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Edited by

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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 Työrinoja. 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.

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Helsinki, 15 August 1990

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GEORG HENRIK VON WRIGHT

Dante Between Ulysses and Faust
(Opening address)

1. One of the most moving and also most enigmatic passages in the Divine Comedy is Dante's encounter with Ulysses. It is described in the twentysixth *Canto* of the *Inferno*. We are now in the region called *Malebolge*, deep down on the ladder of sin where treacherous councellors suffer eternal punishment. The place is full of flames and in each flame a human being is enclosed. Dante is struck by one flame which is cloven at the top and asks his guide Virgil, who is burning in it. Virgil answers that it is Ulysses together with his companion in the war against Troy, Diomedes. They suffer, we are told, for the stratagem with the wooden horse which deceived the Trojans and brought about the fall of the city.

Dante in great excitement asks permission to speak to the flame. Virgil does not grant him his request, although he thinks it laudable - "degna di molta loda" - and agrees to address the approaching flame himself. Virgil now asks Ulysses to tell him where he went to die. Ulysses from inside the flame tells his interlocutors the following story:

After he had left Circe, who held him captive for more than a year, neither affection for his son, nor veneration for his old father, nor love for his faithful Penelope could restrain his burning desire to get to know the world and every vice and valour of which man is capable ("divenir del mondo esperto, e degli vizi humani e del valore"). Thus he set out on another voyage with the few surviving companions from his previous travels. They sailed westwards passing through the strait of Gibraltar, where Hercules had placed his pillars as a sign that man should proceed no farther ("acciò che l'uom più oltre non si metta"). Neglecting the prohibition Ulysses urged his men to follow him to explore a world where no human being had as yet put his foot. "Consider", he exclaimed, "that you are not destined to live like brutes, but to aspire after virtue and knowledge" ("Fatti non foste a viver come bruti, Ma per seguir virtute e conoscenza"). And so they continued across the waters, making their oars wings on a flight which no-one had dared to undertake before

them. Finally, after months of travel, they sighted a coast with an enormous mountain. A wind blew up from the land, hit the ship, whirled it round three times, the vessel was sucked into the depths - "and over us the booming billows clos'd". Thus perished the horror-stricken Ulysses and his crew. Here the tale ends; upright and with dignity the flame then moves away from its stupefied audience.

This version of how Ulysses ended is not known from elsewhere and may well be Dante's invention. The cliff which Ulysses approached before his shipwreck could have been the mountain of Purgatory; the description of its location fits Dante's conception of geography. If this was so, interpreters may ponder over the symbolic significance of its inaccessibility for the pagan adventurer. I shall not develop *this* theme here.

2. Dante was obviously shaken by the tale Ulysses had told him. In the Homeric adventurer he must have recognized if not himself, at least a kindred soul. Dante was also in search af a world which no living man had visited before. Like Ulysses he was curious about the things he witnessed. The questions he constantly puts to his companion testifies to this. Therefore he was, so to speak, "doubly curious" about Ulysses whose curiosity had led him to disaster.

What is new with Dante's conception of Ulysses is, in the first place, that he adds a new dimension to the Homeric hero's guilt. Traditionally, Ulysses was censured for cunningness and treacherous behaviour. In the Latin tradition in particular, he was an evildoer as he had brought about the fall of Troy. We should remember that the leading survivor among the Trojans, Aeneas, was regarded as a sort of "protofounder" of Rome, the city which was destined to become the acknowledged capital of Western Christendom. That the author of the Aeneid should think Ulysses deserving of eternal punishment is not in the least surprising. The author of the *Commedia* does not, at least not in words, question the grounds of the verdict as presented to him by his guide through *Inferno*. But whether or not Dante thought these grounds sufficient, he placed the unhappy sufferer in the fires of Hell in a new perspective by adding to his load of guilt unlimited curiosity, unrestrained pursuit of knowledge for its own sake, as an end in itself.

With this change of perspective Dante in fact transformed the Homeric figure completely and gave him a symbolic significance which he

did not possess in the Greek tradition but which has since been prominent in Western poetry and thinking. This by itself is a major achievement of Dante's. As one commentary on the Ulyssean tradition observes,[1] Dante turned Ulysses, the centripetal, homeward bound traveller who finally settles down in peace after a life full of restless search, into a centrifugal adventurer who never comes to rest but constantly moves on in search of the new and as yet untried. He is a spiritual kinsman of two other illfated fictional seafarers, the Flying Dutchman and Captain Ahab in Melville's immortal novel. In Tennyson's words a "gray spirit yearning in desire/ to follow knowledge like a sinking star/ beyond the utmost bound of human thought".

I am by no means the first to note that Dante, by making Ulysses a symbol of man's unquenchable thirst for knowledge, was in fact heralding the great changes in the spiritual climate of Europe which were to take place in the fourteenth and fifteenth centuries. "Ulysses' voice", it has been said, " - - as Dante gives it life speaks prophetically for the spirit of the Renaissance".[2]

Not too long after Dante wrote, his Ulysses transformed found an incarnation in flesh and blood in a figure who was then himself going to be transformed into a symbol maybe even more congenial than the Greek hero to the spirit of our Western Civilization. This incarnation was an infamous German, Doctor Johann Faust, who lived in the turbulent early decades of the Reformation. Dante's centrifugal Ulysses is an anticipation of Faust - not so much of the man as of the symbol.

3. The idea that it is not befitting for man to know every truth and that unrestricted pursuit of knowledge may be sinful is deeply ingrained in our Judeo-Christian religious tradition. Its earliest expression is the myth of the Tree of Knowledge with its Forbidden Fruit in the first book of the Bible. In the Christian moral teaching of the Middle Ages *curiositas* is deemed a sinful disposition. Saint Augustine prays that God save us from it, and Saint Thomas too condemns it.

The idea that there are truths beyond human grasp which man should not aspire to get to know is related to certain ideas about authority and revelation. One could speak about the Authority of the

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1 W.B. Stanford and J.V. Luce, *The Quest for Ulysses*, Phaidon Press, London, 1974, p. 189.

2 *Ibid.*

(Revealed) Word - an idea which in its turn has its roots in an archaic view of the relation between language and reality. Words have a natural meaning. To understand this meaning is to possess the truth. Such understanding, however, is not given to common men but is mediated by interpreters who are accepted as trustworthy by those who exercize the authority. In the orbit of Christian mediaeval culture this authority got its weight partly from the fact that it was ancient, handed down since times immemorial, but partly also from the fact that, if challenged, it could mobilize in its support the *worldly* power of the Church.

It was this view of authority in matters of knowledge and truth that was contested by awakening science during the Renaissance. Not agreement with the Word marked opinions as true, but agreement with the contingent facts of a Nature which lay open to inspection by the inquiring mind. The challenge did not concern only the authority of the Christian tradition but also that of the Ancient writers whom the *umanisti* of the time were busy reviving and trying to reconcile with their inherited creed.

The conflict between the old and the new view is epitomized in the encounter - as told to us - between Galileo and the university professors in Florence who refused to look in the telescope and see the revolving moons of Jupiter, on the ground that Aristotle had shown such bodies to be impossible, "an authority whom not only the entire science of Antiquity but also the venerable Fathers of the Church acknowledge".[3] This was three hundred years after Dante. The learned men who bowed to authority unwittingly ridiculed their own party in a conflict which had by then deteriorated into one between truth and naked power.

4. Even though Dante's centrifugal Ulysses can truly be said to herald a new spirit which eventually, after centuries of struggle, came to prevail in our Western World, it would be a great mistake, I think, to regard Dante himself as an early partisan of this spirit. Dante is firmly rooted in the culture of the Christian Middle Ages. His work, one feels tempted to say, is the consummation and crowning achievement of this culture. At a moment when the potentialities inherent in the seed had reached their climax and doubts and cleavage were already beginning to affect the plant, Dante's *Commedia* presented a vision of the supranatural realm

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3 Quoted from Brecht, *Leben des Galilei*, pt. 4.

which Christian spirituality has tried to fathom, more loaded with symbol, more beautiful and profound than any ever attempted either before or after.

No reader of the *Commedia* can fail to be impressed by the violence with which Dante condemns signs of corruption and decay in the Church and his wrath at the factionism which was ravaging the political life of practically every town in Italy. This factionism had made Dante himself an exile from his beloved Florence.

But as a critic of his times Dante is aiming at *restoration* not at *reformation*. This is true not least of his political thinking. It is essentially a plea for an order in which the Pope and the Emperor reflected two aspects of the same universal body political, a *Civitas Dei*. Dante is yearning for an ideal which was threatened with being lost; he is not looking forward to the new world which a reborn Ulysses might yet discover.

5. With the rise of science and the secularization of society it became part and parcel of intellectual morality that the search for knowledge and truth should not be curtailed by prohibitions. It became conventional to distinguish sharply between the pursuit and possession of knowledge on the one hand and its application and use on the other. Many philosophers proclaimed knowledge an intrinsic good and something worth pursuing as an end in itself. Therefore one who pursues and finds it cannot be held responsible for the doubtful or even evil use which others might make of his findings.

This moral position can be upheld as long as one is reasonably sure that bad use of acquired knowledge does not constitute a potential threat to the very basic conditions of human well-being or even to the self-preservation of the race, and as long as one retains a faith that enlightenment will also contribute to the moral progress of humanity, make men more "humane" - as the revealing phrase goes.

This faith and assurance was for a long time characteristic of the ethos of Western civilization. It had a decisive breakthrough at the time of the French Revolution and it culminated in the century of European world-domination which ended with the 1914-1918 war. It was greatly reinforced by 19th-century evolutionistic ideas in nearly all fields of study and it nourished a widely spread optimistic belief in progress

through science, technology, and the rational organization of human institutions.

This faith in the basically blissful, beneficial consequences of man's pursuit of knowledge no longer stands unchallenged, however. Doubts about it have come to loom heavily over cultural debate in this century. They found an expression, for example, in Edmund Husserl's last work, the posthumously published *Die Krisis der europäischen Wissenschaften*. It was written before the apocalyptic prospects conjured up by the nuclear arms-race, genetic technology, and large-scale automation and robotization of work had become reality for us. Today, half a century later, Husserl's concerns have assumed immediate urgency. It can no longer be taken for granted that "those who lead us into new realms of scientific knowledge" are "prudent and trustworthy guides conducting us to higher levels of civilization" and not "false councellors, luring us on to atomic destruction" - to quote the words of W. B. Stanford[4] one of the leading writers on the Ulyssean theme.

The question whether the unrestriced pursuit of knowledge is more for good or for evil rests ultimately on value premisses the acceptance or rejection of which is not a matter of truth or falsehood. But it also seems obvious that the optimistic belief in progress through scientific enlightenment and technological innovation has very little rational foundation and should therefore rather be abandoned altogether. Nor have we the slightest reason to place our hopes in a return to a stage when the Authority of the Word will again reign supreme in matters relating to knowledge and truth. Such retrograde moves, though abortive, have not been unknown in our century. The possibility cannot be ruled out that they will be followed by others, more subtle and therefore more successful ones than those we witnessed in Hitler's Germany and Stalin's Russia. A culture may thrive under the Authority of the Word as long as there is a living belief in its divine inspiration or otherwise sacred nature. Such was the case in the Middle Ages. But when the Word is seen to express only the whims and wishes of worldly power, clinging to its authority has no rational justification and is a regress into barbarism and the irrational.

What befits us to do, instead, is to take a critical attitude to our own capabilities and doings. To this end we would be well advised to

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4 W.B. Stanford, *The Ulysses Theme*, 2nd. ed., Basil Blackwell, Oxford, 1963, p. 182.

reconsider the wisdom embodied in the great works of reflection on the human condition of such teachers of mankind as Homer and Dante and Goethe.

So let us cast a brief glance at what guidance *they* may be able to offer us.

6. The centrifugal Ulysses of Dante was condemned because he transgressed the limits set by divine authority on the freedom of human cognitive enterprise. There can be no doubt but that Faust, in Dante's opinion, would have been equally illfated, deserving to be the devil's booty, as indeed he was made to be in the first major work of literature dealing with the subject, Christopher Marlowe's drama "Doctor Faustus". Goethe's Faust is also a doubtful character and a reader may well wonder whether he deserved to be rescued and go to heaven after his anything but spotless earthly career had come to an end. At least one can reasonably doubt whether his unending striving and refusal to rest content with his achievement by themselves justified his redemption.

Be this as it may, Goethe's Faust *is* saved - and the same may be said of the centripetal hero of the Homeric epic. Not only Dante's ascent from *Inferno* through *Purgatorio* to *Paradiso* but also the narratives of the knight errants of Homer and Goethe are dramas of man's road to salvation. The Ulysses of the Odyssey came home to her who had been patiently awaiting his return all those years, never losing trust in the traveller's final return to a life of mutually shared love and happiness. Dante is kept safe on his wanderings through the abyss by the divine light of which he first saw a reflection in the love of his youth and which was eventually to take him, the restless exile from his home on earth, to eternal beatitude in heaven. And Faust in rescued from the clutches of the devil and lifted to heaven by the chorus of angels in which she whom he once loved but then deserted sings of "das Ewig-Weibliche" which lifts us above the inconstancies of fate to union with the higher.

7. It is striking that in all three cases the power which saves the wanderer from disaster is incarnate in a female figure: Penelope, Beatrice, Gretchen. We need not overemphasize, however, the femininity of this common element of the three tales. The three figures are first and foremost symbols. The same holds true of their male counterparts. Yet

what they symbolize as couples, Penelope and Ulysses, Beatrice and Dante, Gretchen and Faust, can naturally be related to those qualities which are traditionally held to be symbolic of womanhood and manhood - not only in Western culture. On the one side protective care, self-effacing love, and an intuitive sense of the boundaries which one can overstep only on peril of destruction. On the other side lust for dominating power and self-centered glory, untempered enterprize and an indomitable will to transscend set boundaries. The two are the Yin and the Yang of ancient Chinese wisdom.

Of our three heroes, Faust no doubt is the one who deviated most widely from the paths set to men by convention and rule. Unlike the other two, he is not striving for a goal. His enterprize has no *telos* external to itself. In Faust's perpetual push forward Spengler saw a symbol of the spirit which has animated Western Culture. He therefore called this culture of our *Abendland* "Faustian". How appropriate this name is, has become fully obvious only in our century when science-based technological developments in combination with the mechanized industrial mode of production has nourished a myth of perpetual economic growth and expansionism. The managerial type of rationality of which modern natural science is in origin the outflow has acquired a domination under which other forms of human spirituality - artistic, moral, religious - are either thwarted or relegated to the underground of irrational belief and uncontrolled emotion. In no other culture, surely, has Yang come to dominate as completely over Yin as in our own in its later days.

The cultures of which the other two heroes, Homer's Ulysses and Dante of the *Commedia*, are representatives, *viz.* the culture of Ancient Greece and that of the Christian Middle Ages, struck a happier balance between the two opposing forces. Greek mythology and philosophy emphasizes throughout the necessity for man to stay with the *metron* befitting his capabilities and not lapse into *hybris* which is then corrected by *nemesis*, the goddess-guardian of equilibrium in the *kosmos*. Christian religion and philosophy is inherently ambiguous on man's freedom in relation to the created natural order of things. But it paves a road to salvation for those who curb their selfish will and put their faith in God's superior wisdom and care for their well-being.

There is no way back for us moderns either to Ancient belief in a self-preserving cosmic harmony or to Dante's dream of the restoration on a universal Christian commonwealth. We must try to attain our *own*

self-reflective understanding of our situation. And I have wanted to say that it belongs to this achievement that we take warning of the fate which the poet foresaw for the non-Homeric Ulysses who steered his vessel beyond the pillars of Hercules and thereby entered the road to self-annihilation.

Academy of Finland

TULLIO GREGORY

Forme di conoscenza e ideali di sapere nella cultura medievale

In una foresta vicino a Parigi, Raimondo Lullo se ne stava presso una sorgente, triste e desolato, assorto nell'esame delle false dottrine insegnate da alcuni filosofi e affidate ai loro scritti, del tutto contrarie alla teologia che è signora della filosofia... Mentre Raimondo si domandava con stupore come Dio - somma verità e sapienza - permetta tanti errori in questo mondo, arrivò un filosofo di nome Socrate e, salutato Raimondo che aveva in mano un libro sugli errori di alcuni filosofi, gli chiese perché era così triste e assorto. Raimondo, restituito il saluto, rispose che stava cercando come poter mettere d'accordo teologia e filosofia secondo la concordia che ci si aspetta fra causa e effetto. Socrate di rimando gli disse che anche lui, da molti anni, desiderava conoscere quella stessa concordia.[1]

In questo immaginario incontro di Raimondo Lullo con Socrate e nella problematicità della risposta del filosofo greco si potrebbe esser tentati di ritrovare emblematicamente riassunto tutto l'itinerario del pensiero medievale, se non si corresse il rischio di ipostatizzare in due termini - *philosophia* e *theologia* - un più complesso discorso lungo il quale, secondo prospettive diverse, si è venuto organizzando e sistemando nel corso dei secoli il patrimonio dell'esperienza cristiana. La stessa polivalenza di significati che dall'età patristica alla fine del Medioevo vengono assumendo i termini *philosophia* e *theologia* (dalla *philosophia Christi* alla *philosophia Aristotelis*, dalla *theologia* varroniana alla teologia come scienza) indica come sarebbe fuorviante pretendere di seguire la loro concordia o discordia attraverso i secoli della cultura medievale, quasi si trattasse di categorie permanenti e intemporali di cui fosse compito dello storico individuare la varia manifestazione nel tempo.

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[1] *Declaratio Raymundi per modum dialogi edita*, ed. O. Keicher, *Raymundus Lullus und seine Stellung zur arabischen Philosophie* (Beiträge zur Geschichte der Philosophie des Mittelalters, VII, 4-5) Münster, 1909, p.95.

Analoga ampiezza di significati assumono *scientia* e *sapientia* (di cui *philosophia* e *theologia* pretendono essere espressioni supreme), termini usati ora per distinte forme di sapere, ora come sinonimi per indicare una gamma di esperienze vastissime, di ideali di conoscenza e di vita, con significati tutti autorizzati tanto dalla tradizione classica, quanto dal latino biblico e dalle traduzioni medievali di opere filosofiche. Anche qui sarebbe facile allineare testi che confermano la polisemia di *sapientia* - dalla *sapientia Dei* dell'*Ecclesiastico* alla *sapientia* come *universalis scientia* "primorum principiorum et causarum" di Aristotele - così come la varietà di significati di *scientia*, dalla *scientia* carisma alla *scientia quae inflat*, dalla sua identificazione con la metafisica alla *scientia temporalium rerum*; né certo può ricondursi il concetto medievale di *scientia* alla definizione degli *Analitici* di Aristotele se non a patto di rinserrare nel *nemus aristotelicum* tutto il complesso itinerario di una cultura alla ricerca di un sapere non effimero. Anche la classica distinzione agostiniana fra *sapientia* e *scientia* ("Si ergo haec est sapientiae et scientiae recta distinctio, ut ad sapientiam pertineat aeternarum rerum cognitio intellectualis, ad scientiam vero temporalium rerum cognitio rationalis") è messa in discussione dallo stesso Agostino ("Nec ista duo sic accipiamus, quasi non liceat dicere vel istam sapientiam quae in rebus humanis est vel illam scientiam quae in divinis. Loquendi enim latiore consuetudine utraque sapientia, utraque scientia dici potest") e tale oscillazione di significati variamente soggiace a tutta la tradizione medievale.[2]

Osservazioni non diverse potrebbero farsi su altri termini strettamente connessi a quelli sin qui ricordati come *ratio* e *intellectus*, *visio* e *theoria*, *doctrina* e *disciplina*.

Ciò non vuol dire che la storia di queste parole e dei significati che via via son venute assumendo non costituisca una trama utile al nostro discorso che dovrà tuttavia puntare a individuare, se possibile, quali contenuti essi veicolino, senza presumere di avere una preliminare definizione di cos'è *scientia* o sapere e senza privilegiare la teorizzazione di un metodo in rapporto al quale si credesse possibile individuare cosa è *scientia* e cosa non lo è: presupposto che talora soggiace alle sottili

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[2] Agostino, *De Trinitate*, XII, xv, 25; XIII, xix, 24, ed. W.J. Mountain - Fr. Glorie, Turnholti, 1968, pp. 379, 417; "nomen sapientiae accipitur pro scientia et e converso, ut docet Augustinus..." annoterà Roberto di Kilwardby riferendosi a questi luoghi (Roberti Kilwardby *De natura theologiae*, ed. Fr. Stegmüller, Monasterii, 1935, p. 45).

indagini storiografiche sul grande dibattito che dividerà i vari indirizzi teologici fra XIII e XIV secolo attorno alla concezione della teologia come scienza, ove la scientificità è stata spesso misurata sul metro della logica aristotelica.

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"Il cristianesimo è la dottrina del Cristo, nostro salvatore, costituita di pratica, fisica e teologia": così, in un testo ben noto, Evagrio Pontico all'inizio del suo *Trattato pratico o il monaco*.[3]

Se sul finire del IV secolo l'identificazione di cristianesimo e di filosofia era acquisita - seguendo del resto l'evoluzione del termine stesso φιλοσοφία in età ellenistica da tempo risolta in εὐσέβεια ("nullum post nos habiturum dilectum simplicem, qui est philosophiae, quae sola est in cognoscenda divinitate frequens obtutus et sancta religio")[4] - dovrà qui essere sottolineata la risoluzione nella "dottrina (δόγμα) di Cristo" delle discipline filosofiche (secondo un tradizionale schema tripartito), intese come momenti di un itinerario spirituale: la πρακτική realizza quell'impassibilità che è presupposto per i successivi momenti della γνωστική; la fisica (γνῶσις φυσική) o "scienza (γνῶσις) vera degli esseri" identica al "regno dei cieli" - e la Θεολογική - "regno di Dio" o "scienza (γνῶσις) della santa Trinità", "coestesa alla sostanza dell'intelletto".[5]

Un'esperienza cruciale della patristica greca era definitivamente fissata: non solo la filosofia prepara all'intelligenza della fede, ma la realizza in una tensione escatologica ove l'ὁμοίωσις Θεῷ è il regno di Dio, contemplazione faccia a faccia della verità. L'insegnamento evangelico - "haec est autem vita aeterna ut cognoscant te, solum verum Deum et quem misisti Iesum Christum" (*Joh.*, 17, 3) - e il versetto paolino (*I Cor.*, 13, 12) "videmus nunc per speculum in enigmate, tunc autem facie ad faciem", orientano l'itinerario della speculazione cristiana come tensione dalla fede alla visione: la filosofia - una volta identificata con la γνῶσις e l'εὐσέβεια, conoscenza dei misteri e pratica della vita

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[3] Evagre le Pontique, *Traité pratique ou le moine*, éd., trad., comm. par A. Guillaumont et Cl. Guillaumont, Paris, 1971, t. II, p. 499.

