologically nearer Kilvington than Burley.

<sup>23</sup> Heytesbury, *De sensu composito et diviso*, f. 4ra-rb; *Regulae solvendi sophismata*, chapter *De scire et dubitare*, ff. 13vb-14ra and f. 16va. See also discussions in Ashworth, "Ralph Strode on ..." and Stump, "Roger Swyneshed's Theory of Obligations", pp. 153-163, esp. p. 162, footnote 36.

<sup>24</sup> f. 12va-vb. Solution of the sophism is found in f. 15ra-rb.

Heytesbury's two-part *casus* resembles very much the two-part suppositions often made in obligational disputations in Burley's and Ockham's treatises. In Burley's treatise the word '*ponatur*' is typically used with *positum*, i.e. with those propositions which the respondent has the obligation to grant. Heytesbury's words "*sit enim*" belong also to Burley's terminology in connection to *casus*.

Heytesbury's discussions in his sophism concern to problem of determining what follows from part A of the *casus*. Heytesbury's procedure is analogous to obligational reasoning in Burley's and Ockham's treatises. Heytesbury grants everything which follows from the four propositions in part A of the *casus*, and tries to show that these four propositions do not imply that something is both known and doubted.

However, there is one important difference between Heytesbury's sophism and obligational disputations of Burley and Ockham. In obligational disputations the *positum* is typically inconsistent with the *casus*: the double structure of suppositions is built so, that the proposition given as *positum* must be deemed false according to the semantically understood *casus*. In Heytesbury's sophism we can see the double structure, but the two parts of *casus* are consistent. Actually what is posited (*ponatur*) must be evaluated to be true according to the *de re*-part of the *casus*. Heytesbury's sophism does not proceed in the standard obligational way.

In typical obligational sophisms irrelevant propositions, which are logically independent from the *positum*, play an important role. Most obligational sophisms of Burley are based on problems arising from different order of putting forward propositions. The order is important because a proposition answered according to the reality (or *casus*) early in the disputation might have got different answer, if it had been put forward only later, when it has become relevant due to earlier answers.

In the above discussed sophism by Heytesbury such problems of order do not occur, since the whole disussion is based on propositions, which must be classified relevant. Most of his sophisms are built in similar way. If this feature can be generalized, it suggests that obligational sophisms could be distinguished from the standard sophisms simply by the role of irrelevant propositions. While standard sophisms of *sophismata*-collections as well as obligational sophisms used the idea of basing the disputation on assumptions, obligational theory specialized on

situations where the falsity of the assumption clashes with truths logically irrelevant to the assumption.

### *Conclusion*

From the discussed examples it seems safe to conclude that distinction between realistic and linguistic suppositions is necessary in order to understand details of the logic used both in sophisms and in obligations. The distinction is very clear in obligations treatises, but can be found also in *sophismata*-literature.

Also some theoretical disagreements between different medieval authors become more intelligible through making this distinction. Kilvington's much discussed revisions to the obligational rules seem to be based on such difference in interpretation of *positum*. Also Kilvington's and Heytesbury's different views on some issues of epistemic logic can be reduced to differing interpretations of *casus*.

The above considerations give some support to the idea that obligations could serve as a methodology for *sophismata*. Obligational ideas are present in the way *casus* is handled in the discussed examples. Nevertheless it seems clear that obligational theory is not limited to the purposes of *sophismata*. Obligations were an independent logical genre with its own problems.

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