[4] *Asclepius*, 12, ed. A.D. Nock, trad. A.-J. Festugière, in *Corpus Hermeticum*, t. II, Paris, 1945, p. 311.

[5] Evagre le Pontique, *op. cit.*, pp. 499, 501 e cfr. p. 498 n. 1; per il particolare significato della πρακτική in Evagrio, cfr. l'introd., t. I, pp. 48 sgg.

cristiana - assume una densità nuova poiché consegue, in forza della mediazione di Cristo, quella pienezza di conoscenza vanamente cercata dalla filosofia pagana.

In questa prospettiva - ove il conoscere costituisce la struttura portante perché termine ultimo della vita del credente è la conoscenza della verità - la riflessione cristiana, rivendicando il titolo di vera filosofia, realizza un sapere che trova il suo fondamento nella rivelazione di Dio, nella Bibbia parola di Dio, nella storia della salvezza al cui centro sta quell'evento unico e irripetibile che è l'incarnazione del Verbo, *ratio* e *sapientia* di Dio: la fede nel Dio che ha rivelato agli uomini i disegni della sua economia costituisce l'orizzonte di una nuova esperienza dalla quale trae alimento un sapere che trascende, poiché storicamente più ricco, la cultura pagana:

> Qui non crediderit, non experietur; et qui expertus non fuerit, non cognoscet.[6]

Conoscere, *intelligere* sarà quindi leggere e decifrare i misteri e i sacramenti di cui è tessuta la Bibbia portatrice non solo di una rivelazione salvifica, ma di un sapere e di una scienza totale. Sarebbe quindi difficile escludere da una delineazione degli ideali medievali di scienza e di conoscenza quella forma di sapere propria del cristianesimo che nasce dal progressivo approfondimento del testo sacro in tutta la sua *mira profunditas*: quando i Padri greci riconducono tutte le arti e le discipline filosofiche all'esegesi, alla scienza della Scrittura o di Dio (detta anche teologia), essi non si limitano a trasferire in campo cristiano l'ideale della paideia greca con il rapporto propedeutico delle arti rispetto alla filosofia ("quel che i filosofi dicono della geometria e della musica, della grammatica, della retorica e dell'astronomia, essere le ausiliarie della filosofia, noi - scriveva Origene - l'applicheremo alla filosofia in rapporto al cristianesimo"),[7] ma compiono un'operazione assai più significativa: indicano nella Bibbia le origini delle arti e della filosofia nella loro integrità e purezza e rivendicano la priorità di una tradizione che ha trovato nei sapienti greci imitatori e seguaci. Il tema è chiaramente svolto da Origene nel prologo del commento al Cantico dei Cantici: a Salomone risale l'*inventio* delle discipline filosofiche ("quas Graeci ethicam,

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[6] Anselmi *Epistola de incarnatione Verbi*, 1, ed. F.S. Schmitt, *Opera Omnia*, Edimburgi 1946, vol. II, p. 9.

[7] *Philocalia*, 13, in Grégoire le Thaumaturge, *Remerciement à Origène suivi de la lettre d'Origène a Grégoire*, par H. Crouzel, Paris, 1969, p. 189.

physicam, enopticen appellarunt, has dicere possumus - aggiunge forse Rufino - moralem naturalem inspectivam")[8] e a ciascuna delle tre partizioni corrisponde uno dei suoi libri ("primo ergo in Proverbiis moralem docuit locum... Secundum vero qui naturalis appellatur, comprehendit in Ecclesiaste... Inspectivum quoque locum in hoc libello tradidit... id est in Cantico canticorum"; da questi libri deriva tutta la sapienza greca: "haec ergo ut mihi videtur, sapientes quique Graecorum sumpta a Salomone... sed haec Salomon ante omnes invenit et docuit per sapientiam quam accepit a Deo").[9] Secondo un'analoga prospettiva, che riconduceva le discipline filosofiche alla Bibbia come al loro fonte, Origene indicava altresì nei tre patriarchi Abramo, Isacco e Giacobbe i maestri rispettivamente della filosofia morale, naturale e *inspectiva*.[10] I parallelismi e le genealogie poste da Origene avranno larga fortuna nel Medioevo e con essi il tema, variamente articolato, della risoluzione delle discipline filosofiche nella *divina philosophia*; le sette colonne su cui la Sapienza ha costruito la propria dimora ("sapientia aedificavit sibi domum excidit columnas septem", *Prov.*, 9, 1) saranno presto identificate con le sette arti liberali e i libri della Bibbia assegnati alle varie parti della filosofia:

> Inveniuntur omnes illae tres philosophiae Graecorum etiam in divina Scriptura. Et omnis etiam philosophia et omnes modi locutionum ante fuerunt in Scriptura divina, quam apud sophistas saeculares, quia si quid habuerunt, de Dei dono habuerunt, ipso largiente.[11]

Tutto questo trovava conferma significativa nelle mitologiche genealogie tese a dimostrare la dipendenza storica della cultura greca dai patriarchi e dai profeti ebrei, ora indicando in Abramo colui che avrebbe insegnato la scienza agli Egizi dai quali l'apprese Mosé, ora invece attraverso l'identificazione di Mosé con Museo, capostipite della filosofia

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8 Origenis *Commentarium in Cant. Canticorum*, Prologus, ed. W.A. Baehrens, Leipzig, 1925, p. 75; in luogo di *enopticen*, G. Dahan ("Origène et Jean Cassien dans un Liber de philosophia Salomonis", *Archives d'histoire doctrinale et littéraire du Moyen Age*, LII (1985), p. 137, n. 11) propone di leggere *epopticen* come attestato da alcuni manoscritti. Dello stesso Dahan, cfr. "Une introduction à la philosophie au XII^{e} siècle. Le Tractatus quidam de philosophia et partibus eius", *Archives d'hist. doctr. et litt. du M. A.*, XLIX (1982), pp. 155-193 (e la bibl. ivi indicata per i problemi inerenti le varie classificazioni delle scienze filosofiche).

9 Origene, *op. cit.*, p. 75-76; cfr. Ambrosius, *Expositio Evangelii secundum Lucam*, prol., 2, *P.L.* 15, 1608B-1609A.

10 Origene, *op. cit.*, pp. 78-79.

11 Christiani Druthmari *Ex. in Matthaeum Evangelistam*, 2, *P.L.* 106, 1284-85.

greca, o facendo di Platone un discepolo dei profeti ebrei;[12] temi non estranei alla cultura ellenistica - "cos'è Platone se non un Mosé che parla greco", aveva scritto Numenio[13] - e che rientrano in quella disputa sull'origine orientale della filosofia greca alla quale già Taziano aveva attinto per difendere la supremazia della "filosofia barbara"; altri invece, in una più ampia visione dell'economia della salvezza, cercheranno, come Giustino e Clemente Alessandrino, nella comune ispirazione del logo pedagogo la giustificazione delle affinità tra la filosofia dei greci e dei cristiani.

Sarebbe qui di scarsa utilità soppesare quanto della cultura antica perduri e sia utilizzato nell'ambito della riflessione cristiana, quasi che il valore di questa possa dipendere dalla maggiore o minore misura di quella utilizzazione; ciò che interessa sottolineare è il definirsi di un ideale di conoscenza e di sapere che proprio per il suo essere totalizzante include ogni arte e disciplina, sostituendosi agli ideali culturali del mondo precristiano.[14] La forma più alta di questa nuova conoscenza, l'orizzonte più vasto di questo nuovo sapere è offerto dall'esegesi, via di accesso alla *scientia divina* trasmessa dalla Bibbia:

> Scriptura sacra spiritualis ac divina scientia plena est; eademque scientia ex qua ipsa Scriptura condi coepit, augeri semper ac multiplicari non desinit.[15]

Il metodo per decifrare i misteri riposti in questa *spiritualis scientia* è costituito dalla dottrina dei sensi della Scrittura, sviluppo sistematico della tensione dalla lettera allo spirito secondo le suggestioni di Origene, ovunque presenti nel Medioevo. Precisa l'insistenza sull'*ordo*, le *leges*, le *rationes* e le *consequentiae* che debbono essere osservate nella lettura del testo sacro: a questo sapere si coordinano tutte le discipline poiché "nulla

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12 Su tutto il tema, cfr. il classico H. de Lubac, *Exégèse médiévale. Les quatre sens de l'Ecriture*, I, 1, Paris, 1959, in partic. pp. 74-94.

13 Numénius, *Fragments*, par Ed. des Places, Paris, 1973, fr. 8, p. 51.

14 Si ricordino i due temi esegetici classici, la donna schiava catturata in guerra che deve avere unghie e capelli tagliati prima di esser presa per moglie (*Deut.*, 21, 10 sgg.), e le ricchezze rubate agli Egizi dagli Ebrei al momento della fuga (*Esodo*, 3, 22 e 12, 35), per giustificare l'utilizzazione della cultura pagana e il suo ruolo ancillare rispetto all'esegesi e alla teologia: cfr. H. de Lubac, *Exégèse médiévale*, cit., pp. 290 sgg. e J. de Ghellinck, *Le mouvement théologique du XII^e siècle*, Bruxelles-Paris, 1948², pp. 94-95.

15 Rabano Mauro, *In Ex.*, III, 10, *P.L.* 108, 145A.

enim sacra scriptura est que regulis liberalium careat disciplinarum".[16] Tanto più feconda di frutti sarà la lettura del testo, quanto più ricca la scienza dell'interprete: in quella *summa* esemplare della cultura del secolo XII che è il *Didascalicon*, Ugo di San Vittore, come necessaria premessa alla lettura della Bibbia, rende paradigmatica la sua personale esperienza:

> Ego affirmare audeo nihil me unquam quod ad eruditionem pertineret contempsisse, sed multa saepe didicisse, quae aliis ioco, aut deliramento similia viderentur... Omnia disce, videbis postea nihil esse superfluum. Coartata scientia iucunda non est.[17]

Anche all'esegesi quindi si applica la classificazione delle discipline filosofiche che in essa rientrano tutte di pieno diritto. E' Eucherio che afferma, alle soglie del Medioevo, una dottrina maturata già nella patristica greca e latina in una pagina giustamente famosa:

> Sapientia autem mundi huius philosophiam suam in tres partes divisit: physicam, ethicam, logicam, id est naturalem, moralem, rationalem... Quam tripartitam doctrinae disputationem non adeo abhorret illa nostrorum in disputatione distinctio, qua docti quique hanc coelestem Scripturarum philosophiam secundum historiam, secundum tropologiam, secundum anagogen disserendam putarunt.[18]

Non diversamente Giovanni Eriugena, nell'omelia sul prologo giovanneo, indicherà il preciso parallelismo fra scrittura e *mundus intelligibilis*, fra discipline filosofiche e sensi della Scrittura, veri strumenti ermeneutici della "theoria" che dalla *vallis historiae* sale al *vertex montis theologiae*:

> Divina siquidem scriptura mundus quidam est intelligibilis, suis quattuor partibus, veluti quattuor elementis, constitutus. Cuius terra est veluti in medio imoque, instar centri, historia; circa quam, aquarum similitudine, abyssys circumfunditur moralis intelligentiae, quae a Graecis ΗΘΙΚΗ solet appellari. Circa quas, historiam dico et ethicam, veluti duas praefati mundi inferiores partes, aer ille naturalis scientiae circumvolvitur: quam, naturalem dico scientiam, Graeci vocant ΦΥCIKHN. Extra autem omnia et ultra, aethereus ille igneusque ardor empyrii caeli, hoc est, superae contemplationis

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16 Giovanni Eriugena, *Expositiones in ierarchiam coelestem*, ed. J. Barbet, Turnholt, 1975, p. 16: "Ut enim multe aque ex diversis fontibus in unius fluminis alueum confluunt atque decurrunt, ita naturales et liberales discipline in unam eandemque interne contemplationis significationem adunantur, qua summus fons totius sapientie, qui est Christus, undique per diversas theologie speculationes insinuatur... Nulla enim sacra scriptura est que regulis liberalium careat disciplinarum".

17 Ugo di S. Vittore, *Didascalicon*, VI, 3, *P.L.* 176, 799-801.

18 Eucherius, *Formularum spiritalis intelligentiae ... liber unus*, *P.L.* 50, 728; cfr. Cassiani *Conlatio* xiv, 8, ed. E. Pichery, vol. II, Paris, 1958, pp. 189-192.

divinae naturae, quam graeci theologiam nominant, circumglobatur; ultra quam nullus egreditur intellectus.[19]

Le testimonianze potrebbero moltiplicarsi; quel che interessa è il definirsi sin dall'età patristica, e il permanere in tutto il Medioevo, di una "vera scripturarum scientia"[20] che si realizza nell'esegesi "rerum et verborum scientia",[21] di cui le arti sono "subsellia et quasi substructura".[22] Questa forma di conoscenza e di sapere si definirà di volta in volta come scienza della Scrittura, *intelligentia*, *intellectus*, *theoria* o *theologia* (secondo la matrice patristica del termine greco), seguirà i procedimenti della più esuberante conoscenza simbolica, applicherà i più sottili strumenti delle scienze del discorso e della dialettica - secondo l'insegnamento di Agostino e l'esempio degli *Opuscula sacra* di Boezio - o più raramente, come nell'Eriugena, utilizzerà le tecniche neoplatoniche della διαιρετική e dell'ἀναλυτική nell'esercizio della *vera ratio*, lascerà spazio alle più saporose meditazioni spirituali (*sapida sapientia*) e al *volatus allegoriae*, ma si porrà sempre come una forma di conoscenza *a fide incoans ad speciem tendens*: "inter fidem et speciem intellectum quem in hac vita capimus esse medium intelligo".[23]

Non è il luogo per accennare qui l'itinerario e l'evoluzione dell'*intelligere* da Agostino a Anselmo: è nota l'importanza che nella storia del metodo teologico assume il precetto boeziano "in divinis intellectualiter versari" e più ancora l'articolazione dialettica dell'*intelligere* anselmiano che sottende una trattatistica non direttamente legata al testo biblico, con il parallelo passaggio da un *intellectus* come contemplazione dei misteri e dei sacramenti della Scrittura a un più decisivo impegno per enucleare la *rationes necessariae* di un patrimonio dogmatico ormai costituito. L'opera di Anselmo - come è stato più volte sottolineato - pur restando fortemente legata all'esperienza e alla religiosità monastica, segna l'inizio di una costruzione sistematica e non

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19 Giovanni Eriugena, *Homélie sur le Prologue de Jean*, ed. Ed. Jeauneau, Paris, 1969, pp. 270-272.

20 Cassiani *Conlatio* xiv, 10, cit., p. 195; cfr. Alcuini *Compendium in Canticum Canticorum*, 8, vers. 9, *P.L.* 100, 663.

21 Walafridus Strabus, *Liber ecclesiasticus*, 34, *P.L.* 113, 1217.

22 Petrus Cantor, *De tropis loquendi*, cit. in Ed. Dumoutel, "La théologie de l'eucharistie à la fin du XII^{e} siècle", *Archives d'hist. doctr. et litt. du M. A.*, XIV (1943-1945), p. 182.

23 Anselmi *Cur Deus homo*, Commendatio operis, ed. Schmitt, vol. II, p. 40.

esegetica della riflessione teologica, intesa come approfondimento delle strutture razionali e necessarie dell'oggetto di fede (*ratio fidei*), della sua interna coerenza; così come già il *De sacra coena* di Berengario - pur nel suo continuo riferimento alle autorità di Agostino e di Ambrogio - annunciava un progressivo distacco dalla tradizione patristica e agostiniana con la perdita di tutte le "inclusioni simboliche"[24] del mistero eucaristico in forza di decisive distinzioni dialettiche. Tuttavia non solo l'uso della *ratio* è sempre ancorato alla rivelazione, ma la capacità stessa di indagare la *ratio fidei* ("nostrae fidei rationem inquirere") trova il suo fondamento in quella *ratio summae naturae* che sola rende l'uomo capace di verità: "lux illa, de qua micat omne verum, quod rationali menti lucet". E' la luce del Verbo - il maestro interiore secondo l'insegnamento di Agostino - che si manifesta nella rivelazione e apre all'*intelligere* spazi infiniti. *Intelligo te illuminante*: non deve sfuggire il valore essenziale, in tutta la tradizione agostiniana, della dottrina dell'illuminazione che non è una metafora, ma indica lo statuto proprio della mente umana, la sua condizione e natura che la rende idonea a *intelligere* la *necessitas* delle verità di fede. *Ratio veritatis nos docuit* scriveva Anselmo sottolineando il fondamento ontologico della ragione nella quale si deve riconoscere - ricordava Berengario - l'*imago Dei* ogni giorno riscoperta nell'uso della dialettica; e Abelardo, riproponendo un tema che fu già di Clemente Alessandrino, potrà dire che il Verbo, λόγος e *Patris summa sophia*, ci ha resi a un tempo cristiani, filosofi e logici.[25] Il primato della *ratio* è anzitutto il primato del Verbo; l'unità del sapere, il coordinarsi di tutte le discipline alla lettura della sacra pagina e all'*intellectus fidei*, ha il suo principio in quell'unica *ratio* fonte di verità in cui tutte le cose sono state create, che illumina la mente umana e si è manifestata nell'economia della salvezza; non a caso nella tradizione patristica e altomedievale ritorna costante l'esaltazione della *ratio* che soggiace ai *mysteria* e ai *sacramenta* della storia sacra e ne guida la più profonda *intelligentia*: *ratio sacramentorum*, *mysteriorum ratio*, *ratio facti*, *ratio allegoriae*, *ratio*

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[24] H. de Lubac, *Corpus mysticum. L'eucharistie et l'église au Moyen Age*, Paris, 1949², p. 254.

[25] Anselmi *Cur Deus homo*, I, 3; II, 19, ed. F.S. Schmitt, vol. II, pp. 50, 130; *Proslogion*, 14, 4, ed. Schmitt, vol. I, pp. 112, 104; *Monologion*, 9, ed. Schmitt, vol. I, p. 24. Berengario, *De sacra coena adversus Lanfrancum*, 23, ed. W.H. Beekenkamp, Hagae Comitis, 1941, p. 47; P. Abaelardi *Ep. XIII*, *P.L.* 178, 355.

mystica, historia propriam habet rationem, interioris intelligentiae ratio, cuncta divinae rationis sunt plena.[26]

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Un mutamento radicale si avrà quando un diverso concetto di *ratio* si verrà proponendo all'Occidente latino attraverso la conoscenza di esperienze e forme di sapere estranee alla tradizione patristica e altomedievale, con una concezione del mondo e dell'uomo, con una fisica e una metafisica ignote all'esile pedagogia delle sette arti liberali. E' la scoperta di una cultura profana, l'irruzione di autori pagani *intonsi et illoti*[27] nel nuovo ambiente scolastico cittadino lungo il secolo XII a segnare una svolta profonda, a marcare una periodizzazione precisa, come rilevarono subito le prime storie della cultura medievale scritte in età umanistica: in concreto sono le traduzioni di testi filosofici e scientifici greci e arabi che fanno scoprire una nuova idea di natura e con essa una nuova concezione di ragione e di scienza non più rette dalle leggi, dall'*ordo* e dalla *ratio* dell'esegesi. Se già i progressi della dialettica avviavano a una perdita del valore simbolico dei *mysteria* e dei *sacramenta* di cui è tessuta la parola di Dio e la vita cristiana, ancor più nettamente il nuovo sapere filosofico e scientifico, trasmesso dai testi via via tradotti, metteva in crisi le strutture profonde del simbolismo medievale che aveva trovato il suo più ampio spazio non solo nei commenti biblici ma nei trattati *de natura rerum*, trasformando il *liber creaturae* in sistema di simboli, oggetto di una lettura non diversa da quella praticata nell'esegesi del testo sacro.

Componente essenziale della mentalità medievale, modello di conoscenza e di sapere destinato a perdurare nei secoli successivi come

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[26] Hilarii *Tractatus mysteriorum*, I, 31, ed. J.-P. Brisson, Paris 1947, p. 126; Ambrosii *De Mysteriis*, I, 2, *P.L.* 16, 406; Ambrosii *Enarrationes in XII Psalmos Davidicos, In Ps. I*, 41, *P.L.* 14, 987; Lanfranci *De corpore et sanguine Domini*, 15, *P.L.* 150, 425; Gaudentii *Tractatus*, VIII, 6 (51), ed. A. Glueck, Vindobonae-Lipsiae, 1936, p. 62; Cassiani *Conlatio* xiv, 8, cit. p. 191; Origenis *In Leviticum*, hom. IX, 9, *P.G.* 12, 521; Ruperti *In Exodum comm.* I, 28, *P.L.* 167, 596; ex Origene *Selecta in Ezechielem*, 28, *P.G.* 13, 821-22; *In Genesim*, hom. II, 2, *P.G.* 12, 167-68; Hilarii *In Evangelium Matthaei commentarius*, 14, 3, *P.L.* 9, 997; Ruperti *In Exodum comm.*, II, 5, *P.L.* 167, 612.

[27] L'espressione - che si riferisce all'episodio biblico di cui a n. 14 - ricorre nel significativo contesto della *Disputatio catholicorum patrum contra dogmata Petri Abailardi* di Thomas Moreniensis (ed. N.M. Häring, *Studi medievali*, XXII (1981), p. 368): "philosophos Platonem, Virgilium, Macrobium, intonsos et illotos, ad convivium superni regis introduxit".

patrimonio vitale dell'esperienza cristiana, la concezione e l'interpretazione simbolica della natura rispondevano a una dottrina precisa: l'essere il mondo creato un libro *scriptus digito Dei, calamo Dei inscriptus*,[28] attraverso il quale Dio si rivela e indica la via per risalire a lui: il *liber creaturae* sarebbe stato sufficiente all'uomo se il peccato non avesse reso necessaria la Scrittura anche per l'intelligenza della natura creata.[29] Sulla priorità della natura rispetto alla Scrittura gioverà insistere per meglio comprendere che in questo contesto parlare della natura come libro scritto da Dio non è usare una metafora, ma designare ciò che la natura veramente è, il suo esser segno e tipo di un ordine intelligibile. Conoscere le nature e le proprietà delle cose comporta quindi decifrarne il messaggio secondo quello stesso dinamismo che, nell'esegesi biblica, va dalla lettera allo spirito, poiché anche il discorso *de natura rerum* è l'esegesi di un testo sacro. Strumenti della rivelazione divina ("Dupliciter ergo lux aeterna seipsam mundo declarat, per scripturam videlicet et creaturam"),[30] natura e Scrittura si richiamano e si corrispondono in una puntuale *concordia* ("natura interrogata, vel Scriptura consulta, unum eumdemque sensum pari loquuntur concordia"),[31] e come nella Scrittura *res ipsae sunt figurae*,[32] così nella natura "singulae creaturae quasi figurae quaedam sunt non humano placito inventae, sed divino arbitrio institutae ad manifestandam invisibilium Dei sapientiam".[33]

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28 Ugo di San Vittore, *De tribus diebus*, 4, *P.L.* 176, 814; Alexandri Neckam *De naturis rerum*, II, prol., ed. T. Wright, London, 1863, p. 125.

29 Cfr. H. de Lubac, *Exégèse médiévale*, I, 1, pp. 121-125; cfr. il bel testo di Bonaventura, *Coll. in Hex.*, XIII, 12, *Opera*, V, p. 390A: "Certum est, quod homo stans habebat cognitionem rerum creatarum et per illarum repraesentationem ferebatur in Deum... Cadente autem homine, cum amisisset cognitionem, non erat qui reduceret eas in Deum. Unde iste liber, scilicet mundus, quasi emortuus et deletus erat; necessarius autem fuit alius liber, per quem iste illuminaretur, ut acciperet metaphoras rerum. Hic autem liber est Scripturae, qui ponit similitudines, proprietates et metaphoras rerum in libro mundi scriptarum. Liber ergo Scripturae reparativus est..." (ed. F. Delorme, Firenze-Quaracchi, 1934, p. 150).

30 Giovanni Eriugena, *Homélie sur le Prologue de Jean*, cit. p. 254.

31 Riccardo di S. Vittore, *Benjamin major*, V, 7, *P.L.* 196, 176.

32 Così in una "quaestio" *de theologia* ed. G.H. Tavard, "St. Bonaventure's Disputed Questions 'De theologia'", *Recherches de théologie ancienne et médiévale*, XVII (1950), p. 230 (si tratta di un'anonima compilazione: cfr. H. Fr. Dondaine, nelle stesse *Recherches Th. A. M.*, XIX (1952), pp. 244-270).

33 Ugo di San Vittore, *De tribus diebus*, *P.L.* 176, 814; cfr. *Comm. in Nahum Prophetam*, 34, di scuola vittorina, *P.L.* 96, 723B.

Di qui il nesso, non estrinseco parallelismo, natura-Scrittura (*Scriptura explicat quae creatura probat*),[34] quindi l'identità di strumenti esegetici che permettono di cogliere, anche nella creatura, insegnamenti religiosi e morali, realtà rivelate da Dio, prefigurazioni di eventi cruciali della storia sacra.

Non sarebbe difficile seguire il vario articolarsi della lettura simbolica nell'esegesi e nei trattati *de natura rerum* come nella vita sacramentale e liturgica, il suo esplodere nelle arti figurative, ma più interessa sottolineare che la lettura simbolica non è uno sprofondare nel mondo del fantastico e dell'immaginario, né un semplice processo di interpretazione allegorica come quello applicato alle favole antiche: essa rappresenta invece una forma di conoscenza, un modo per afferrare la *ratio* che soggiace ai misteri e ai sacramenti di cui è tessuta la parola di Dio, una tecnica dimostrativa coerente alla struttura stessa della realtà e al rapporto ontologico fra simbolo e significato, una via anagogica per la più alta *theoria*.

"Symbolum, collatio videlicet, id est coaptatio visibilium formarum ad demostrationem rei invisibilis propositarum":[35] così Ugo di S. Vittore nel suo commento allo Pseudo Dionigi il cui pensiero - congiuntamente agli sviluppi eriugeniani - orienta nel senso più forte il simbolismo medievale dando a esso un fondamento metafisico con la dottrina della discesa e del ritorno, della manifestazione teofanica e della *reductio* analitica. Simbolo è l'intero mondo delle teofanie intelligibili e sensibili che il processo anagogico dissolve per risalire all'unità ineffabile; punto d'incontro e di snodo del metodo dell'affermazione e della negazione, il simbolo costituisce, nella tradizione dionisiana, la struttura portante di tutto il discorso teologico, di Dio e su Dio: "simplicitatem divinam ex symbolorum varietate irrationabiliter cognosci".[36]

Sullo sfondo di questa concezione della realtà come complesso di simboli, con i corrispondenti processi "dimostrativi" secondo analogia e tipologia, simiglianza e dissimiglianza, meglio si comprende il mutamento profondo in tutto l'orizzonte del sapere per l'irruzione nella cultura

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34 *Miscellanea* in appendice alle opere di Ugo di San Vittore, *P.L.* 177, 505A.

35 Ugo di San Vittore, *Expos. in Hier. cael.*, III, *P.L.* 175, 960; cfr. Garnier de Rochefort, *Sermo*, 23, *P.L.* 205, 730: "symbolice colligit et coaptat formas visibiles ad invisibilium demonstrationem".

36 Wilhelmus Lucensis, *Comentum in tertiam ierarchiam Dionisii que est De divinis nominibus*, ed. F. Gastaldelli, Firenze, 1983, p. 54.

occidentale della scienza greca e araba che - imponendo una divaricazione fra Scrittura e natura - colloca l'uomo in un universo non più *sacramentum salutaris allegoriae* oggetto di conoscenza simbolica, ma nesso di cause (*causarum series, nexus, ordo, machina*) ove trova spazio una *ratio naturalis* lontana dall'*intellectus* agostiniano.

Si delinea un nuovo ideale di sapere per l'uomo che voglia essere degno del mondo in cui vive:

> Dicis enim ut in domo habitans quilibet, si materiam eius et compositionem quantitatem et qualitatem sive discriptionem ignoret, tali hospicio dignus non est, ita si qui in aula mundi natus atque educatus est tam mirande pulcritudinis rationem scire negligat, post discretionis annos indignus atque si fieri posset eiciendus est.[37]

Così Adelardo di Bath, uno dei promotori della nuova scienza del XII secolo, traduttore di testi arabi e autore di due scritti *De eodem et diverso* e *Naturales quaestiones* che rispecchiano il nuovo clima culturale e l'ansia per acquisire i nuovi tesori di scienza che affluivano dall'Italia meridionale e dalla Spagna:

> Quod enim gallica studia nesciunt, transalpina reserabunt; quod apud latinos non addisces, Graecia facunda docebit.

Precisa la delineazione dei nuovi compiti della *ratio* e del sapere secondo l'insegnamento di Platone "in physicis causarum effectibus ethicisque etiam consultibus Platoni te penitus consentire") e degli Arabi ("Arabicorum studiorum sensa") in significativa convergenza con altri maestri contemporanei.[38] La lettura del *Timeo* con il commento di Calcidio e del commento di Macrobio al *Somnium Scipionis* - testi presenti nelle biblioteche altomedievali ma restati sempre ai margini - si viene a coniugare con i testi scientifici cha affluivano attraverso le nuove traduzioni, soprattutto di medicina, fisica, astronomia e alchimia, aprendo nuovi orizzonti e indicando il valore di una conoscenza della natura fondata sulla *ratio* e non sull'*auctoritas*:

> De animalibus difficilis est mea tecum dissertio. Ego enim aliud a magistris arabicis ratione duce didici, tu vero aliud auctoritatis

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37 Dalla prefazione di un trattato sull'astrolabio di Adelardo di Bath, in Ch.H. Haskins, *Studies in the history of mediaeval science*, New York, 1960, p. 29.

38 Adelardo di Bath, *De eodem et diverso*, ed. H. Willner (Beiträge zur Geschichte der Philosophie des Mittelalters, IV, 1), Münster 1903, p. 32; *Quaestiones naturales*, 24, prol., ed. M. Müller (Beiträge zur Gesch. der Phil. und Theol. des Mittelalters, XXXI, 2) Münster 1934, pp. 31, 20.

> pictura captus capistrum sequeris... Si quid amplius a me audire desideras, rationem refer et recipe.[39]

Questa *ratio* - impegnata a cogliere la dinamica delle *vires naturae* - invade anche il campo dell'esegesi e impone un'interpretazione della genesi *secundum physicam* che riconduce tutto l'*ornatus* al gioco degli elementi, all'azione del fuoco ("ignis est quasi artifex et efficiens causa") e dei cieli (gli "dei figli di dei" del *Timeo*), secondo un *ordo naturalis* in cui rientra anche la formazione dei corpi della prima coppia umana; respinto il valore storico della lettera, la creazione di Adamo e di Eva - che una veneranda tradizione esegetica aveva caricato di significati tipologici - rientra nel complesso ordinato delle cause naturali:

> Istis sic creatis ex aqua effectu superiorum - scrive Guglielmo di Conches - ubi tenuior fuit aqua, ex calore et creatione praedictorum desicata, apparuerunt in terra quasi quaedam maculae, in quibus habitant homines et alia quaedam animalia... Ex quadam vero parte, in qua elementa aequaliter convenerunt, humanum corpus factum est et hoc est quod divina pagina dicit deum fecisse hominem ex limo terrae. ... ex vicino limo terrae corpus mulieris esse creatum verisimile est, et ideo nec penitus idem quod homo nec penitus diversa ab homine nec ita temperata ut homo, quia calidissima frigidior est frigidissimo viro, et hoc est quod divina pagina dicit, deum fecisse mulierem ex latere Adae. Non enim ad litteram credendum est deum excostasse primum hominem.[40]

L'interpretazione del racconto genesiaco in termini fisici, secondo una *ratio* che intende spiegare come Dio operi *per naturam*, non risponde solo alle leggi della cosmologia timaica, ma presuppone un canone ermeneutico preciso:

> Auctores veritatis philosophiam rerum tacuerunt, non quia contra fidem, sed quia ad aedificationem fidei de qua laborant, non multum pertinebat.[41]

E' nota la reazione degli ambienti monastici per bocca di Guglielmo di Saint-Thierry:

> Homo physicus et philosophus, physice de Deo philosophatur... Deinde creationem primi hominis philosophice, seu magis physice describens, primo dicit corpus eius non a Deo factum, sed a natura, et animam ei datam a Deo, postmodum vero ipsum corpus factum a

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39 Adelardo di Bath, *Quaestiones naturales*, 6, ed. cit., pp. 11-12.

40 Guglielmo di Conches, *Philosophia*, I, 42-43, ed. G. Maurach, Pretoria, 1980, p. 38 (*P.L.* 172, 55-56); Teodorico di Chartres, *De sex dierum operibus*, 1, 14, 17, ed. N.M. Häring, *Commentaries on Boethius by Thierry of Chartres and his School*, Toronto, 1971, pp. 555, 561, 562.

41 Guglielmo di Conches, *In Boethium*, ed. P. Courcelle, "Etude critique sur les Commentaires de la Consolation de Boèce (IX^{e}-XV^{e} siècles", *Archives d'hist. doctr. et litt. du M. A.*, XII (1939), p. 85.

> spiritibus, quos daemones appellat, et a stellis... In creatione vero mulieris palam omnibus legentibus est, quam stulte, quam superbe irridet historiam divinae auctoritatis; scilicet excostasse Deum primum hominem, ad faciendam de costa eius mulierem. Et physico illud sensu interpretans, nimis arroganter veritati historiae suum praefert inventum.

All'*inventum physico sensu* del maestro di Conches che annulla la lettera ("non enim ad litteram credendum est"), Guglielmo di Saint-Thierry oppone la *veritas historiae* densa di un *magnum sacramentum* come insegnava San Paolo (*Eph.*, 5, 30-32): la creazione di Eva *de costa Ade* è infatti *forma futuri*, la prefigurazione profetica dell'unione di Cristo e della Chiesa. "Hoc si crederet non irrideret".[42]

La divaricazione tra l'auctoritas della tradizione ecclesiastica e la verità rappresentata dal nuovo sapere fisico si configura subito come insanabile opposizione:

> Sunt enim - si legge in un anonimo trattatello sul computo del 1175 - quidam novitatis venatores et antiquitatis improbi calumpniatores qui etiam in doctrina Christiana locum ab auctoritate tamquam inartificiosum superciliose repudiant et de suo confidentes ingenio aliter quam tota ecclesia soli sentire volunt ut soli scire videantur. Sed, quod deterius est, vidi equidem doluique videre scripto quoque commendatum quedam aliter se habere secundum ecclesiam, aliter secundum veritatem.[43]

Se la contrapposizione di due verità può considerarsi un'estrapolazione polemica, che sarà poi quella di Stefano Tempier, registra pur sempre un'esperienza precisa: la rottura di un ideale di sapere unitario e finalizzato alla lettura della Bibbia per il dischiudersi di nuovi campi d'indagine e di conoscenza, di forme di sapere che rivendicano una propria autonomia e priorità anche rispetto alla tradizione: "Quoniam nondum inscitia pallemus, ad rationem redeamus", scrive Adelardo troncando il discorso del suo interlocutore che intendeva riferire direttamente a Dio ogni fenomeno naturale ("universorum effectus ad Deum magis referendus est").[44] Il tema torna con insistenza e riconduce all'opposizione fra una natura intesa come diretta espressione della volontà divina e una natura come *ordo* e *nexus causarum*:

> quoniam ipsi nesciunt vires naturae, ut ignorantiae suae omnes socios habeant, nolunt aliquem eas inquirere, sed ut rusticos nos credere nec rationem quaerere, ut iam impleatur illud profeticum, "Erit sacerdos sicut populus"... Nos autem dicimus in omnibus

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42 Guglielmo di Saint-Thierry, *De erroribus Guillelmi de Conchis*, *P.L.* 180, 339-340.

43 Ch.H. Haskins, *Studies*, cit., p. 87.

44 Adelardo di Bath, *Quaestiones naturales*, 4, p. 8.

> rationem esse quaerendam, si potest inveniri... Sed isti... malunt nescire quam ab alio quaerere, et si inquirentem aliquem sciant, illum esse haereticum clamant plus de suo capucio praesumentes quam sapientiae suae confidentes.[45]

L'allusione polemica alla tradizionale cultura monastica non poteva essere più chiara ed è subito sottolineata da Guglielmo di Saint-Thierry: "In viros religiosos invehitur". Il tema torna costante:

> Sensisti vero et tu nonnullos hiis in temporibus cause quam ignorant iudices audacissimos, qui ne minus scientes videantur, quecunque nesciunt inutilia predicant aut profana. Iuxta quod Arabes dicunt: Nullus maior artis inimicus quam qui eius expers est... Horum siquidem error sive coloratus honesto malicioso quoque predictorum testimonio fretus, apud imperitos quorum maxima est multitudo in bonarum neglectum arcium efficacissime peroravit, ut iam numerorum quidem mensurarumque scientia omnino superflua et inutilis, astrorum verum studium ydolatria estimetur... Super nubes eorum conversatio, atque in ipso summe sinu sapientie sese requiescere gloriantur. Mundanam desipiunt sapientiam, eique vacantium deliramenta subsannant.[46]

Così nella prefazione di una versione siciliana dell'*Almagesto*; e Hugo Sanctallensis, presentando una compilazione fisico-astrologica di origine araba, insiste nella polemica:

> Nam humani generis error, ut qui inscientie crapula sui oblitus edormit stulticie nubibus soporata iudicio philosophantium sectam estimans lacivienti verborum petulantia, sicut huius temporis sapere negligit, sapientes et honestos inconstantie ascribit, veritatis concives imperitos diiudicat, verecundos atque patientes stolidos reputat.

A questi spregiatori della "setta dei filosofanti" Ugo contrappone la scienza orientale - degli Arabi, degli Indi, degli Egizi - che egli intende far conoscere per soddisfare l'*insatiata philosophandi aviditas* "ut saltem, dum ipsius philosophie vernulas arroganti supercilio negligunt, scientie tamen quantulamcumque portionem vix tandem adeptam minime depravari contingat sed potius ab eius amicis et secretariis venerari".[47]

Mundana sapientia: così ama definirsi il nuovo sapere che viene costituendosi lungo il secolo XII trovando il suo metodo nell'ordinata ricerca di cause ("propius intuere - ammonisce Adelardo - circumstantias adde, causas propone, et effectum non mirabere")[48] e il suo fondamento

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45 Guglielmo di Conches, *Philosophia*, 44-45, p. 39 (*P.L.* 172, 56).

46 Ch.H. Haskins, *Studies*, cit., pp. 192-193.

47 Ch.H. Haskins, *Studies*, cit., p. 75.

48 Adelardo di Bath, *Quaestiones naturales*, 64, p. 59.

nell'universale causalità dei cieli cui Dio stesso ha affidato di compiere l'*opus naturae*:

> Apud universos philosophie professores ratum arbitror et constans - scrive Hugo Sanctallensis - quicquid in hoc mundo conditum subsistendi vice sortitum est haud dissimile exemplar in superiori circulo possidere.[49]

L'astrologia afferma così il suo primato come fondamento di tutte le scienze della natura:

> Unde tam Ypocrati et Galeno quam ceteris fere omnibus philosophis compertum astrologiam plane physice ducatum obtinere, ut qui astrologiam damnet, phisicam necessario destruit.[50]

E' un testo di Albumasar, assiduamente ripetuto: l'astronomia-astrologia si pone ormai come il principio e il vertice di tutto il sapere filosofico:

> Et sic sciverunt sapientes - si leggeva in un opuscolo di Alkindi tradotto nel XII secolo - quod homo non est imbutus in philosophia nisi scit eam usquequo dinumerare possit cum sciencia impressiones superiores.[51]

Proprio perché, come ribadisce Alkindi nel *De radiis*, "stellarum dispositio mundum elementorum disponit" e nulla esiste "quod in celo suo modo non sit figuratum", l'astrologia si pone come la scienza più alta, rispondente *sancto sapientie desiderio*; essa è scienza dell'universale e del particolare che procede *sillogismo et probacione*, capace di conoscere il corso della storia (*causatum per causam*) penetrando il tessuto della celeste armonia:

> Si enim alicui datum esset totam condicionem celestis armoniae comprehendere, mundum elementorum cum omnibus suis contentis in quocumque loco et quocumque tempore plene cognosceret tanquam causatum per causam. ... Unde qui totam condicionem celestis armonie notam haberet tam preterita quam presentia quam futura cognosceret. Vice quoque versa unius individui huius mundi condicio, plene cognita, tanquam per speculum celestis armonie condicionem totam presentaret, cum omnis res huius mundi sit exemplum universalis armonie.[52]

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49 Ch.H. Haskins, *Studies*, cit., p. 78.

50 Albumasar, *Introductorium in astronomiam*, I, 4, Venetiis 1506, b Ir.

51 *Liber Alkindi de mutacione temporum*, cit., in R. Lemay, *Abu Ma'shar and latin Aristotelianism in the twelfth century*, Beirut 1962, p. 47 n. 2.

52 Alkindi, *De radiis*, ed. M.-T. d'Alverny-F.Hudry, *Archives d'hist. doctr. et. litt. du M. A.*, XLI (1974), pp. 218, 217, 223; cfr. *Liber Alkindi de mutacione temporum*, cit., p. 47 n. 1.

L'astrologia, assicurando la conoscenza *per causam*, realizza il modello aristotelico di scienza con tutta la sua necessità: non solo ogni parte del mondo si corrisponde e ciascuno diviene un punto di vista dal quale si può ritessere l'ordine dell'intero universo, ma si dissolve - ricondotta all'ignoranza delle cause - ogni pretesa contingenza e tutto rifluisce nell'inflessibile causalità celeste:

> Si autem omnia scita essent ab aliquo, ipse rerum causalitatem ad invicem notam haberet. Sciret ergo quod omnia que fiunt et contingunt in mundo elementorum a celesti armonia sunt causata, et inde cognosceret quod res huius mundi ad illam relate ex necessitate proveniunt. ... Est ergo ignorantia hominis causa opinionis eventuum futurorum et per hoc medium est ignorantia causa desiderii et spei et timoris.[53]

Pur senza giungere a questo esito estremo - contro cui polemizzerà duramente l'autore del *De erroribus philosophorum* - tutta la scienza fisica medievale accoglierà il nodo centrale della tradizione astrologica greca e araba, il necessario nesso fra cielo e terra come rapporto fra causa e causato e da questo punto di vista poteva proporre una nuova classificazione delle scienze filosofiche secondo due fondamentali partizioni, come scrive Daniele di Morley:

> Maxima divisio scientiarum fit in scientiam de celo et scientiam de omni, quod continetur sub celo.[54]

Non è un caso se l'astronomia, uscendo dall'ambiguo statuto di una delle sette arti liberali, non solo riassorbe il quadrivio, ma abbraccia tutte le discipline che in altre classificazioni rientravano nella *scientia naturalis* e si propone come la scienza dei principi primi della natura da cui deriva ogni altra conoscenza e arte, dalla medicina all'agricoltura, dalla *scientia de iudiciis* alla *scientia de speculis*, dall'alchimia alla *scientia de imaginibus*. Nella conoscenza dei moti celesti trovano fondamento tutte le tecniche che permettono all'uomo una manipolazione della natura ("recipit potentiam inducendi motus in competenti materia per sua opera"), di piegare gli influssi celesti, di scendere nelle viscere della terra con la forza delle *voces* e delle *imagines*, di decifrare il messaggio profetico che per influsso dei cieli si rivela nei sogni, di prolungare la vita umana:

> Qui enim ignorat celescium principia corporum et qualitates temporum constat eum ignorare naturas temporalium. Cum speculari

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53 Alkindi, *De radiis*, pp. 226-227, 228.

54 Daniele di Morley, *De philosophia*, ed. K. Sudhoff, *Archiv für die Geschichte der Naturwissenschaften und der Technik*, VIII (1917), p. 24.

> seu mederi incipit - si legge nello pseudo ermetico *De VI rerum principiis* - fallitur et fallit... Hinc ergo nobile ingenium vitae cursum bene prorogare et melius conservare intendit.[55]

Ratio imperat coelo et avertuntur flagitia: il detto di Albumasar bene riassume tutta una zona del nuovo sapere che costituisce una parte per più aspetti essenziale della storia della scienza medievale e che trova nell'astrologia - e in tutte le scienze ad essa coordinate - il suo culmine più significativo. L'astrologia, per difendersi dai *tonsurati* che denunciavano come empio "de coelestibus tractare", cercherà i suoi titoli di credito nella Bibbia, nella stella dei Magi, nell'epistolario paolino, vorrà proporsi come momento preliminare per esercitare l'*acies mentis* e addentrarsi *in theologica*,[56] userà dell'oroscopo delle religioni per dimostrare la verità dell'incarnazione di Cristo; tuttavia è indubbio che essa tendeva a porsi come il vertice di una *sapientia mundana* del tutto estranea alla trepida meditazione della sacra pagina, ove la conoscenza dell'*ordo causarum* costituisce l'ideale di un sapere che realizza la dignità dell'uomo e lo conferma signore del creato:

> Viderit in lucem mersas caligine causas, / Ut natura nichil occoluisse queat / ... omnia subiiciat, terras regat imperet orbi: / Primatem rebus pontificiemque dedi.[57]

Anche le classificazioni delle scienze nel secolo XII risentono di un nuovo clima e del delinearsi di nuovi modi e pratiche del sapere: chi legga il *Didascalicon* di Ugo di San Vittore o il *De divisione philosophiae* di Gundissalinus - tutto intessuto di riferimenti alla tradizione araba, Alfarabi soprattutto e Avicenna coniugati con la tradizione latina-tardoantica - rileva subito, rispetto alle scarne classificazioni altomedievali derivate da Marciano Capella e Boezio, da Cassiodoro e Isidoro - un'articolazione più ricca, con l'assidua ripresa di alcuni temi significativi: il rapporto logica-filosofia, la necessità per ciascuna disciplina di regole e metodi ben definiti, il valore della *civilis scientia* ove primeggiano la *rethorica* e la *scientia legum*, la forte presenza delle arti meccaniche o *de ingeniis* collocate a pieno diritto tra le discipline filosofiche. Soprattutto importante l'insistenza sul nesso *sapientia-eloquentia*, per il loro uso civile, e la difesa della *cohaerentia artium*:

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55 Alkindi, *De radiis*, p. 230; *Liber Hermetis Mercurii Triplicis de VI rerum principiis*, ed. Th. Silverstein, *Archives d'hist. doctr. et litt. du M. A.*, XXII (1955), pp. 296, 291.

56 Cfr. il testo di Raimondo di Marsiglia in R. Lemay, *op. cit.*, p. 153 n. 1, e la prefazione a una trad. dell'*Almagesto* in Ch.H. Haskins, *Studies*, pp. 192-193.

57 Bernardus Silvestris, *Cosmographia*, ed. P. Dronke, Leiden 1978, p. 141.

> Verumtamen in septem liberalibus artibus fundamentum est omnis doctrinae... Hae quidem ita sibi cohaerent, ut alternis vicissim rationibus indigent, ut si una defuerit, caeterae philosophum facere non possint. Unde mihi errare videntur qui non attendentes talem in artibus cohaerentiam, quasdam sibi ex ipsis eligunt, et caeteris intactis, his se posse fieri perfectos putant.[58]

Non è un topos ma il segnale di una crisi aperta nella cultura del XII secolo, da un lato per il rapido ampliarsi e specializzarsi degli insegnamenti delle singole discipline, dall'altro per una dinamica sociale che sollecitava verso alcune attività di più sicuro successo: una chiara testimonianza di tale situazione è offerta da Giovanni di Salisbury nelle pagine che dedica ai cosiddetti seguaci di Cornificio. Sono costoro i portatori di una cultura estremamente sommaria ("fiebant summi repente philosophi"), senza alcun interesse per le buone lettere ("poetae, historiographi, habebantur infames"; "insultans eos qui artium venerantur auctores") o per le scienze del quadrivio ("nominare... aliquid operum naturae instar criminis erat"), desiderosi di apparire non di esser sapienti ("cum inertes sint et ignavi, videri quam esse sapientes appetunt"), i loro discorsi sono verbosi ("sufficiebat ad victoriam verbosus clamor" e pieni di sofismi, la loro dialettica è misera, l'*eloquentia* senza regole ("sine artis beneficio"). Questi avversari della cultura esemplarmente rappresentata da maestri come Teodorico di Chartres, Guglielmo di Conches, Bernardo di Chartres, "non modo trivii nostri sed totius quadrivii contemptores", hanno trovato la loro sistemazione in professioni lucrative ("exercent foenebrem pecuniam... et solas opes ducunt esse fructum sapientiae"), presso le corti dei principi, nell'attività di medici o nei conventi ove continuano, coperti dall'abito monastico, la loro invidiosa polemica contro uomini di cultura.[59]

Sarebbe facile raccogliere in altri autori testimonianze analoghe: "nos magistri in scholis soli relinquimur nisi multos palpemus et insidias auribus fecerimus", protesta Teodorico di Chartres attaccato dalla "invidia" e dalla "fama" ("Theodoricum ubique accusat et ignominiosis nominibus appellat");[60] non diversamente Guglielmo di Conches denuncia il venir meno della *studii libertas* per il prevalere di studenti arroganti e incolti

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58 Ugo di San Vittore, *Didascalicon*, III, 4-5, *P.L.* 176, 769.

59 Giovanni di Salisbury, *Metalogicon*, I, 2-5, *P.L.* 199, 828-833 passim.

60 Dal Commento di Teodorico di Chartres al *De inventione* di Cicerone ed. W.H.D. Suringar in *Historia critica scholiastarum latinorum*, Lugduni Batavorum, 1854, pars. I, pp. 213-214; ed. P. Thomas, "Un commentaire du Moyen Age sur la Rhétorique de Cicéron", *Mélanges Graux*, Paris 1884, pp. 41-42.

("unius vero anni spacio negligenter studentes totam sapientiam sibi cessisse putantes"), protetti da prelati e vescovi che "sapientes et nobiles ab ecclesiis suis excludunt... insipientes et ignobiles, umbras clericorum non clericos includunt"[61] e Ugo di San Vittore: "Scholastici autem nostri aut nolunt aut nesciunt modum congruum in discendo servare, et idcirco multos studentes, paucos sapientes invenimus".[62]

Siamo in presenza di un fenomeno che può considerarsi tipico di una società in rapida espansione che non intende seguire percorsi scolastici complessi: si ha l'impressione che, appena delineato, l'ideale di un sapere come *cohaerentia artium* sia già entrato in crisi. Pur andrà sottolineata l'insistenza con la quale alcuni maestri tornano sul necessario nesso fra trivio e quadrivio (termini antichi che coprono ormai realtà diverse), fra scienze del discorso e scienze delle cose come essenziale caratteristica di un sapere utile alla società civile (*civilis scientia* nell'uso di una *civilis ratio*).[63] Il riferimento a un luogo del *De inventione* ciceroniano è costante:

> Quoniam, ut ait Tullius in prologo Rhetoricorum, eloquentia sine sapientia nocet, sapientia vero sine eloquentia etsi parum, tamen aliquid, cum eloquentia autem maxime prodest, errant qui postposita proficiente et non nocente, adhaerent nocenti et non proficienti,

scrive Guglielmo di Conches nella prefazione della sua *Philosophia*,[64] e Giovanni di Salisbury:

> Sicut enim eloquentia non modo temeraria est sed etiam caeca, quam ratio non illustrat; sic et sapientia, quae usu verbi non proficit, non modo debilis est sed quodam modo manca; licet enim quandoque aliquatenus sibi prodesse possit sapientia elinguis ad solatium conscientiae, raro tamen et parum confert ad usum societatis humanae ... Haec autem est illa dulcis et fructuosa coniugatio rationis et verbi, quae tot egregias genuit urbes, tot conciliavit et foederavit regna, tot univit populos et charitate devinxit; ut hostis omnium publicus merito censeatur quisquis hoc, quod ad utilitatem omnium Deus coniunxit, nititur separare. Mercurio Philologiam invidet et ab amplexu Philologiae Mercurium avellit ... Brutescent homines, si concessi dote priventur eloquii.

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61 Guglielmo di Conches, *Dragmaticon*, Argentorati 1567, pp. 2, 157.

62 Ugo di San Vittore, *Didascalicon*, III, 3, *P.L.* 176, 768.

63 Dominicus Gundissalinus, *De divisione philosophiae*, ed. L. Baur (Beiträge zur Geschichte der Philosophie des Mittelalters, IV, 2-3), Münster 1903, p. 64: "civilis racio dicitur sciencia dicendi aliquid racionabiliter et faciendi, quod hec quidem racio sciencia civilis dicitur, cuius pars integralis et maior rethorica est. nam sapiencia i. e. rerum concepcio secundum earum naturam et rethorica civilem scienciam componunt".

64 Guglielmo di Conches, *Philosophia*, I, prologus, ed. cit., p. 17 (*P.L.* 172, 41-43).

Non diversamente Teodorico di Chartres: "sapientia idest rerum conceptio secundum earum naturam et rhetorica civilem scientiam componunt".[65]

Né sarà inutile notare che la crisi di questo ideale di "sapere civile" è individuata nel prevalere di una dialettica isolata dalle altre discipline ("dialectica, si aliarum disciplinarum vigore destituatur, quodammodo manca est et inutilis fere"),[66] di un sapere puramente formale, fatto di vuoti nomi che pretendono di sostituirsi alle *res*:

> res omnes a dialectica et sophistica disputatione exterminaverunt, - si legge nel *Dragmaticon* - nomina tamen earum receperunt eaque sola esse universalia vel singularia praedicaverunt. Deinde supervenit stultior aetas, quae et res et earum nomina exclusit, atque omnium disputationem ad quatuor fere nomina reduxit.[67]

Giovanni di Salisbury avverte con chiarezza l'avventura verso cui s'incammina la nuova logica ("Vilescit physica quaevis, littera sordescit, logica sola placet"), che presto darà luogo all'intricato sottobosco fatto di *voces*, di *suppositiones*, di *sophismata* e di *consequentiae*: la sua polemica batte insistente contro coloro che invecchiano nello studio della logica ("in ea, quam solam profitentur, non decennium aut vicennium, sed totam consumpserunt aetatem") discutendo sillabe e vocali, *numquam ad scientiam pervenientes*, nella totale ignoranza delle cose di cui parlano.[68] Non diversa sarà la polemica umanistica, e già del Petrarca, contro i barbari britanni.

La discussione coinvolge tutta la concezione della filosofia, la funzione della logica, il valore della dialettica: il *Metalogicon*, scritto in difesa della logica, ne celebra il valore come *ratio* e *scientia disserendi*, parte essenziale della filosofia "ut per omnia membra eius quaedam spiritus vice discurrat" - sicché chi non si serve di essa toglie alla *sapientia* ogni struttura razionale ("qui vero sine logica philosophiam doceri putat, idem a sapientie cultu omnium rerum exterminet rationes, quia eis logica presidet"). Giovanni insiste su questa connessione fra logica e filosofia - sono le nozze di Mercurio e filologia - e insieme individua, contro una sinonimia prevalente - la posizione peculiare della dialettica, come *disputandi scientia* che si colloca nella zona del discorso

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65 Giovanni di Salisbury, *Metalogicon*, I, 1, *P.L.* 199, 827; Teodorico di Chartres, Comm. al *De inventione*, ed. Suringar, pp. 217-218.

66 Giovanni di Salisbury, *Metalogicon*, II, 9, *P.L.* 199, 866.

67 Guglielmo di Conches, *Dragmaticon*, p. 5.

68 Giovanni di Salisbury, *Entheticus*, *P.L.* 199, 967; *Metalogicon*, II, 7, *P.L.* 199, 864.

probabile, vicino alla retorica, distinta quindi dalla teoria del discorso propriamente dimostrativo.[69] La testimonianza di Giovanni di Salisbury è particolarmente significativa del crescente interesse per la logica e per la sua definizione (ora identica a dialettica ora distinta), per i problemi del metodo, dell'*inventio* e della dimostrazione, per l'analisi delle *voces* e la loro *impositio*, per il rapporto tra le strutture formali dell'argomentazione e le *res* oggetto delle altre discipline filosofiche: problemi tutti che puntualmente ritornano nei testi logici che si intensificano fra XII e XIII secolo e che è merito del De Rijk avere sistematicamente portato alla luce. Ove andrà sottolineato, per il vario definirsi di nuovi campi di ricerche e orizzonti del sapere, il ripresentarsi del problema della collocazione della logica in rapporto alla filosofia, come sua parte o come strumento - riprendendo un problema già discusso da Boezio sulla scorta di Temistio - e la sua determinante influenza nello sviluppo delle singole discipline: dalla grammatica, portata presto sulle strade dell'analisi del linguaggio come grammatica speculativa che troverà nei secoli XIII e XIV la massima espansione nei trattati *De modis significandi*, sino alla teologia. In questa zona privilegiata del sapere la logica aveva da tempo fatto valere la propria influenza, prima nell'esame della *proprietas* e della *recta impositio vocum* (le regole definite nel classico prologo del *Sic et non* sono la sistemazione di una problematica ben presente nelle scuole) e nell'assunzione degli schemi assiomatici di origine boeziana e euclidea (si pensi alle opere di Gilberto Porretano e alle *Regulae* di Alano di Lilla), poi più decisamente imponendo una teoria della scienza e della dimostrazione con l'avvento della *logica nova*. Ma interessa notare come proprio per il suo porsi come *scientia scientiarum* la dialettica venga subito a competere con il primato riconosciuto alla teologia:

> Dialetica est ars artium, scientia scientiarum, que sola scit scire et nescientem manifestare. Contra. Theologia est scientia scientiarum; non ergo dialetica. Dialetica est, quia nulla scientia perfecte scitur sine illa.[70]

Il testo è del secolo XIII e non a caso corre parallelo alle *Quaestiones* "utrum theologia sit scientia".

Sarebbe tuttavia fuorviante legare lo sviluppo del metodo scolastico alla sola influenza della *logica nova* nella struttura delle varie discipline e

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69 Giovanni di Salisbury, *Metalogicon*, I, 10, *P.L.* 199, 837; II, 1, col. 857; II, 3, col. 859-860; II, 5, col. 861; II, 6, col. 862.

70 L.M. De Rijk, *Logica modernorum*, vol. II, 2, p. 417; cfr. II, 1, pp. 428, 431.

soprattutto nella teologia: quasi che la logica aristotelica con la sua teoria della scienza come *scire per causas*, con la definizione dei modi del sillogismo scientifico, non fosse coerente con tutto il sistema fisico e metafisico, e questo non condizionasse l'evoluzione della speculazione medievale, dal secolo XIII, molto al di là dell'influenza esercitata dagli *Analitici*, dai *Topici*, dagli *Elenchi sofistici*. Ché proprio il dibattito sul significato della filosofia della natura di Aristotele, sulla sua compatibilità con la *philosophia Christi* è il punto cruciale di tante polemiche che lungo il Duecento approfondiscono le tensioni già aperte nella cultura del secolo XII, dopo il primo ingresso di una *philosophia mundana* nell'orizzonte cristiano. Ne sono testimonianza le condanne di Aristotele agli inizi del Duecento quando il sistema aristotelico veniva a imporsi come filosofia naturale o semplicemente filosofia e trovava spazio nelle nuove strutture scolastiche, le facoltà delle arti. Non a caso quelle condanne - del 1210 e 1215 - colpiscono le opere di filosofia naturale e la metafisica non gli scritti logici, e la celebre lettera di Gregorio IX del 1228 alla facoltà parigina di teologia, tutta tessuta dei riferimenti biblici tradizionalmente addotti per il ruolo ancillare delle arti liberali, batte insistente sulla crisi in atto nel sapere teologico per l'invasione nei confini della teologia delle "profane vanità" della *doctrina philosophica naturalium*, delle *scientiae naturalium*, della *ratio naturalis* seguita dai *naturalium sectatores*. L'opposizione fra la *mundana scientia* e la *theologica puritas* è nettissima e il tema torna puntualmente nei sermoni universitari degli anni trenta:

> Quando tales veniunt ad theologiam, vix possunt separari a scientia sua, sicut patet in quibusdam, qui ab Aristotele non possunt in theologia separari.

Da un lato la *philosophica sapientia*, la *theologia* tutta dispiegata nella Bibbia, dall'altro le *philosophicae rationes*, la *lingua philosophorum*.[71]

Precisa altresì la nota testimonianza di Ruggero Bacone:

> principalis occupacio theologorum istius temporis est circa questiones, et maior pars omnium questionum est in terminis Philosophie cum tota disputacione, et reliqua pars que est in terminis Theologie adhuc ventilatur per autoritates et argumenta et soluciones philosophie ... maior pars questionum in studio theologorum cum tota disputacione et modi solvendi est in terminis philosophie, ut notum est omnibus theologis qui exercitati fuerunt ad plenum in philosophicis, antequam veniebant ad theologiam. Et alia pars

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[71] Cfr. H. Denifle - A. Chatelain, *Chartularium Universitatis Parisiensis*, Parisiis 1889, t. I, pp. 114-116; M.M. Davy, *Les sermons universitaires parisiens de 1230-1231*, Paris 1931, pp. 85 n. 3, 252, 292.

> questionum in usu theologorum que est in terminis theologie, ut de Beata Trinitate et lapsu primorum parentum, et de gloriosa Incarnatione, et de peccatis, et virtutibus, et donis, et sacramentis et de desideriis et pena, ventilatur principaliter per autoritates et raciones et solutiones tractas ex philosophicis consideracionibus: et ideo quasi tota occupacio questionum theologorum est iam philosophica tam in substancia quam in modo.[72]

Non è solo la reazione di teologi conservatori: è lo scontro di ideali diversi di sapere, è in discussione il valore della *scientia* trasmessa dalle Scritture ("qui vult discere, quaerat scientiam in suo fonte, scilicet in sacra Scriptura")[73] di fronte a una concezione del mondo e dell'uomo, a una fisica e a una metafisica che si impongono come visione totale e coerente della realtà, chiusa a ogni esito soprannaturale, priva di ogni valore simbolico.

Noi sappiamo che la famosa condanna del vescovo Tempier (1277) di quanti "dicunt ... ea esse vera secundum philosophiam, sed non secundum fidem catholicam, quasi sint duae contrariae veritates"[74] è frutto della *capitositas* - come disse qualche contemporaneo - di un gruppo di teologi conservatori e che la cosiddetta dottrina della doppia verità non trova riscontro, né poteva trovarlo, nelle opere dei filosofi o artisti contemporanei; loro fu piuttosto - e in modo estremo in quanti più da presso seguivano l'esegesi averroista - la netta distinzione fra quanto è dedotto dai principi della filosofia di Aristotele e quanto è insegnato dalla Chiesa, fino a constatare un'inconciliabilità delle diverse posizioni su problemi cruciali sottolineando l'autonomia, pur nei suoi limiti, della ricerca filosofica: divaricazione ben nota ad Alberto fin nel suo primo intento di rendere Aristotele intelligibile ai latini e polemicamente sottolineata dagli agostiniani. Tuttavia la condanna del 1277 - con le altre che scandiscono il secolo XIII - indica non solo l'asprezza di un dissidio, ma il definirsi di modi diversi di concepire i procedimenti e i limiti della conoscenza e della scienza, della filosofia e della *sacra doctrina*.

La delineazione della *vita philosophi* nel *De summo bono* di Boezio di Dacia rappresenta in modo esemplare la ripresa dell'antico ideale del βίος θεωρητικός:

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72 Rogeri Bacon *Compendium studii theologiae*, ed. H. Rashdall, Aberdoniae 1911, pp. 25, 35.

73 Bonaventurae *Collationes in Hexaëmeron*, ed. F. Delorme, Firenze-Quaracchi 1934, p. 215.

74 R. Hissette, *Enquête sur les 219 articles condamnés à Paris le 7 mars 1277*, Louvain-Paris 1977, p. 13.

> summum bonum, quod est homini possibile secundum intellectum speculativum, est cognitio veri in singulis et delectatio in eodem. Item, summum bonum quod est homini possibile secundum intellectum practicum est operatio boni et delectactio in eodem... Et quia summum bonum quod est homini possibile est eius beatitudo, sequitur quod cognitio veri et operatio boni et delectatio in utroque sit beatitudo humana.

Questa beatitudine è realizzata esclusivamente nella vita filosofica che consiste nell'assidua *speculatio veritatis*: "Ideo philosophus vivit sicut homo innatus est vivere et secundum ordinem naturalem".[75]

"Philosophia est humano generi appetenda pre ceteris et amanda" aveva scritto Alberico di Reims, maestro alla Facoltà delle arti, aggiungendo - sulla scorta di Averroè - "non est homo nisi equivoce qui eam ignorat".

In questa prospettiva, per quanto Boezio non escluda la vita futura con una beatitudine alla quale il filosofo è più di ogni altro vicino, tutto l'itinerario filosofico si scandisce secondo una *ratio* e un *ordo naturalis* che ha come proprio fine (*in hac vita*) la contemplazione delle sostanze separate e di Dio causa prima: "felicitas - scrive Jacopo da Pistoia - nihil aliud est quam continue sicut possibile est homini intelligere substantias separatas et precipue Deum ipsum"; qui peccato è quanto ostacola tale contemplazione, bene quanto la promuove, sicché la "vita filosofica" resta del tutto estranea all'economia della salvezza, senza escatologia. Queste dottrine - che ritornano costantemente in vari commenti averroistici all'*Ethica* e ogni volta si discuta della felicità come nel perduto *De felicitate* di Sigieri, o delle virtù intellettuali e che hanno una precisa eco nella *Monarchia* dantesca - non potevano sfuggire alla condanna dei teologi che ne sottolineano con teologica consequenzialità tutti gli esiti:

> Quod non est excellentior status quam vacare philosophiae. ... Quod sapientes mundi sunt philosophi tantum. ... Quod omnes scientiae non sunt necessariae, praeter philosophicas disciplinas.[76]

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[75] Boethii Daci *De summo bono*, in *Opera*, VI, 2, ed. N.G. Green-Pedersen, Hauniae, 1976, pp. 371, 375; per il luogo citato più avanti, p. 371. La *Philosophia* di Alberico di Reims (rettore a Parigi 1271-72; il breve scritto è forse del 1265) è stata pubblicata da R.A. Gauthier ("Notes sur Sigier de Brabant, II Siger en 1272-1275. Aubry de Reims et la scission des Normands", *Revue des sciences philosophiques et théologiques*, LXVIII (1984), pp. 3-48; il testo alle pp. 29-48) che opportunamente sottolinea come l'autore riferisca alla "filosofia del filosofi" tutti gli appellativi che la Bibbia, l'esegesi e la liturgia attribuivano alla Sapienza di Dio o alla Vergine Maria (per il passo cit., p. 31 e 33). La *Questio de felicitate* di Jacopo da Pistoia - dedicata a Guido Cavalcanti - è stata edita da P.O. Kristeller in *Medioevo e Rinascimento - Studi in onore di Bruno Nardi*, Firenze 1955, vol. I, pp. 425-453 (il luogo cit. a p. 452).

[76] R. Hissette, *op. cit.*, pp. 15, 18, 26.

Si ha l'impressione che proprio nelle discussioni sul fine ultimo dell'uomo - problema che implica tutta la concezione della natura umana e della storia - la filosofia accentui un più preciso distacco dalla teologia e dall'antropologia cristiana: si definisce un ideale di felicità (*delectatio intellectualis*) senza riferimento alla dottrina del peccato, della redenzione e della grazia, tutto concluso nell'esercizio dell'attività speculativa. A questo fine si coordina anche l'organizzazione politica che deve assicurare la pace, annotava Boezio di Dacia, "ut... cives possint vacare virtutibus intellectualibus contemplantes verum et virtutibus moralibus operantes bonum": insegnamento averroistico di cui si ricorderà Dante che proprio sulla necessità di garantire una pace universale come condizione per attuare la potenzialità dell'intelletto possibile, fonderà l'ideale dell'universale Monarchia, organizzazione politica dell'*humana civilitas*, autonoma rispetto alla Chiesa perché permette di realizzare in terra, con i *documenta philosophica*, il fine proprio dell'uomo.

Si comprende facilmente la razione di un Bonaventura, negli anni Settanta, quando più prepotente si faceva la rivendicazione di un sapere costituito tutto secondo la ragione naturale: di qui la denuncia degli inevitabili errori della ragione lasciata a se stessa esemplarmente rappresentata dalla filosofia di Aristotele. Era la sapienza cristiana che rivendicava il suo primato come vera filosofia che trova in Cristo la *logica* e la *ratiocinatio nostra*, il maestro e il mediatore di ogni scienza; vera filosofia cioè sapere totale - *scientia perfecta* - che ha nella Bibbia il suo fondamento ("Qui ergo scientias saeculares vultis intrare, sacram Scripturam consulite") e nell'interpretazione simbolica, analogica, tipologica il metodo che permette una lettura della natura preclusa ai filosofi ("Hunc librum legere est altissimorum contemplatorum, non naturalium Philosophorum").[77] Era la risposta più matura dell'agostinismo del secolo XIII che di fronte all'esperienza storica di una filosofia naturale dichiarava la propria sufficienza, anzi la capacità di superare lo

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[77] Bonaventurae *Collationes in Hexaëmeron*, cit., pp. 144-145, *Breviloquium*, I, 1, in *Opera*, V, p. 210. Cfr. R. Bacon, *Opus maius*, ed. J.H. Bridges rist. anastatica, Frankfurt/Main 1964, vol. I, p. 43: "Et propter hoc omnis creatura in se vel in suo simili, vel in universali vel in particulari, a summis coelorum usque ad terminos eorum ponitur in scriptura, ut sicut Deus fecit creaturas et scripturam, sic voluit ipsas res factas ponere in scriptura ad intellectum ipsius tam sensus literalis quam spiritualis. Sed tota philosophiae intentio non est nisi rerum naturas et proprietates evolvere, quapropter totius philosophiae potestas in sacris literis continetur; et hoc maxime patet, quia longe certius ac melius et verius accipit scriptura creaturas, quam labor philosophicus sciat eruere".

stesso antagonismo fra Platone e Aristotele attraverso l'insegnamento di Agostino[78] al quale attinge l'ideale di un conoscere che è espansione della fede: "credibile transit in rationem intelligibilis", nella continua tensione dalla fede alla visione, come in Anselmo e in Riccardo di San Vittore; significativamente proprio citando un testo di Riccardo, Bonaventura insiste sulle *rationes latentes* nella *fides nostra* e il *modus ratiocinativus sive inquisitivus* della scienza teologica trova il suo sostegno in una *ratio* "elevata" *per fidem et donum scientiae et intellectus* che ha per oggetto un *credibile* "quod habet in se rationem *primae veritatis*".[79]

Altra significativa testimonianza della crisi del XIII secolo e degli atteggiamenti diversi che poteva assumere l'esperienza cristiana di fronte ai nuovi orizzonti aperti dalla scienza greca e araba è offerta dall'opera di Ruggero Bacone: qui se da un lato prosegue la polemica contro una filosofia "secundum se considerata" ("philosophia infidelium est penitus nociva") e più ancora contro il distacco della teologia dall'esegesi per il prevalere di questioni squisitamente filosofiche nei commenti alle *Sentenze*, dall'altro si afferma con forza la consapevolezza della dignità e del valore di un sapere volto ai segreti della natura e al mondo degli uomini, capace di promuovere una riforma religiosa e politica della *respublica christiana*. Così la ripresa di un motivo costante nella tradizione medievale - la dipendenza di tutte le conoscenze dalla Scrittura cui hanno attinto anche i filosofi greci ("volo... unam sapientiam esse perfectam ostendere, et hanc in sacris literis contineri") - si articola in un più ampio disegno di storia della sapienza che, rivelata da Dio ai patriarchi e ai profeti ("philosophiae perfectio fuit primo data sanctis, Patriarchis et Prophetis, quibus lex Dei similiter fuit ab uno et eodem Deo revelata"), è compito del lavoro filosofico riscoprire e restaurare: "ideo philosophia non est nisi sapientiae divinae explicatio per doctrinam et opus".[80]

La *perfecta sapientia* posta *a principio mundi* diviene l'ideale verso cui cammina la storia dell'umanità, in progresso continuo: "semper

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78 Bonaventurae *Sermo IV, Christus unus omnium magister*, 18-19, *Opera*, V, p. 572.

79 Bonaventurae *I Sent.*, Proemii q. I, Resp., *Opera*, I, p. 7; q. II ad 5, p. 11: "Et quod obicitur, quod credibile est supra rationem; verum est, supra rationem quantum ad *scientiam acquisitam*, sed non supra rationem *elevatam per fidem* et per donum scientiae et intellectus. Fides enim elevat ad assentiendum; scientia et intellectus elevant ad ae quae credita sunt intelligendum"; per gli altri luoghi cui si facenno, *ivi*, Proem. q. I, ad 5-6, p. 8; q. II, sed contra 2, p. 10.

80 Roger Bacon, *Opus maius*, ed. J.H. Bridges, cit. vol. I, pp. 33, 64, 65.

crescere potest in hac vita studium sapientiae, quia nihil est perfectum in humanis inventionibus". Si ricostruisce così nel tempo ("additio et cumulatio sapientiae") tutta l'enciclopedia del sapere (*unam sapientiam*) in cui non solo si realizza una nuova e feconda connessione fra teologia e filosofia ("Non igitur mirentur philosophantes, si habeant elevare philosophiam ad divina et ad theologiae veritatem... Et sancti non solum loquuntur theologice, sed philosophice, et philosophica multipliciter introducunt"), ma vengono collocate in posizione preminente discipline marginali nel contemporaneo ordine degli studi, quali le lingue, la matematica, la *scientia experimentalis*.[81]

Al centro della nuova enciclopedia la matematica, scienza dei principi primi e della corretta dimostrazione, in luogo della metafisica e dell'epistemologia aristotelica: "Porta et clavis scientiarum quam sancti a principio mundi invenerunt", la matematica costituisce il fondamento e il metodo che unifica tutte le scienze, dalla teologia alla *scientia civilis*:

> patet quod si in aliis scientiis debemus venire in certitudinem sine dubitatione et ad veritatem sine errore, oportet ut fundamenta cognitionis in mathematica ponamus; quatenus per eam dispositi possumus pertingere ad certitudinem aliarum scientiarum, et ad veritatem per exclusionem erroris": solo nella matematica infatti "sunt demonstrationes potissimae per causam necessariam".[82]

Nell'*Opus maius* Bacone riprende puntualmente il commento di Roberto Grossatesta ai *Secondi Analitici*, ove con molta chiarezza erano distinte le tecniche dimostrative delle varie discipline filosofiche che procedono tutte "magis probabiliter quam scientifice", mentre solo alla matematica veniva riconosciuto lo statuto di scienza *propriissime dicta* che procede dimostrativamente *per causam propriam et necessariam*, tale quindi da offire un modello e un metodo esemplare rispetto al quale tutte le altre forme di sapere sono subordinate: "In solis enim mathematicis est scientia et demonstratio maxime et principaliter dicta".[83] Appoggiandosi a una metafisica della luce che permetteva una cosmologia fondata sulle leggi dell'ottica e della prospettiva, la matematica offre l'unica possibile struttura dimostrativa alla scienza della natura: "tutte le cause degli effetti naturali debbono darsi secondo linee, angoli, figure. *Aliter enim*

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81 Roger Bacon, *op. cit.*, I, pp. 30, 57, 20, 63.

82 Roger Bacon, *op. cit.*, I, p. 106; cfr. pp. 105, 108.

83 Robertus Grosseteste, *Commentarius in Posteriorum Analyticorum Libros*, ed. P. Rossi, Firenze 1981, pp. 178-179; cfr. pp. 189, 216-217, 256-257.

impossibile est sciri 'propter quid' in illis".[84] Il nesso matematica-esperienza, la teoria del duplice processo di risoluzione e composizione che trova il suo momento terminale nella verifica o falsificazione ("reductio ad impossibilia") danno come è noto a Grossatesta un posto di particolare rilievo nella storia del metodo scientifico. Bacone ricorda Grossatesta fra coloro "qui per potestatem mathematicae sciverunt causas omnium explicare"[85] e accentua, nel suo piano di una nuova enciclopedia, il valore fondamentale delle matematiche in ogni ramo del sapere, fino alla teologia: "Necesse est ut theologus sciat mathematicam".[86]

Gioverà anche insistere sul nesso - già proposto da Grossatesta ma qui più ampiamente svolto - fra matematica e *scientia experimentalis*, fra *argumentum* e *experimentum*: perché se nella matematica si realizza il *modum cognoscendi per argumentum*, la verifica, la certificazione si realizza *via experientiae*: "argumentum non sufficit, sed experientia".[87]

Il detto aristotelico per cui il sillogismo è *demonstratio faciens scire* ha dunque valore solo se lo si intende come procedimento conoscitivo legato all'esperienza ("si experientia comitetur, et non de nuda demonstratione"); tutto il famoso passo della *Metafisica* che antepone i *sapientes* agli *experti*, la scienza dei primi principi alle singole scienze, assume un significato radicalmente diverso nell'esegesi baconiana non appena gli *experti* sono intesi come coloro i quali "solum noscunt nudam veritatem sine causa" e contrapposti a colui "qui rationem et causam novit per experientiam": questi solo è il vero sapiente.[88] Non a caso del resto Bacone aveva insistito sul primato dell'individuale in polemica con gli *imperiti*, maldestri ripetitori degli *Analitici posteriori*: "imperiti adorant universalia".[89]

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84 *De lineis, angulis et figuris*, ed. L. Baur (Beiträge zur Gesch. der Philos. des Mittelalters, IX) Münster 1912, p. 60.

85 Roger Bacon, *Opus maius*, ed. cit., I, p. 108: "Inventi enim sunt viri famosissimi, ut Episcopus Robertus Lincolniensis, et Frater Adam de Marsico, et multi alii, qui per potestatem mathematicae sciverunt causas omnium explicare, et tam humana quam divina sufficienter exponere".

86 Roger Bacon, *op. cit.*, I, p. 175.

87 Roger Bacon, *op. cit.*, II, p. 168.

88 Roger Bacon, *op. cit.*, II, p. 168; cfr. *Opus tertium*, ed. A.G. Little, *Part of the Opus tertium of Roger Bacon*, Aberdeen 1912, p. 43: "argumentum persuadet de veritate, sed non certificat".

89 Roger Bacon, *Liber I Communium nat.*, 8, ed. R. Steele, Oxonii, 1909, p. 96.

La *scientia experimentalis* nella sua connessione con la matematica e per il suo fondamento ultimo nell'illuminazione divina viene a porsi come scienza nuova ("a vulgo studentium poenitus ignorata"): di essa Bacone illustra ampiamente le *prerogativae* insistendo soprattutto sulla sua finalità pratica e operativa perché solo attraverso di essa, riprendendo un vecchio detto aristotelico, *intellectus speculativus fit practicus*:[90] recuperando forme di conoscenza respinte ai margini della cultura universitaria e insistendo sull'inutilità di un sapere che sia puro contemplare, Bacone esalterà la scienza - congiunta all'*industria manuum* - in quanto capace di prolungare la vita umana o di produrre da materie vili l'oro[91] e più ampiamente di investigare i *secreta naturae* a vantaggio della *respublica fidelium*:

> haec enim praecipit ut fiant instrumenta mirabilia, et factis utitur, et etiam cogitat omnia secreta propter utilitates reipublicae et personarum; et imperat aliis scientiis, sicut ancillis suis, et ideo tota sapientiae speculativae potestas isti scientiae specialiter attribuitur.[92]

Non deve sfuggire questa posizione egemone assegnata alla *scientia experimentalis* rispetto a tutte le altre discipline e la *potestas* che essa realizza: le *opera sapientiae* sembrano essere lo scopo ultimo di tutto il messaggio di Bacone teso a preparare la Chiesa all'ultima lotta contro l'Anticristo del cui avvento imminente sono segni premonitori le vittorie dei Tartari sui Musulmani. In questa prospettiva - ove l'escatologismo cristiano trova sostegno nella *scientia experimentalis* - un'altra necessaria verifica (*certificatio*) dell'utilità della matematica (*mathematicae utilitas*) è offerta dall'astrologia (*iudicia astronomiae*):[93] l'efficacia delle medicine, i temperamenti dei singoli e dei popoli, la successione delle leggi e dei costumi, il destino dei regni e delle religioni si fanno chiari all'astronomo "propter gloriosas utilitates quae possunt evenire ex judiciis mathematicae verae".[94] Tutta un'antropologia, una sociologia, una storiografia e un'apologetica ("oportet theologum... scire bene radices astronomiae")[95] si vengono così costituendo sotto gli auspici dell'astrologia - ulteriore

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90 Roger Bacon, *Opus tertium*, cap. I, ed. J.S. Brewer, London 1859, p. 10.

91 Roger Bacon, *Opus maius*, II, pp. 204 sgg., 214-215; cfr. *Opus tertium*, ed. A.G. Little, cit., pp. 44-46.

92 Roger Bacon, *Opus maius*, II, p. 221.

93 Roger Bacon, *Opus maius*, I, pp. 238-239.

94 Roger Bacon, *Opus maius*, I, p. 253.

95 Roger Bacon, *Opus maius*, I, p. 193.

conferma della *potestas mathematicae* - mentre l'anima razionale diviene capace di opere mirabili con la forza che i *verba*, i *carmina*, i *characteres* hanno ricevuto dai cieli; la *sapientia* con la sua *potestas* si impone sovrana al corso degli eventi: "et sic de mundo faciet quod desiderabit".[96]

Il dibattito sullo statuto scientifico dell'astrologia e la sua collocazione nella classificazione delle scienze costituisce un capitolo di estrema importanza nella delineazione degli ideali del sapere: abbiamo visto come già nel XII secolo l'astronomia, come scienza dei moti celesti e dei loro influssi sul mondo sublunare, si ponesse quale fondamento delle scienze della natura. Dal secolo XIII - ampliata la conoscenza della cultura greca e araba - l'astrologia trova il suo più preciso fondamento scientifico nell'assioma aristotelico della dipendenza dai moti dei cieli di tutte le forme di mutamento nel mondo sublunare e ripercorre gli sviluppi di questo principio alla luce della scienza astrologica araba: quell'assioma - cruciale per tutto il sistema di Aristotele e universalmente accettato come fondamentale principio del divenire fisico anche dai teologi più cauti rispetto all'insegnamento dello Stagirita - assegnava all'astrologia un posto privilegiato come scienza dei primi principi dell'essere e del divenire. L'astronomia o astrologia, scriveva Guido Bonatti, è quindi la scienza più di ogni altra capace di dare all'uomo la verità che ardentemente ricerca ("nec potest eam per aliquam scientiam, ita veraciter et ita plenarie apprehendere, sicut per Astronomiam") e, gareggiando con la metafisica, indica la via più sicura per la conoscenza di Dio ("et scire de ipso quantumcumque mens humana plus possit attingere").[97]

Con maggior precisione Pietro d'Abano, congiungendo la dottrina aristotelica della scienza quale formulata dagli *Analitici* con la metafisica, nel *Conciliator* e più ampiamente nel *Lucidator* discute lo statuto scientifico del sapere astrologico ("an astrologia, cum hiis quae ipsius, extet scientia"): *scientia admirabilis et divina*,[98] nobilissima per il suo

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96 Roger Bacon, *Opus maius*, I, 396-397, 399; cfr. *Opus tertium*, ed. A.G. Little cit., pp. 52-53.

97 G. Bonatti, *De astronomia tractatus decem*, Basileae 1550, c. 1.

98 Pietro d'Abano, *Conciliator*, Venetiis 1565, p. 17ra; ho potuto leggere il *Lucidator* nella trascrizione di G. Federici Vescovini che ne prepara l'edizione critica sulla base dei tre manoscritti Parigi, Bibliothèque de la Sorbonne, lat. 581 (S), Parigi, Bibliothèque Nationale, lat. 2598 (N), Città del Vaticano, Pal. lat. 1171 (V): di tale generosità devo qui ringraziarla. Per i luoghi citati più sotto nel testo: S. f. 412 rb, N. f. 99 ra, V. f. 320 ra; S. f. 417 vab, N. f. 103 vb-104 ra, V. f. 323 vb-324 ra; S. f. 413 ra, N. f. 99 va, V. f. 320 ra; S. f. 417 vb, N. f. 104 ra, V. f. 324 ra; S. f. 420 rb, N. f. 106 rb, V. f. 325 vb; S. f. 416 ra, N. f. 102 rb, V. f. 322 vb; S. f. 419 ra, N. f. 105 vb,

oggetto ("omnium corporum nobilissimum, simplex et incorruptibile") e per il suo metodo ("cum sumat demostrationes suas ex scientia numeri et mensure, id est arismetrice et geometrie, quae etiam investigat et considerat ea quae semper uno se habent modo"), l'astrologia ("scientia qualitatum et motorum caelestium in se ac eorum effectibus universaliter considerata") procede deduttivamente da principî universali ed è quindi scienza a pieno titolo, *certa et non coniecturativa*: "Ita ut sua certitudo superet valde negotium divinum seu metaphysicum ipsum".

L'astrologia, con le sue classiche distinzioni della parte *excertitativa* (*de revolutionibus*, *de nativitatibus*, *de interrogationibus*, *de electionibus*), si pone così come principio e fondamento di ogni altra conoscenza teorica e pratica, pienamente adeguata a saziare l'umano desiderio di sapere: "scientia... nobilis et perfecta et omni parte sui intellectus satiativa". Distinta dalle pratiche magiche demoniache ad essa subalternate, è difesa contro i *divini* e *deicole hypocrites* "volentes omnia immediatius divine dispositioni subesse"; con accenti analoghi a quelli di una celebre pagina della *Summa contra gentiles*, Pietro d'Abano afferma l'autonomia dell'ordine naturale oggetto di conoscenza scientifica (i *loquentes* "ordinem corrumpunt et frustrant naturae") e non esita ad indicare la possibile utilizzazione apologetica della scienza degli astri, appoggiandosi - come nel *Conciliator* - a testi di San Paolo e della *Sapienza*: l'astrologia infatti - asserisce Pietro d'Abano con significativo riferimento al XII della *Metafisica* - "ducit nos potissime in cognitionem divinam". Tuttavia dall'opera di Pietro d'Abano si ha l'impressione che non sia l'esito "teologico" dell'astrologia il suo interesse primario, quanto piuttosto la difesa di una scienza tutta mondana capace di leggere il corso della storia e migliorare la vita degli uomini.

Abbiamo detto del fondamento che la metafisica aristotelica offriva al più saldo sapere astrologico; ma non andrà dimenticato che, nella sua storia, l'astrologia era venuta assorbendo motivi stoici, neoplatonici, ermetici, inserendo la causalità celeste in un mondo tutto vivo, percorso da forze che si richiamano e si corrispondono da parte a parte ("quod est superius, est sicut quod est inferius ad perpetranda miracula rei unius")[99] raccogliendosi nell'uomo-microcosmo e rendendolo capace di operazioni mirabili ("recipit potentiam inducendi motus in competenti materia per sua

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V. f. 325 ra.

99 *Tabula smaragdina*, ed. J. Ruska, Heidelberg 1926, p. 182.

opera... consequitur vim movendi res extra positas suis radiis"; "totum magisterium est ut superius fiat inferius et inferius superius").[100] Sarebbe quindi difficile isolare l'astrologia da tutto il complesso delle scienze magiche *de secretis*, *de experimentis*, dalle tecniche degli incantesimi e del magistero alchemico. "Radices magice sunt motus planetarum" aveva scritto *Picatrix* spiegando che *scire* non è solo legare cielo e terra, ma ripercorrere a ritroso i momenti della produzione del molteplice (*reverti unde venit*) per cogliere l'unità originaria, Dio come "radix et principium omnium huius mundi rerum" e conoscere in lui "qualis est mundus et eius effectus, et quomodo per eius creatorem factus sit". Per questo il sapere che *Picatrix* propone si colloca al di sopra del trivio e del quadrivio, al di là della metafisica, come *donum Dei* ("maius donum et nobilius quod Deus hominibus huius mundi dederit est scire"), scienza dei mutamenti radicali ("omnia que homo operatur et ex quibus sensus et spiritus sequuntur illo opere per omnes partes et pro rebus mirabilibus quibus operantur") e in questo senso *nigromantia*.[101]

Non diversa la struttura teorica della scienza alchemica che inizia fra XII e XIII secolo la sua storia complessa, destinata a affascinare la cultura europea fino a tutto il Rinascimento. *Scientia* che procede "per demonstrationes et causas et syllogisticas rationes" - precisa il *Liber quartorum Platonis*[102] - l'alchimia riprende i moduli risolutivi e anagogici della dialettica neoplatonica nella ricerca, al di là delle mutevoli specie, di un'unità originaria ("omnia entia unum sunt ex una radice"; "unam radicem et substantiam et materiam invenies"; "natura perpetua ac omnia coequans"),[103] l'*identitas* di Platone, l'uno di Euclide:[104] di qui è possibile ridiscendere - ripercorrendo i momenti dell'*artificium summi Creatoris* - per produrre quelle *operationes mirabiles* che ampliano la conoscenza e il potere dell'uomo:

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100 Alkindi, *De radiis*, cit., p. 230; *Turba philosophorum*, in *Theatrum chemicum*, vol. IV, Argentorati 1659, p. 576.

101 *Picatrix*, ed. D. Pingree (Picatrix, *The latin version of the Ghâyat Al-Hakìm*, London 1986), pp. 32, 3-4, 32-33, 3-5.

102 *Liber quartorum Platonis*, in *Theatrum Chemicum*, vol. V, Argentorati 1660, p. 157.

103 *Liber quartorum Platonis*, cit., p. 105; Morienus, *Liber de compositione alchemiae*, in Mangeti *Bibliotheca chemica curiosa*, Coloniae Allobrogum 1702, vol. I, p. 513B; *Turba philosophorum*, in *Theatrum chemicum*, vol. V, p. 1.

104 *Liber quartorum Platonis*, cit., p. 107.

> Sic habebis gloriam totius mundi - promette la *Tabula smaragdina* -, id est hoc lapide sic composito, gloriam huius mundi possidebis. Ideo fugiet a te omnis obscuritas. Id est, omnis inopia et aegritudo.[105]

Esperienza mistica, riflessione metafisica, tecniche pratiche convergono nel delineare una "scientia nimis profunda et fortis intellectui" che colloca l'uomo in una posizione privilegiata nella grande catena dell'essere, al vertice del creato:

> Scias quod sciencia est quid valde nobile et altum - proclama *Picatrix* - et qui studet in ea et per eam operatur suam recipit nobilitatem et altitudinem. ... Et ille est perfectus qui scienciae gradum attingit ultimum... et est separatus ab animalibus in suis magisteriis et scienciis... Et est in eo virtus Dei et sciencia iusticie pro civitatibus gubernandis... Et invenit magisteria subtilia et eorum subtilitates, et facit miracula et ymagines mirabiles, et scientiarum formas retinet. Et est separatus ab omnibus aliis animalibus sensibilibus. Fecitque ipsum Deus compositorem et inventorem suarum sapientiarum et scientiarum et explanatorem suarum qualitatum et omnium rerum mundi receptorem spiritu prophetico sua sapiencieque thesaurum, intellectorem omnium rerum et coniunctionum in maiori mundo exsistencium. Et eciam ipse homo comprehendit omnes intelligencias et composiciones rerum huius mundi suo sensu, et ipse non comprehendunt eum; et omnia serviunt ei, et ipse nulli eorum servit. Et sua voce assimilatur unicuique animali quando ei placet.[106]

Forse proprio nei testi astrologici, magici, alchemici, ai margini della cultura delle scuole, si viene delineando una forma di scienza ove la teoria si coniuga con la pratica aprendo nuovi orizzonti alla creatività e alla potenza del sapiente. Come nei testi ermetici tardoantichi, anche in questa letteratura, che spesso si richiama al mitico Ermete, la conoscenza delle forze vive che percorrono il mondo e dei reciproci influssi fra le diverse nature, è strettamente connessa alla celebrazione della dignità dell'uomo.[107]

Impossibile seguire tutte le varie articolazioni delle scienze sperimentali ("qui in hac sciencia se intromittere intendit scire oportet quod propter opera et experimenta que fiunt in hoc mundo scientiarum profunditates et secreta sciuntur, et ex operibus et experimentis solvuntur dubia...")[108] impegnate assiduamente a difendere la propria dignità contro i sospetti e le condanne teologiche attraverso la distinzione fra una magia che è conoscenza e utilizzazione delle forze della natura e una magia che

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105 *Tabula smaragdina*, cit., p. 182.

106 *Picatrix*, cit., p. 26.

107 Cfr. E. Garin, *Medioevo e Rinascimento*, Bari, 1954, p. 154.

108 *Picatrix*, cit., p. 170.

procede con l'aiuto degli spiriti infernali. Limitandoci qui all'astrologia che di tutte costituisce il fondamento, deve essere sottolineato il confronto che necessariamente veniva a porsi con la teologia, affermandosi entrambe come scienze cui le altre si coordinano e che invenstono la posizione dell'uomo nel mondo, i suoi rapporti con Dio, la sua storia. Non a caso i problemi cruciali dell'astrologia coincidono con quelli della teologia, a cominciare dalla conciliazione fra necessità e libero arbitrio, fra l'inflessibile moto dei cieli e la realtà contingente: il problema si pone costantemente dallo *Speculum astronomie* a Guido Bonatti e Pietro d'Abano in riferimento alla discussione di Albumasar sul concetto di *possibilis*, secondo un testo del *De interpretatione* di Aristotele.[109] Con molta chiarezza l'autore dello *Speculum* richiama l'antico problema teologico:

> Et fortassis attingentius intuenti, eadem aut saltem similis genere est ista dubitatio ei dubitationi, quae est de divina providentia; nam in his quae operatur dominus per caelum, nihil aliud est caeli significatio quam divina providentia. ... Unde in libro universitatis... potuit figurare, si voluit, quod sciebat; quod si fecit, tunc eadem est determinatio de compossibilitate liberi arbitrii cum divina providentia et cum interrogationis significatione. Si ergo divinam providentiam stare cum libero arbitrio annullari non possit, neque annullabitur quin stet magisterium interrogationum cum eo.[110]

Del resto tutti i teologi debbono fare i conti con l'astrologia, posto che essa rappresenta per tutti - dopo l'acquisizione del sistema aristotelico - la coerente applicazione di una legge fisica universalmente accettata, la causalità dei cieli sul mondo sublunare ("certum est per Aristotelem, - ricordava Bacone - quod coelum non solum est causa universalis, sed particularis, omnium rerum inferiorum"):[111] di qui le discussioni sui condizionamenti fisiologici del libero arbitrio, la funzione degli angeli, motori dei cieli, nel corso della storia, la difficile distinzione fra previsione astrologica e profezia: i quesiti del generale dell'ordine domenicano Giovanni di Vercelli a Roberto di Kilwardby e a Tommaso

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109 Aristotele, *De interpretatione*, 9, 18a28-19b4; cfr. P. Duhem, *Le système du monde*, t. II, Paris, 1974 (nouveau tirage), pp. 296-297; 374-375.

110 *Speculum astronomiae*, ed. S. Caroti, M. Pereira, S. Zamponi, P. Zambelli, Pisa, 1977, p. 44.

111 Roger Bacon, *Opus maius*, cit., I, p. 379.

d'Aquino sono un tipico esempio dei problemi posti al teologo dalla fisica peripatetica.[112]

Né andrà sottovalutata l'utilizzazione apologetica dell'astrologia come ermeneutica scientifica della storia sacra (*Concordia astronomiae cum historica narratione*, secondo il titolo di uno scritto di Pietro d'Ailly), sino a recuperare l'oroscopo delle religioni per confermare il primato del cristianesimo e leggere negli astri i segni precorritori dell'Anticristo. Qui anche l'apocalittica cristiana sembra trovare nell'astrologia il suo complemento e la sua conferma, mentre in altri contesti è proprio la scienza dei moti e degli influssi celesti a ridurre in termini naturali la successione storica delle *leges* e persino l'opzione religiosa: "licite homo debet insequi septam in qua naturaliter inclinatur - scrive Biagio Pelacani da Parma -, quia naturaliter inclinabitur a constellatione".[113]

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Della teologia come scienza, delle polemiche sulla possibilità di applicare al discorso teologico i procedimenti della scienza dimostrativa teorizzata negli *Analitici*, molto si è scritto, soprattutto dopo il classico saggio di Chenu che ha messo in rilevo il significato e l'originalità della posizione dell'Aquinate, sullo sfondo di un lento ma radicale processo di trasformazione del modo di intendere il lavoro teologico.[114] Non è quindi il caso di ripercorrere qui le tappe di un dibattito di capitale importanza da Remigio di Auxerre a Odo Rigaldi e Tommaso d'Aquino sino ai maestri del XIV secolo. Andranno tuttavia ricordati alcuni problemi che tornano

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112 Tommaso d'Aquino, *Opusculum X: Responsio ad magistrum Joannem de Vercellis de articulis XLII*, ed. Vivés, t. XXVII, pp. 248-255; la risposta di Roberto di Kilwardby in M.-D. Chenu, "Les réponses de S. Thomas et de Kilwardby à la consultation de Jean de Vercel (1271)", in *Mélanges Mandonnet*, Paris 1930, t. I, pp. 191-222; ivi cfr. anche J. Destrez, "La lettre de S. Thomas au lecteur de Venise", pp. 103-189 che corre in più punti parallela alla lettera a Giovanni da Vercelli.

113 Cfr. G. Federici Vescovini, *Le Quaestiones de anima di Biagio Pelacani da Parma*, Firenze 1974, pp. 81-82; p. 142: "per coniunctiones astrorum varias diversae gentes compelluntur insequi diversas septas". Per tutto il problema sia permesso rinviare al mio saggio "Temps astrologique et temps chrétien", in *Le temps de la fin de l'Antiquité au Moyen Age, III^e^-XIII^e^ siècles*, Paris, 1984, pp. 557-573.

114 M.-D. Chenu, *La théologie comme science au XIII^e^ siècle*, Paris 1957[3] (la prima redazione del volume comparve nelle *Archives d'hist. doctr. et litt. du M. A.*, II (1927), pp. 31-71). I ben noti luoghi di Tommaso d'Aquino cui si farà riferimento più avanti sono: *I Sent.*, prol. q. I, a. 3; *Super librum Boethii De Trinitate*, q. 2, a. 2; *Summa theologica*, I, q. 1, a. 2, 7, 8.

con insistenza nel corso di quel dibattito mettendo in discussione la validità del modello aristotelico, una volta trasposto nell'orizzonte della riflessione sui misteri della fede, e il presupposto parallelismo fra i *principia* da cui muove il discorso scientifico e gli *articuli fidei*.

Già nella prima metà del secolo, soprattutto nelle *quaestiones* degli anni Trenta e Quaranta, si vengono definendo alcuni nodi problematici fondamentali che torneranno poi sempre a riproporsi: tralasciando la *quaestio* "de subiecto theologiae" del ms. Douai 434 e quella *De divina scientia* trasmessa in due redazioni (Bib. Vat., Vat. lat. 782; Praga, Univ. IV, D. 13), Odo Rigaldi - nel commento alle *Sentenze* e più nettamente nella *Disputatio de scientia theologiae* (1245)[115] - svolge in tutta la sua complessità il tema *utrum theologia sit scientia*, mettendo in evidenza il difficile rapporto fra il modello epistemologico aristotelico e la riflessione teologica. Viene in primo piano l'ambiguità del paragone tra i principi non dimostrati da cui muove il discorso scientifico (per sé noti o dati da una scienza superiore) e gli *articuli fidei* accolti in forza della rivelazione, ed è quindi messa in discussione la possibilità di applicare alla teologia la teoria della subalternazione che costituisce, come notava Chenu, "le pivot sur lequel est bâtie et la preuve par laquelle est démontrée la structure de la théologie comme science".

Se l'Aquinate affermerà con decisione l'analogia fra la *perspectiva* che si subalterna alla geometria e la scienza teologica che si subalterna alla scienza di Dio e dei beati, già l'anonimo di Douai, discutendo del medesimo problema ("quod linea visualis habeat se ut scientia subalternans et subalternata, ita videtur quod scientia de Deo et creaturis se habeant"), aveva notato: "Nec est ratio ea univocans"; con più preciso e articolato discorso Odo Rigaldi sottolineava una differenza radicale:

> in hoc est differentia, quia in aliis scientiis suppositiones sunt manifestae ipsi rationi sine adminiculo extrinseco... Sed in theologia indigent adminiculo gratiae fidei.

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115 L. Sileo, *Teoria della scienza teologica. Quaestio de scientia theologiae di Odo Rigaldi e altri testi inediti (1230-1250)*, 2 voll., Roma, 1984. I testi di Odo nel II vol., ove sono pubblicate fra l'altro la "quaestio" *De subiecto theologiae* del ms. Douai 434, I, f. 101 ra (pp. 115-16) e la *Quaestio de divina scientia* nelle due redazioni del ms. Praga, Univ. IV, D. 13, ff. 79rb-80vb e del ms. Bib. Vat., Vat. lat. 782, ff. 123ra-124rb (pp. 131-148, 151-164): per la possibile datazione di questi testi, vol. I, pp. 71-76. E' merito del Sileo aver insistito sull'importanza del dibattito sulla teologia come scienza nel corso degli anni Trenta e Quaranta del Duecento e averne pubblicato cospicui documenti.

Per questo propriamente la teologia è *sapientia*, come Aristotele definisce sapienza la metafisica in quanto "cognitio causarum altissimarum"; può invece dirsi *scientia* "quantum ad conclusiones ex illis principiis illatas", ma *non simpliciter, sed fidei*.[116]

Nella complessa elaborazione teorica della teologia come scienza, problema che ormai tutti i maestri erano obbligati ad affrontare in via preliminare commentando le *Sentenze*, la posizione di Tommaso d'Aquino (nelle diverse ma omogenee formulazioni, dal giovanile commento al Lombardo sino al commento al *De Trinitate* di Boezio e alla *Summa theologica*) è determinante perché conduce quell'elaborazione all'esito più radicale, assumendo in tutta la sua valenza la dottrina della subalternazione e fondando su di essa il carattere eminentemente speculativo della scienza teologica: questa, traendo i suoi principi (*quae sunt articuli fidei*) dalla scienza di Dio, procede *discurrendo de principiis ad conclusiones* e ricostruisce nei modi umani l'ordine della conoscenza e della realtà *sub ratione Dei*. Non meraviglia quindi che il dibattito sulle possibilità di applicare alla teologia il metodo del discorso scientifico abbia come punto di riferimento costante l'Aquinate, tornando a mettere in discussione la validità del parallelismo fra i principi di una scienza subalterna e gli *articuli fidei* in nome di una rigorosa interpetazione della teoria aristotelica.

> Non videtur convenienter dictum - scrive Gerardo da Bologna ricordando la tesi tomista - quod ad racionem scientie subalterne sufficiat scientem credere habenti superiorem scienciam, sicut musicus credit principiis sibi traditis ab arismetrico, et perspectivus principiis sibi traditis a geometra; et eodem modo, ut dicunt, sacra doctrina credit principia revelata a deo

così da estendere alla teologia la nozione di scienza subalterna per sostenere che "eciam fidelis potest habere scienciam de illis que concluduntur ex articulis fidei". "Ista stare non possunt", insiste Gerardo, perché dei "principia fidei" si ha *noticia enigmatica et obscura*, niente affatto *evidens* ed è quindi "impossibile quod de conclusionibus habeatur sciencia sive noticia evidens, et hec ratio traditur a Philosopho..."; *falsum est id quod assumitur*, conclude contestando il valore epistemologico della teoria della subalternazione in campo teologico. E' evidente infatti, aveva sostenuto Goffredo di Fontaines, che

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116 Odo Rigaldi, *Quaestio de scientia theologiae*, ed. Sileo, p. 13; per l'anonimo del ms. Douai 434, *ivi*, p. 116.

> ex principiis creditis vel opinatis non acquiritur certa scientia de conclusione. Nec est differentia in hoc inter principia quorum est habitus fidei et opinionis... Et ideo sicut irrationale est dicere quod ex principiis solum opinatis acquiritur certa scientia conclusionum ex ipsis elicitarum, ita etiam in proposito ex principiis creditis.

Pretendere di costruire una scienza in senso proprio muovendo dagli *articuli fidei* "est dicere contradictoria... nullus sanae mentis intelligit quod scientia subalternata sit vere scientia", conclude, ricordando a proposito dal paragone di subalternazione fra *perspectiva* e *geometria* che "numquam erit perfectus in perspectiva qui non fuerit instructus in geometria per scientiam superiorem".

Non diversa la reazione di Pietro d'Auriol:

> falsum est... quod articuli fidei sint principia in nostra theologia... stare non potest - insiste polemicamente contro Tommaso d'Aquino - quod dicit ad scientiam subalternam sufficere notitiam creditivam respectu principiorum, nec exigi respectu eorum alium habitum nisi fidem... impossibile est quod conclusio scientifice cognoscatur quocumque habitu scientiae etiam subalternae, et quod principium tantummodo credatur et teneatur habitu creditivo... hoc est omnino falsum.

Se fosse vera l'analogia proposta dall'Aquinate il *perspectivus* non potrebbe mai divenire *geometra*, cioè conoscere dimostrativamente i principi ricevuti dalla scienza subalternante, il che è evidentemente falso, mentre il teologo non potrà mai avere simile conoscenza degli *articuli* da cui procede:

> si fides esset habitus principiorum perspectivi, numquam aliquis simul esset geometra et perspectivus... ergo non est verum quod scientia subalternata procedat ex principiis cognitis habitu creditivo.[117]

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[117] Le prime dodici *questiones* della *Summa* di Gerardo da Bologna sono edite da P. de Vooght, *Les sources de la doctrine chrétienne*, Bruges, 1954: per i luoghi cit., pp. 309-310; Petri Aureoli *Scriptum super Primum Sententiarum*, proem. sect. 1, ed. E.M. Buytaert, St. Bonaventure, N. Y. 1952, vol. I, pp. 140-141; *Les quatre premiers Quodlibets de Godefroid de Fontaines*, par M. De Wulf-A. Pelzer, Louvain, 1904, *Quod.* IV, q. 10, pp. 261-263; cfr. anche *Quod.* IX, q. 20, ed. J. Hoffmans, Louvain 1928, pp. 188-189. Non diversamente Giovanni di Bassolis, discepolo di Duns Scoto, sottolineava che "in quocumque processu theologie que est circa mere theologica principium est creditum tantum... ergo impossibile est quod conclusio per istum habitum unquam sit scita...", per questo la teologia nostra "nec est scientia nec possibile est ipsam esse propriam scientiam sicut impossibile est hominem esse asinum"; parimenti categorico il rifiuto dell'analogia di subalternazione: "non potest aliquis scire perspectivam nisi habeat evidentiam principiorum vel sciat ea reducere in sensum immediate vel in prima principia que omni intellectui stanti nota sunt ex terminis... Dico quod aliquem scire perspectivam et non geometriam est unum nihil dictu et ignorare vocem propriam" (*Opera* Joannis de Bassolis... *In quatuor Sententiarum libros*, Parisiis 1517, Questio prol. 5, a. 3 e 4, f. 21vb-22ra; 22rb; si sono corretti alcuni evidenti errori di stampa).

Tommaso d'Aquino collocava nella dinamica del passaggio dalla fede alla visione la

Dal canto suo Occam definirà *puerili* le posizioni di Tommaso d'Aquino e per gli stessi argomenti:

> Unde nihil est dicere quod ego scio conclusiones aliquas, quia tu scis principia quibus ego credo, quia tu dicis ea. Et eodem modo puerile est dicere quod ego scio conclusiones theologiae, quia Deus scit principia quibus ego credo, quia ipse revelat ea.

Inutile ricordare che una precisa separazione fra il metodo dimostrativo del discorso scientifico e il metodo teologico era stata fortemente sottolineata da Sigieri:

> pessime volunt procedere illi qui in illa scientia [scil. theologia quae est sacra scriptura] volunt procedere in omnibus modo demonstrativo. Principia enim demonstrationis debent esse nota via sensus, memoriae et experimenti. Principia autem illius scientiae nota sunt... per revelationem divinam.[118]

Obiezioni che colpiscono tutta la teoria tomista della *subalternatio* sottolineando la divaricazione fra la scienza secondo Aristotele e la *scientia fidei* e imponendo di riscontro alla teologia uno statuto radicalmente diverso:

> Nam Philosophus - aveva scritto Gerardo da Bologna - qui ea que de subalternacione scienciarum dicuntur videtur quasi primus et solus tradidisse, nunquam posuit subalternacionem inter fidem vel opinionem et scienciam, sed solum inter scienciam et scienciam.[119]

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possibilità di conoscere (*sicut modo principia demonstrationis*) gli *articuli fidei*: "in futuro, quando Deus videbitur per essentiam, articuli erunt ita per se noti, et visi, sicut modo principia demonstrationis" (*III Sent.*, d. 24, q. 1, a. 2, sol. 1, ad 2); "huius scientiae principium proximum est fides, sed primum est intellectus divinus, cui nos credimus, sed finis fidei est in nobis, ut perveniamus ad intelligendum quae credimus, sicut si inferior sciens addiscat superioris scientis scientiam, et tunc fient ei intellecta vel scita, quae prius erant tantummodo credita" (*Super librum Boethii De Trinitate*, q. 2, a. 2 ad 7).

118 Guillelmi de Ockham *Scriptum in librum primum Sententiarum, Ordinatio*, lib. I, prol., q. VII, in *Opera philosophica et theologica* cura Instituti Franciscani Universitatis S. Bonaventurae, ed. G. Gál, St. Bonaventure, N. Y., 1967, p. 199; Sigier de Brabant, *Quaestiones in Metaphysicam*, lib. VI, q. 1, comm. I, ed. W. Dunphy, Louvain-la-Neuve, 1981, p. 361.

119 Gerardo da Bologna, *Summa*, ed. cit., p. 305; cfr. pp. 306, 309. Anche i più fedeli discepoli di Tommaso sono costretti a difendere la teoria della *subalternatio* con sottili distinzioni e restringendone l'uso: "Unde mihi videtur - scrive Hervaeus Natalis nella *Defensa doctrinae D. Thomae* - quod, quando frater Thomas in aliquo loco dicit, theologiam esse scientiam subalternam, quod non intendit, quod theologia sic sit scientia subalterna, quantum ad hoc, quod scientia subalterna inventa ab homine habet processum scientificum, sed quantum ad hoc, quod habet similitudinem cum ea" (testo edito dal Krebs, *Theologie und Wissenschaft nach der Lehre der Hochscholastik* (Beiträge zur Geschichte der Philosophie des Mittelalters, Bd. XI, 3-4), Münster i. W. 1912, p. 37*, cfr. anche p. 10*).

Né meno interessante sarebbe ripercorrere un'altra serie di obiezioni, mosse dal rifiuto di chiudere nei procedimenti universalizzanti del discorso aristotelico le realtà contingenti di cui è tessuta la storia sacra. Odo Rigaldi nella sua *Disputatio de scientia theologiae* aveva insistentemente riproposto il dilemma fra l'epistemologia aristotelica e il discorso teologico:

> Item, "omnis scientia est de universalibus et incorruptibilibus", sicut dicit Philosophus; sed theologia est de singularibus et corruptibilibus quantum ad magnam sui partem (ut de historialibus quae sunt gesta circa singularia), ergo theologia non est scientia, - aut illa non sunt de theologia, quod manifeste falsum est.

La risposta a questa obiezione era stata complessa e sfumata: ammesso che la *theologia* non sia *scientia* se il termine è preso *proprie* (*sic est nomen*) ma solo se si prende *communiter* come "intellectiva cognitio certa", i *singularia*, gli *historialia* possono rientrare nella teologia in quanto vengono assunti non secondo la lettera - cioè nella loro individualità storica - ma "quantum ad sensum interiorem", come segni e esempi di valore universale ("et ratione illius habent universalitetem"). *Sed non est sic in aliis scientiis*, annota come insoddisfatto, proponendo un'altra soluzione con la quale si è del tutto fuori dalla logica del discorso scientifico: le scienze infatti che procedono *per humanam rationem* non possono mai giungere a una conoscenza certa delle realtà individuali ("circa singularia non potest ratio humana certa reperiri"); la teologia invece è scienza capace di conseguire, anche dei *gesta singularia*, una conoscenza assolutamente certa - pari in evidenza alla matematica - *per lumen fidei substratum*: "unde - conclude - possunt cadere singularia in hac scientia; non sic autem in aliis scientiis".[120]

La distanza fra scienza aristotelica e teologia viene così fortemente sottolineata e gli *historica* sono acquisiti di pieno diritto, nella loro

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120 Odo Rigaldi, *Quaestio*, cit., pp. 6, 11, 15-17. Non diversamente la *Summa Halesiana*: "scientia... est intelligibilium; relinquitur ergo quod doctrina Theologiae non est scientia. Item, sicut dicit Philosophus, in principio *Metaphysicae*: 'Experientia singularium est, ars vero universalium...'; sed doctrina Theologiae pro magna parte non est universalium, sed singularium, ut patet in narratione historica; relinquitur ergo quod non est ars vel scientia"; e la risposta: "Introducitur ergo in historia sacrae Scripturae factum singulare ad significandum universale, et inde est quod eius est intellectus et scientia" (Alexandri de Hales *Summa theologica*, I, tract. intr., q. I, c. 1, ed. Studio et cura PP. Collegii S. Bonaventurae, t. I, Ad Claras Aquas, 1924, pp. 1-2; 3). Per il complesso problema dei rapporti di priorità fra Odo Rigaldi e la compilazione della *Summa*, cfr. ed. cit., t. IV, *Prolegomena*, Ad Claras Aquas, 1948, pp. CXCIX sgg.; Sileo, *op. cit.*, vol. I, pp. 76 sgg. (e la precedente bibliografia ivi citata). Ricorre insistente il richiamo ad Agostino: "Alia sunt quae semper creduntur, et numquam intelliguntur: sicut est omnis historia, temporalia et humana gesta percurrrens" (*De div. quaest. LXXXIII*, q. 48, *P.L.* 40, 31).

singolarità, all'interno di una *scientia* il cui statuto è radicalmente diverso da quello definito negli *Analitici*.

Il problema non sfugge a Tommaso d'Aquino che sceglie la soluzione restata marginale in Odo Rigaldi: all'obiezione "scientia non est de singularibus. Sed sacra doctrina tractat de singularibus...", egli risponde abbassando l'*historia* a livello di *exemplum*:

> singularia traduntur in sacra doctrina, non quia de eis principaliter tractetur, sed introducuntur tum in exemplum vitae sicut in scientiis moralibus, tum etiam ad declarandum auctoritatem virorum per quos ad nos revelatio divina processit.[121]

Quanto più rigoroso pretenderà di essere il metodo scientifico nel discorso teologico, tanto più netto sarà il distacco dalle categorie storiche della rivelazione, della teologia scienza dall'esegesi: è la tendenza che si manifesterà nel tomismo posteriore. Ma già Pietro d'Auriol, in serrata polemica con l'Aquinate, denunciava il rischio di distruggere la teologia ("magna pars habitus theologici detruncaretur") se si riducesse il suo oggetto alle verità necessarie e immutabili; la *theologia nostra* è infatti tutta tessuta di realtà contingenti, di interventi di Dio nella storia:

> clarum est quod in theologia nostra tractantur multae veritates contingentes, quod Christus fuit incarnatus et mundus creatus, et similia, quae pendent mere ex voluntate divina

per questo non può essere scienza. "Relinquitur igitur praedicta positio - si riferisce a Tommaso - ut impossibilis ad tenendum".[122]

> Il problema è cruciale e torna insistente:
>
> Particularia gesta, quibus tota scriptura plena est, faciunt dubitationem an theologia sit scientia

aveva annotato Ulrico di Strasburgo. Più ancora che nella discussione sull'analogia fra i *principia* e gli *articuli fidei*, si pone qui il dilemma fra la storicità del messaggio cristiano e l'intemporalità del discorso scientifico; un'obiezione torna costante nel corso delle *quaestiones*, sin dalle prime battute: "scientia non est de singularibus", "scientia est de intelligibilibus et universalibus". Se per questo molti maestri rifiutavano di considerare la teologia una scienza nel senso proprio del termine, altri - per rispondere all'obiezione - anche se davano alla scienza teologica fondamenti ed esiti non riducibili all'epistemologia aristotelica, erano condotti a risolvere la singolarità dell'evento, la temporalità della lettera,

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121 Tommaso d'Aquino, *Summa theologica*, I, q. 1, a. 2 ad secundum.

122 Petri Aureoli *Scriptum*, proem. sectio 1, ed. cit., pp. 144-145.

entro paradigmi di valore universale, strumenti dell'economia divina. Così Ulrico di Strasburgo, pur assumendo il termine *scientia* "communiter... pro omni firma apprehensione", e più decisamente Enrico di Gand che difende il carattere scientifico della teologia, pur riservando l'evidenza della cononoscenza teologica ai pochi investiti di una speciale illuminazione ("simpliciter et absolute dicendum quod ista est certissima scientiarum, quia est de rebus certissimis in sua veritate et ex parte scientis securissima et evidentissima viro spirituali lumine intellectuali illustrato"): le *gesta* della storia sacra non rientrano come tali nella loro singolarità (*sensibilia historica*), nella scienza teologica, ma solo con funzione pedagogica, esplicativa:

> hoc modo historiae et gesta particularia et sensibilia in hac scientia introducuntur, non tam propter necessitatem scientiae, quam propter declarationem eorum quae pertinent principaliter ad scientiam... Unde et ista sensibilia historica in hac scientia sunt quasi exempla in aliis.

Ma la contingenza radicale che sottende tutta la storia della salvezza torna insistente a negare il carattere di scienza alla teologia: in una *quaestio* dedicata all'esame delle varie tesi sul metodo teologico, e in serrata polemica con la teoria del *lumen supernaturale* di Enrico di Gand, Giacomo di Thérines insisteva sul carattere peculiare degli oggetti propri del discorso teologico,

> quarum necessitas et exigentia dependet ex divina ordinatione et arbitrio libere voluntatis, sicut quod mundus inceperit et quod tempore determinato Filius Dei sit incarnatus, et quod substantia panis convertatur in corpus Christi; et quia talia vera sunt - proseguiva - de facto et in ordine ad Deum, poterunt aliter se habere, quia potuisset non incarnari; ideo de talibus non est scientia proprie dicta, quia scientia est eorum que impossibile est aliter se habere et que sui impermutabilem substantiam sortiuntur.[123]

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123 Enrico di Gand, *Summae quaestionum ordinariarium*, in ædibus Iodoci Badii Ascensii 1520 (reprint St. Bonaventure, N. Y., 1953), a. VI, q. 2, fo. XLIXv, XLIIIr. Ulrico di Strasburgo che aveva avvertito in maniera pungente il problema, e della teologia - *scientia affectiva* o *sapientia* - sottolineava il limite in noi ("in se scientia est, et tamen in nobis non generat scientiam, sed fidem... que tamen fides etiam scientia vocatur"), non rinunciava ad assorbire i *gesta* negli *exempla universalia* o in strumenti della pedagogia divina: "Omnia autem particularia huius scientie vel sunt manuductiones nostri materialis intellectus in divina, ut sunt aparitiones Dei et huiusmodi, vel sunt universalia exempla vivendi, ut gesta Patrum et ipsius christi" (*Summa de bono*, lib. I, tr. 2, 2, ed. J. Daguillon, Paris, 1930, p. 30).

La *quaestio* di Giacomo di Thérines è stata pubblicata da J. Leclercq, "La théologie comme science d'après la littérature quodlibétique", *Recherches de théologie ancienne et médiévale*, XI (1939), pp. 351-374 (il testo di Giacomo alle pp. 360-365, il luogo cit. a p. 361, corretto in un punto; cfr. la conclusione, p. 364: "quod theologia quam habent et habuerunt communiter Sancti et Doctores de Deo, secundum statum presentis vite, non sit scientia").

Come salvare il contingente, che inerisce alla storia della salvezza, nelle strutture del discorso teologico non è peraltro che uno degli aspetti di un più ampio problema della fede cristiana, ove l'esperienza della contingenza costituisce un elemento portante: per questo esso ritorna in tutte le zone delle riflessione teologica e investe anzitutto la scienza propria di Dio e il suo conoscere *ab aeterno* quello che contingentemente si realizza nel tempo. Proprio discutendo delle verità contingenti "in primo obiecto theologico" in rapporto allo statuto epistemologico della scienza, Duns Scoto è condotto a delineare le condizioni trascendentali del conoscere in Dio e a privilegiare (*perfectior est*) il criterio della certezza e dell'evidenza rispetto alla necessità dell'oggetto ("in scientia illud perfectionis est, quod sit cognitio certa et evidens; quod autem sit de necessario obiecto, haec est condicio obiecti, non cognitionis"), proponendo un modello non riconducibile agli *Analitici*,[124] mentre Giovanni di Ripa, discutendo della conoscenza dei futuri contigenti, è condotto a porre in Dio stesso la *ratio contingens* rispondente "cuilibet vero contingenti de creatura" così da introdurre "la contingence dans l'entedement archétype même, lieu de l'intelligible".[125]

In tutto il complesso dibattito "utrum theologia sit scientia" si avverte che non era solo in gioco un'astratta possibilità di far rientrare il discorso teologico negli schemi del discorso scientifico teorizzato negli

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124 Joannis Duns Scoti *Ordinatio*, prol., pars 4, q. 1, *Opera omnia*... studio et cura Commissionis Scotisticae... praeside C. Balić, Civitas Vaticana, vol. I, 1950, pp. 144-145; *ivi*, pp. 145-146: "Si igitur aliqua alia cognitio est certa et evidens, et, quantum est de se, perpetua, ipsa videtur in se formaliter perfectior quam scientia quae requirit necessitatem obiecti. Sed contingentia ut pertinent ad theologiam nata sunt habere cognitionem certam et evidentem et, quantum est ex parte evidentiae, perpetuam... Igitur contingentia ut pertinent ad theologiam nata sunt habere perfectiorem cognitionem quam scientia de necessariis acquisita.

Sed numquid cognitio eorum est scientia? Dico quod secundum illam rationem scientiae positam I *Posteriorum*, quae requirit necessitatem obiecti, non potest de eis esse scientia, quia cognoscere contingens ut necessarium, non est cognoscere contingens; tamen secundum quod Philosophus accipit scientiam in VI *Ethicorum*, ut dividitur contra opinionem et suspicionem, bene potest de eis esse scientia, quia et habitus quo determinate verum dicimus. Magis tamen proprie potest dici quod theologia est sapientia secundum se, quia de necessariis contentis in ea ipsa habet evidentiam et necessitatem et certitudinem, et obiectum perfectissimum et altissimum et nobilissimum. Quantum autem ad contingentia, habet evidentiam manifestam de contingentibus in se visis ut in obiecto theologico, et non habet evidentiam mendicatam ab aliis prioribus; unde notitia contingentium ut habetur in ea magis assimilatur intellectui principiorum quam scientiae conclusionum".

125 Jean de Ripa, *Conclusiones*, ed. A. Combes, Paris 1957, pp. 229-230; cfr. P. Vignaux, *La philosophie médiévale dans le temps de l'Eglise*, ora in *De Saint Anselme à Luther*, Paris 1976, p. 75.

Analitici: era in discussione la possibilità e la natura della riflessione teologica fra la fede e la visone beatifica. Dietro le obiezioni contro l'analogia fra gli *articuli fidei* e primi principi (con il rifiuto della subalternazione della teologia alla scienza di Dio), dietro l'insistenza sul carattere contingente delle verità della storia sacra oggetto proprio del sapere teologico e quindi sul *modus historialis, exemplificativus, revelativus, sybmolicus* della *sacra doctrina*[126] legata all'esegesi e alla sua dimensione temporale, si avverte la preoccupazione che la verità rivelata - di assoluta evidenza per Dio e per i beati - perda nel discorso teologico il suo carattere enigmatico e simbolico proprio dell'oggetto di fede: di qui la divaricazione - sottolineata da Gerardo da Bologna - fra la *certitudo evidencie* della scienza e la *certitudo veritatis* o *securitas adesionis* propria della teologia e della fede; scienza la teologia non è, ma per la certezza che la caratterizza impegna assai più di quella: nessuno infatti andrebbe incontro alla morte per difendere una verità matematica, mentre per la fede - ove è in gioco la salvezza - anche l'eretico, che segue senza saperlo dottrine false, "ita exponit vitam, et ita sibi caput amputari dimittit... sicut et catholicus".[127]

Andrebbero anche approfonditi i valori diversi di cui il termine *scientia* si viene caricando, per identificarsi o distinguersi dal sapere teologico: l'insistenza posta nel differenziare la scienza aristotelicamente intesa dalla sacra dottrina, anche in chi ne sostiene l'analogia, la distinzione fra scienza *divina inspiratione* e *humana inventione* ("scientia aliter accipitur apud theologos et sanctos, et aliter apud Aristotelem", sottolineava Roberto di Kilwardby), l'uso ricorrente delle espressioni *scientia large* o *improprie* per la teologia, il suo coniugarsi costante con la *scientia secundum affectum pietatis* o *sapientia a sapore affectionis* carica di significati etici e religiosi (onde *minus proprie* "prima philosophia, quae est theologia philosophorum... dicitur sapientia", notava la *Summa Halesiana*), il dibattito se la teologia sia scienza pratica o speculativa o si ponga al di là di tali distinzioni come *scientia affectiva*, sono tutti segni di un problematico rapporto.[128]

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126 Cfr. M.-D. Chenu, *La théologie comme science*, cit., pp. 41, 43.

127 Gerardo da Bologna, *Summa*, ed. cit., p. 300. Sulla *certitudo evidentiae* propria della scienza e la *certitudo adhaesionis* della *theologia* (come *scientia fidei*) cfr. Goffredo di Fontaines, *Quod.* IX, q. 20, ed. Hoffmans, cit., pp. 287-288.

128 Per le espressioni cui si allude nel testo, cfr. Roberti Kilwardby *De natura theologiae*, ed. Fr. Stegmüller, Monasterii 1935, p. 41-42; il luogo citato prosegue:

Né andranno dimenticati altri modi di dare al discorso teologico modelli scientifici estranei all'orizzonte aristotelico: basterebbe ricordare il compito eminentemente apologetico e teologico dell'arte lulliana che alla *scientia instabilis* fondata sulla logica tradizionale vuole sostituire um metodo argomentativo i cui principi siano i principi stessi della realtà - quindi Dio e le "dignità divine" - per dedurre da questi (*per causas superiores*) in maniera infallibile, secondo precise simbologie e modelli combinatori, l'intera struttura del reale; arte "suprema omnium humanarum scientiarum" in cui logica e metafisica coincidono ("ista ars est et logica et metaphysica"), capace di ripercorrere la *ratio* della creazione e penetrare la *ratio fidei* facendo emergere le *rationes necessariae* che soggiacciono ai più alti misteri.[129] Per molti aspetti l'arte di Lullo può considerarsi un tentativo di dare una struttura apodittica e un fondamento metafisico al metodo teologico di Anselmo e di Riccardo di San Vittore, autori ai quali costantemente si riferisce.

Ma il problema del metodo della scienza teologica si pone anche fuori da un diretto riferimento alla *sacra pagina*, con significativo recupero della dialettica neoplatonica riscoperta, al di là della tradizione dionisiana, nelle opere capitali di Proclo tradotte da Guglielmo di Moerbeke. Basta leggere le pagine iniziali del grande commento di Bertoldo di Moosburg alla *Elementatio theologica* di Proclo: qui la scienza teologica quale si scandisce nel testo procliano si propone - alla luce della tradizione platonica e neoplatonica, ermetica e dionisiana - come "philosophia omnium scientiarum excellentissima seu divinissima et difficillima", le cui "regulae" sono costituite dalle *praepositones* dell'*Elementatio* "in quibus est sermo de divinis sive de Deo" "extra publicam rationum viam". *Scientia dignissima* che procede "secundum coordinationem et disgregationem theorematum sive elementorum", essa permette uno "scalaris ascensus per rationem indeatam ad rationem

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"Theologi enim et sancti scitum dicunt omne quod mente cognoscitur, sive credatur sive videatur. Sed Aristoteles nihil dicit scitum nisi conclusionem causaliter demonstratam... Unde illae rationes de Aristotele sumptae non contingunt Sacram Scripturam, nec usquam locum habent nisi in scientiis humana investigatione inventis" (pp. 42-43); Alexandri de Hales *Summa theologica*, tract. intr. q. I, c. 1, ed. cit., t. I, p. 2; Ulrico di Strasburgo, *Summa de bono*, I, tr. 2, c. IV, pp. 36-37 (in dipendenza da Alberto Magno, *I Sent.*, d. 1, ad. 4, ed. Borgnet, p. 19a).

[129] Raymundi Lulli *Introductoria Artis demonstrativae*, 1, in *Opera*, Maguntiae 1722, t. III, p. 1.

divinam"[130] collocandosi come *sapientialis scientia* al di là della metafisica perché non è solo scienza dei primi principi di Aristotele (*principiorum entium*), "sed etiam principiorum, quae sunt super entia" ("sapientia non solum entium sed superentium").[131] Questa *divinalis sapientia* che procede *secundum modum proprium scientiae*, trova il suo fondamento in quel superiore *principium cognitivum* che Platone, Proclo e Dionigi chiamano *unum animae vel unitas*, perché l'anima "efficiatur quasi Deus".

L'irruzione dell'esperienza neoplatonica spezza gli schemi degli *Analitici* (validi solo "usque ad intellectualem cognitionem"), propone un modello di *scientia* che, con un itinerario diverso da quello della *sacra doctrina*, recupera la più alta dialettica platonica - *scientia platonica*[132] - e con essa una tradizione più antica e autorevole della stessa filosofia peripatetica:

> Plato autem et ante Platonem theologi laudant cognitionem supra intellectum, quam divulgant esse divinam maniam, et dicunt ipsam talem cognitionem esse unum animae - in tali enim uno, quoc vocat Dionisius... "unitionem (vel secundum aliam translationem unitatem) superexaltatam supra mentis (seu intellectus) naturam", idem est cognitivum et cognitio... sed cognitivum huius nostrae divinalis theologiae est excedens non solum cognitiva omnium scientiarum, sed etiam excedit... ipsum intellectum, qui secundum auctorem ibi supra in nobis est melior omni scientia et est ipsius animae.[133]

Il presentarsi di un ideale di sapere come *divinalis philosophia* - *supersapientia* eppure *verissime et propriissime scientia*[134] - in cui convergono Platone e Proclo, Ermete Trismegisto e Dionigi, è testimonianza significativa della molteplicità dei modelli conoscitivi che si delineano nella cultura medievale; e non è casuale se Giovanni da Ripa potrà assimilare l'esperienza mistica, e la *theologia mystica*, a una forma di sapere scientifico (*notitia scientifica*). In particolare si dovrà insistere sul significato e l'importanza della tradizione neoplatonica - resa più precisa dalle traduzioni di Proclo - per orientare una critica filosofica della metafisica e della noetica di Aristotele come metafisica e noetica del finito: "omne esse dicit clausionem finitatis alicuius" si leggeva nello

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130 Berthold von Moosburg, *Expositio super Elementationem theologicam Procli*, ed. M.R. Pagnoni Sturlese-L. Sturlese, Hamburg 1984, Expositio lituli, pp. 47-49.

131 Berthold von Moosburg, *Expositio*, cit., Praeamb., pp. 66-67.

132 Berthold von Moosburg, *Expositio*, cit., Praeamb., pp. 61, 65, 68.

133 Berthold von Moosburg, *Expositio*, cit., Praeamb., p. 65.

134 Berthold von Moosburg, *Expositio*, cit., Praeamb., p. 69.

pseudo-ermetico *Liber XXIV philosophorum*,[135] testo ben noto a Eccart: la critica eccartiana dell'ontoteologia - ove l'*auctoritas* del *Liber de causis* ("prima rerum creatarum est esse") si congiunge con l'*In principio erat Verbum* del Vangelo giovanneo - segna una svolta fondamentale, con la netta affermazione del primato in Dio dell'*intelligere*, fondamento dell'*esse*;[136] opzione che orienta tutta la teoria della conoscenza sino agli esiti estremi della speculazione estatica. La ripresa di temi platonici porta sempre a circoscrivere la scienza aristotelica all'umbratile mondo "dalla sfera della terra alla luna", mentre "secundum Augustinum et Platonem intellectus, veritas, virtus, scientia sunt de mundo et regione supernaturali".[137]

Sul limite intrinseco alla filosofia aristotelica insisteva del resto tutta la tradizione agostiniana: non solo perché l'esperienza cristiana ha fatto conoscere agli indotti quello che non avevano compreso i filosofi ("quae latuerunt philosophos et nunc manifestae sunt Christianis simplicibus"),[138] ma anche per scelte precise compiute da Aristotele rispetto a Platone, quindi prima e fuori di quella esperienza: infatti - insiste Bonaventura poi costantemente ripreso - proprio la negazione della dottrina delle idee e dell'illuminazione è stata la causa degli errori di Aristotele su Dio, sulla Provvidenza, sull'immortalità dell'anima, mentre l'insegnamento platonico, integrato da Agostino con la dottrina del Verbo, apriva la via a riconoscere in Cristo il "medium omnium scientiarum", il fondamento quindi di tutto il sapere filosofico in quanto egli è "medium" come "veritas", "principium essendi et cognoscendi":

> Verbum ergo exprimit Patrem et res... Hoc est medium *metaphysicum* reducens, et haec est tota nostra metaphysica: de emanatione, de exemplaritate, de consummatione, scilicet illuminari per radios spirituales et reduci ad summum.[139]

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135 *Liber XXIV philosophorum*, ed. Cl. Baeumker (Beiträge zur Gesch. der Philosophie und Theol. des Mittelalters, XXV, 1-2) Münster Westf. 1927, p. 210.

136 Magistri Echardi *Quaestiones Parisienses*, 1, ed. B. Geyer, *Die lateinischen Werke*, V, Stuttgart-Berlin 1936, pp. 40-41; e cfr. il vol. collettivo *Maître Eckhart à Paris, Une critique médiévale de l'onto-théologie*, Paris 1984, che ne costituisce un commento (pubblicando, con trad. francese, le *Quaestiones*).

137 P.G. Théry, "Le commentaire de Maître Eckhart sur le livre de la Sagesse", *Archives d'hist. doctr. et litt. du M. A.*, IV (1929-30), pp. 361, 306.

138 Bonaventurae *Sent. III*, d. 24, a. 2, q. 3 ad 4, *Opera*, III, p. 524.

139 Bonaventurae *Collationes in Hexaëmeron*, I, 11, 13, 17, *Opera*, V, pp. 331-332; cfr. ed. F. Delorme, cit., p. 7.

Prospettiva nella quale sarebbe del tutto fuorviante tentare di isolare una filosofia indipendente dalla riflessione teologica, introducendo una distinzione rifiutata da Bonaventura e dagli agostiniani. Si dovrà piuttosto sottolineare come proprio alla luce dell'esperienza cristiana si costruisca una teoria della conoscenza e del sapere - "teologia della conoscenza"[140] - che dichiara chiusa e superata la filosofia pagana, anche se utilizza temi dei *philosophi illuminati* una volta inseriti, con i patriarchi e i profeti, nella storia della salvezza; la filosofia di Aristotele e in genere dei filosofi antichi rappresenta il frutto della ragione "iudicio proprio relicta", l'inconsapevole assolutizzazione della condizione dell'uomo dopo il peccato, mentre diverse sono le possibilità della ragione illuminata dalla fede e dalla grazia: "Coacti sunt etiam philosophi confiteri - scrive Ruggero Marston - non sine gratia, divinitus a Deo data, posse ad veram philosophiam pervenire".[141]

Altre significative limitazioni alla teoria aristotelica della scienza erano peraltro dettate dall'esperienza della fede: di particolare rilievo, per gli sviluppi che avrà nella speculazione scotista, la puntuale discussione di Roberto Grossatesta, nel corso del grande commento agli *Analitici Secondi*, sui modi e gli strumenti della conoscenza.

All'affermazione che è impossibile avere scienza dove manchi la sensazione (*An. Post.*, I, 18, 81a38 sgg.), Grossatesta premette un discorso fortemente limitativo per circoscrivere la teoria aristotelica allo stato dell'uomo dopo il peccato e difende la priorità, in linea di principio, di una conoscenza scientifica del tutto esente dal medio della sensibilità:

> Dico tamen quod possibile est quamlibet scientiam esse absque sensus adminiculo. In mente enim divina sunt omnes scientie ab eterno et non solum est in ipsa cognitio universalium certa, sed etiam omnium singularium... Similiter intelligentie recipientes irradiationem a lumine primo in ipso lumine primo vident omnes res scibiles universales et singulares... Est igitur in his que carent sensu scientia completissima. Et similiter si pars suprema anime humane, que vocatur intellectiva et que non est actus alicuius corporis neque egens in operatione sui propria instrumento corporeo, non esset mole corporis corrupti obnubilata et aggravata, ipsa per irradiationem acceptam a lumine superiori haberet completam scientiam absque sensus adminiculo, sicut habebit cum anima erit

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140 Alludiamo alla felice formula più volte suggerita da P. Vignaux: cfr. per es. fra i saggi raccolti nel volume *De Saint Anselme à Luther*, cit., pp. 71, 202.

141 Rogeri Marston *Quaestiones disputatae*, q. 2, ed. Coll. S. Bonav., Firenze-Quaracchi 1932, p. 187; cfr. testo di Bonaventura cit. alla n. 145.

exuta a corpore et sicut forte habent aliqui penitus absoluti ab amore et phantasmatibus rerum corporalium.[142]

Il modo di conoscere proprio di Dio, delle intelligenze separate e delle anime libere dal corpo mette in crisi la teoria aristotelica e la riconduce in un ambito storico determinato, del tutto provvisorio: essa è relativa all'intelletto umano *qualis est adhuc in nobis* non *qualis debet esse secundum statum sui optimum*.[143]

Se tutta la tradizione francescana lungo la seconda metà del XIII secolo accoglieva con sempre maggiore cautela la dottrina aristotelica della conoscenza, imponendo forti limiti alla teoria dell'astrazione e delle *species*, fino alla radicale posizione dell'Olivi circa il primato della conoscenza intellettiva diretta della realtà individuale ("actus cognitivus obiecti individualis est terminatus in ipsum, in quantum est hoc individuum et non aliud"),[144] la critica del Grossatesta costituirà un punto di riferimento importante per la formazione della dottrina scotista della conoscenza e della scienza: al commento del vescovo di Lincoln si riferirà direttamente l'autore del *De anima* (forse lo stesso Scoto) nel delimitare la dottrina aristotelica e tomista della conoscenza alla condizione umana dopo il peccato ("necessitas recurrendi ad phantasmata est nobis inflicta propter peccatum"): il procedimento astrattivo - con tutta la sua problematica - diviene la descrizione di uno stato di fatto provvisorio (*de facto, pro statu isto*) al quale Aristotele si è attenuto *quia nihil scivit de peccato illo*,[145] mentre *ex natura potentiae* si deve affermare la priorità dell'intuizione intellettuale senza ricorso al fantasma ("intellectus, exsistens eadem potentia naturaliter, cognoscet per se quiditatem substantiae immaterialis", scrive Duns Scoto in diretta polemica con

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142 Robertus Grosseteste, *Commentarius in Posteriorum Analyticorum libros*, cit., pp. 212-213.

143 Robertus Grosseteste, *Commentarius*, cit., p. 257.

144 Petrus Johannis Olivi, *Quaestiones in secundum librum Sententiarum*, q. 72, ed. B. Jansen, vol. III, Ad Claras Aquas 1926, p. 37.

145 Scoto (o di scuola), *De anima*, q. 18, 4, *Opera omnia*, Lugduni 1639, II, p. 554B (per l'attribuzione, cfr. l'Intr. alle *Opera omnia*, ed. cit., vol. I, Civitas Vaticana 1950, p. 152). Si ricordi Bonaventura, *II Sent.*, d. 30, a. 1, q. 1 Resp. (*Opera*, II, p. 716A) per la denuncia del limite intrinseco dei *philosophi antichi* i quali, seguendo una ratio "iudicio proprio relicta" e procedendo "per viam sensus et experientiae" hanno assolutizzato uno stato dell'uomo corrotto dal peccato, ignorando la condizione nella quale era stato creato ("eis videbatur esse valde rationabile hominem sic fuisse conditum; cum tamen catholicis doctoribus non solum fide, sed etiam rationum evidentia certitudinaliter eius contrarium appareat esse verum").

l'Aquinate)[146] e quindi anche la conoscenza diretta del particolare (*singulare est per se intelligibile*).

Tesi queste variamente presenti nella tradizione francescana - legate al problema della conoscenza di Dio e degli angeli, della *scientia Christi* e della visione beatifica - ma che assumono in Scoto una particolare importanza perché orientano tutta la sua speculazione, approfondendone la distanza dalle posizioni tomiste. Si dovrà altresì sottolineare che nella rigorosa costruzione metafisica e teologica di Scoto si delinea con forza un modello di conoscenza e di sapere per il quale è determinante la dottrina del peccato e della grazia, e una nozione di Dio che non può in alcun modo ricondursi nell'ambito delle strutture della filosofia aristotelica. Quest'ultima non è la filosofia, ma un sapere storicamente concluso - e intrinsecamente fallace - superato dall'esperienza cristiana la quale offre un ideale di sapere assoluto, identificato con la "teologia in sé" - che ha per oggetto "Dio in quanto Dio" (*Deus sub ratione deitatis*) e "quae soli intellectui divino sunt naturaliter nota" - scienza propria di Dio (*theologia divina*), abissalmente distinta dalla "teologia in noi" (*theologia nostra*) come dalla filosofia prima:[147] "Haec scientia nulli subalternatur... Nec etiam ipsa etiam sibi aliquam aliam subalternat".

La divaricazione fra una teologia in sé, vera scienza, e una in noi che scienza propriamente non è, è per più aspetti significativa e soggiace al dibattito teologico anche fuori della radicale teorizzazione di Scoto: era la contrapposizione fra due modelli di conoscenza, uno assoluto e proprio di Dio, l'altro relativo allo stato dell'*homo viator*:

> Ideo dico aliter - scrive Guglielmo di Ware - quod accipiendo scientiam proprie et perfecte, haec scientia in se perfecta est, immo perfectissima, et hoc est ex evidentia rei; homini tamen viatori, et hoc de lege communi, non est scientia.[148]

Non diversamente Gerardo da Bologna affermerà che le verità di fede oggetto della teologia "in se sunt magis noscibilia, quia et cerciora intellectui divino vel beato quam ea que sunt aliarum scienciarum", ma

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146 Joannis Duns Scoti *Ordinatio*, I, d. 3, q. 3, in *Opera omnia*, cit., vol. III, Civitas Vaticana 1954, p. 70. Per le citazioni che seguono, *Ordinatio*, prol. pars 3, q. 4; pars 4, q. 2, in *Opera omnia*, cit., vol. I, pp. 102-103, 146.

147 Sul tema ha insistito tutta la storiografia, ma si vedano le acute considerazioni di P. Vignaux (*op. cit.*, pp. 201-202) per situare Scoto nella storia della filosofia "par sa doctrine du *savoir absolu* identifié à la théologie".

148 Guglielmo di Ware, *I Sent.*, prol., q. 3 (Cod. Vindob. 1438, f. 5va) cit. nell'apparato di Occam, *Ordinatio*, cit., vol. I, p. 193.

non sono tali per l'intelletto dell'uomo in questa vita.[149] Alla stessa distinzione farà ricorso Roberto di Holkot per scartare la tesi tomista sulla scientificità della teologia, divenuta tanto più autorevole per la santificazione dell'Aquinate:

> Quando autem dicit quod Theologia est scientia, vult dicere quod veritates Theologicae sunt in se scibiles, hoc est, ita verae quod de eis potest esse scientia, et tamen quod istae sint verae nos credimus tantum.[150]

Distinzione questa puntualmente connessa da Occam alle opposte obiezioni dei filosofi contro la teologia come scienza, obiezioni che per la loro coerenza non possono essere confutate dal teologo se non in base ad *auctoritates*:

> Alii tenent partem negativam. Et hoc dupliciter. Quidam, sicut philosophi, tenent quod ad omnem scientiam nobis possibilem possumus naturaliter attingere, et ideo nihil est credibile, mere nisi quod potest sciri evidenter. Sed ista opinio non potest improbari per rationes naturales sed tantum per auctoritates... Alia est opinio quae ponit quod quamvis credibilia possint evidenter sciri, non tamen a nobis pro statu isto de communi lege.

Nella *quaestio* del Natale 1306, Giacomo di Thérines aveva sostenuto:

> nunquam enim aliquis usque ad ista tempora adducit aliquam rationem ad probandum aliquam conclusionem pure theologicam ratione cuius intellectus necessitetur ad assentiendum.[151]

A un secolo dall'ingresso dell'aristotelismo nelle università, la riflessione cristiana sembra avere esaurito tutte le possibilità di assimilare un pensiero ad essa estraneo senza riuscire "de Aristotele haeretico facere omnino catholicum".

Il fallimento di ogni tentativo concordistico è denunciato nei primi decenni del XIV secolo dal domenicano Roberto di Holkot in termini particolarmente efficaci:

> potest dici generaliter quod non habemus ab aliquo philosopho demonstrative probatum quod aliquis angelus est, neque de deo, neque de aliquo incorporeo.

La rigorose dimostrazioni con le quali altri aveva ritenuto di costruire una teologia naturale non hanno alcun valore:

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149 Gerardo da Bologna, *Summa*, cit., p. 299.

150 Robert Holcot, *Utrum theologia sit scientia*, ed. J.T. Muckle, *Mediaeval Studies*, XX (1958), p. 147.

151 Guillelmi de Ockham, *Ordinatio*, I, prol., q. VII, pp. 192-193; si ricordi una delle tesi condannate nel 1277: "Quod nihil est credendum, nisi per se notum, vel ex per se notis possit declarari" (Hissette, *op. cit.*, p. 21); per il testo di Giacomo di Thérines, cfr. J. Leclercq, *art. cit.*, p. 364.

> dico breviter quod nec Aristoteles nec aliquis homo umquam probavit hanc: deus est accipiendo propositionem mentalem quam catholicus accipit.

Tutto quanto i filosofi, e soprattutto Aristotele, hanno detto su realtà immateriali è forse solo un pallido residuo di un sapere rivelato ai primi parenti ("vestigium umbrosum cognitionis dei a primis parentibus"), più ancora un'ibrida mescolanza di speculazione filosofica e tradizioni religiose, non diversa da quella tentata da più recenti teologi:

> Philosophi autem, tum quia curiosi, quia etiam ambitiosi, volentes reddere causam in omnibus etiam in his quae vulgus opinabatur, miscuerunt Philosophiam suam cum dictis legislatorum et prophetia fidei... non quod ipsi per naturalem rationem aliquod incorporeum, ut deum, vel angelum, vel animam esse convincerent... .[152]

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I percorsi diversi del pensiero medievale, la critica assidua della filosofia per le istanze della teologia, così fortemente sottolineate da Gilson, rendono a nostro avviso impossibile seguire l'illustre maestro nel tentativo di individuare una "metafisica nuova" creata dalla teologia scolastica, fuori del tempo, la cui "verità", "indépendente de l'état de la science en tout moment de l'histoire, reste aussi permanente que la lumière de la foi dans laquelle elle est née".[153] Può darsi che questa metafisica nuova - libera da ogni condizionamento storico - possa costituire un utile e pio sostegno ai fautori della *philosophia perennis* nel cielo dei purissimi enti di ragione ove anche la chimera può rivendicare un suo posto; ma lo storico dovrà piuttosto sottolineare come, pur partendo da una comune esperienza di fede, la riflessione teologica venga utilizzando e trasformando concetti filosofici ereditati dal passato così da creare sistemi speculativi diversi in rapporto alle differenti opzioni filosofiche, che ne condizionano a loro volta le strutture e gli esiti.

Con grande acutezza Tommaso d'Aquino registrava come le diversità fra le scuole teologiche passassero attraverso le differenti esperienze filosofiche dei maestri in sacra pagina, e dal canto suo Giovanni Peckham denunciava addolorato il rischio che tutto l'edificio ecclesiastico crollasse

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152 Robert Holcot, *Utrum theologia sit scientia*, cit., pp. 144-145, 149.

153 Et. Gilson, "Les recherches historico-critiques et l'avenir de la scholastique", in *Scholastica ratione historico-critica instauranda*, Acta Congressus Scholastici Internationalis, Romae anno sancto MCML celebrati, Romae 1951, p. 141.

una volta abbandonate le fondamentali tesi della tradizione agostiniana relative all'illuminazione divina e alle *regulae aeternae*, alle potenze dell'anima, alle ragioni seminali: né meglio si potevano constatare i mutamenti profondi della cultura cristiana nel corso del secolo XIII, gli esiti diversi, i contrasti irriducibili.[154]

Chi ne segua lo sviluppo, soprattutto dalla fine del XIII secolo, al di là delle polemiche fra i due ordini mendicanti ("cum doctrina duorum ordinum in omnibus dubitabilibus sibi paene penitus hodie adversetur", aveva scritto Peckham) e le variegate posizioni dei maestri, non potrà non constatare la pluralità di prospettive metafisiche e, con esse, i modi diversi di concepire e organizzare la sfera delle conoscenze di cui l'uomo si ritiene capace. Quello che rende omogenea la tradizione speculativa medievale non è una metafisica unificante i diversi sistemi, ma la tensione continua fra la Parola di Dio e gli strumenti concettuali offerti dai diversi contesti culturali, nella ricerca delle vie di intelligibilità dell'esperienza di fede e nella consapevolezza delle radicali novità contenute nella rivelazione rispetto al patrimonio di conoscenze trasmesse dalla cultura "profana".

Non a caso, mentre dopo le condanne e la polemica dei *correctoria* l'opera di Tommaso d'Aquino sembrava trovare un autorevole avallo nella sua canonizzazione, dal fronte della tradizione francescana - dopo le reviviscenze apocalittiche della seconda metà del XIII secolo - torna a esplodere una radicale opposizione tanto al generoso concordismo dell'Aquinate, quanto, e più duramente, al simmetrico e ordinato mondo aristotelico. Basta pensare al rilievo che assume nel secolo XIV il tema della *potentia Dei absoluta* che mette in crisi le strutture della filosofia aristotelica portando alle estreme conseguenze un motivo che più volte si era affacciato nella tradizione cristiana contro i tentativi di chiudere entro orizzonti di razionalità umana il Dio della Bibbia. Ed è inutile lo sforzo di quegli storici che tentano di circoscrivere a un ambito squisitamente teologico le conseguenze più radicali della fede cristiana nel Dio principio creatore assolutamente libero: in realtà quella fede nella *potentia Dei absoluta* non costituisce solo un richiamo costante alla radicale contingenza dell'ordine creato, ma investe tutto l'ambito delle

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154 Tommaso d'Aquino, *II Sent.*, d. 14, q. 1, a. 2; Giovanni Peckham, *Registrum Epistolarum*, III, pp. 871-872, 901 (lettere del 1 genn. 1285 e 1 giungo 1285), cfr. F. Ehrle, "John Pecham über den Kampf des Augustinismus", in *Gesammelte Aufsätze zur englischen Scholastik*, Roma 1970, pp. 70-71, 75-76.

conoscenze umane e diviene uno strumento di analisi, verificazione e falsificazione delle più sicure strutture della filosofia aristotelica e della teologia che le aveva assunte nell'ambito della *sacra doctrina*.

"Parisius, Parisius, ipse destruis ordinem Sancti Francisci".[155] In realtà proprio un francescano, Guglielmo di Occam, esprime nella maniera più radicale il rifiuto di chiudere entro il "carcere aristotelico" l'esperienza cristiana: è nota l'ampiezza di applicazioni che assume in Occam il principio dell'onnipotenza divina (il "credo in unum Deum patrem omnipotentem") che, strettamente connesso alle più sottili analisi logico-linguistiche, disarticola tutto l'orizzonte della riflessione filosofica e teologica. Il *Venerabilis inceptor* frantuma il mondo delle essenze ponendo la realtà come tutta individuale e assoluta, oggetto di conoscenza intuitiva, riduce la categoria della relazione a un "nome di seconda imposizione", scompone le scienze - dalla teologia alla metafisica e alla fisica - in un aggregato di abiti, mette in crisi l'ingenua fiducia nell'*adequatio rei et intellectus* dissociando l'oggetto e l'intuizione e prospettando la possibilità della conoscenza intuitiva del non esistente.

Lungo il secolo XIV, mentre si vengono costruendo nuovi modelli logici e analitici con i più arditi giochi dell'ipotesi e dell'immaginazione, si approfondisce la divaricazione tra il normale *cursus naturae* e l'ordine della *potentia Dei absoluta* (tema variamente utilizzato entro e fuori la tradizione occamista), fra l'ambito della *scientia* aristotelica e la *veritas rei, apud Deum* (come sottolinea Enrico di Harklay discutendo dell'infinito) ed entra in crisi l'idea di una scienza fondata sull'*evidentia simplex*, posto che Dio può causare la conoscenza del non esistente e creare l'assenso a una proposizione falsa:

> potest causare propositionem falsam et ponere in intellectu, Posse autem Deum precipere aliquod falsum credi, non est dubium ... etiam dicitur quod Deus posset obligare ad credendum contradictoria.[156]

Si è parlato di scetticismo, con termine equivoco e inutilmente gravato di valenze negative: meglio sarà parlare di una critica della ragione aristotelica che può orientarsi tanto nel senso di un ricorso a

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155 *Dicta Beati Aegidii Assisiensis*, Ad Claras Aquas, 1905, p. 91; cfr. Jacopone, Laude 91, 2: "Mal vedemo Parisi, che àne destrutt'Asisi" (Jacopone, *Laude*, ed. F. Mancini, Roma-Bari 1974, p. 293).

156 Sul problema, sia permesso rinviare al mio saggio "La tromperie divine" nel vol. collettaneo *Preuve et raisons à l'Université de Paris. Logique, ontologie et théologie au XIV^e siècle*, ed. par Z. Kałuza-P. Vignaux, Paris 1984, pp. 187-195 e, ivi, cfr. J.Fr. Genest, "Pierre de Ceffons et l'hypothèse du Dieu trompeur", pp. 197-214.

Dio come principio fontale di verità, quanto verso un uso critico, limitato dalla ragione soddisfatta di un'*evidentia secundum quid*, e verso la definizione di un principio di evidenza non più legato all'*adaequatio* e al solido mondo delle essenze.

Del resto non è un caso se proprio fra i *moderni* vicini all'occamismo, mentre sempre più problematico diviene il ripercorrere le vie della scienza aristotelica ("philosophia Aristotelis - dirà al termine di una lunga tradizione Pietro d'Ailly - seu doctrina magis debet dici opinio quam scientia"),[157] l'attenzione si volge ai problemi del mondo del contingente, della natura e degli uomini, delle realtà individuali.

"Quaelibet res singularis se ipsa est singularis": l'assioma occamista orienta tutta una nuova teoria della conoscenza come intuizione diretta della realtà individuale, non solo del senso ma dell'intelletto:

> obiectum motivum intellectus est praecise singulare... omne singulare potest intelligi notitia intuitiva, quantum est ex natura animae et intellectus nostri.

Il paradiso degli universali dilegua come un *fictum*, insieme alla teoria della *species* e dell'individuazione tramite la materia; il concetto, ritrovato il suo *esse obiectivum in anima*, è ricondotto a immagine che "suppone" per molti o meglio a *signum naturale* che può entrare in un sistema di proposizioni, oggetto di scienza, ma senza una propria realtà fuori dell'anima ove il suo *esse* sta nell'esser conosciuto (*eorum esse est eorum cognosci*).[158] Giunge con Occam a termine un lento processo di erosione dell'assioma *sensus est particularium, intellectus universalium*, con tutta la metafisica che esso presupponeva, mentre assume nuova dignità il mondo degli individui i soli realmente esistenti: "Omne ens verum est particulare et si sic, ergo nullum universale est verum ens".[159]

Senza inoltrarsi nei pericolosi sentieri storiografici della continuità fra certe discussioni scientifiche del secolo XIV e le origini della scienza moderna, troppo tortuosi e ambigui i sentieri della ragione, e senza lasciarsi sedurre dal gioco dei precorrimenti e degli svolgimenti omogenei, troppo profonde sono le cesure e le svolte, non si può non rilevare che nell'orizzonte teologico e filosofico del suo tempo il rasoio semplificatore

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157 Petri de Alliaco *Quaestiones super primum, tertium et quartum sententiarum*, Parisius s. d., ed. J. Petit, *I Sent.*, q. 3, a. 3, p. 83va-b.

158 Guillelmi de Ockham *Ordinatio*, I, d. II, q. VI; d. III, q. VIII; d. II, q. VIII, in *Opera*, vol. II, ed. S. Brown, St. Bonaventure, N. Y., 1970, pp. 196, 540, 273.

159 *Quaestio de universali secundum viam et doctrinam Guilelmi de Ockham*, ed. M. Grabmann, Monasterii 1930, p. 27.

di Occam, recidendo il nesso fra gli esistenti ed eliminando un presupposto reticolato di essenze eternamente date, esaltando la priorità e fecondità della conoscenza intuitiva dell'individuale, dischiudeva orizzonti e possibilità nuove. In ambienti occamisti e sotto la potente spinta dei mertoniani, si viene aprendo un dibattito destinato a grande fortuna su questioni cruciali, fuori dall'orizzonte aristotelico. L'applicazione rigorosa dell'analisi logico-linguistica ai problemi della filosofia e della teologia, l'impegno dei *calculatores* per dare una descrizione dell'*intensio et remissio formarum* in rapporto al tempo e allo spazio, lontana dai modelli sostanzialistici di Aristotele e orientata verso una rappresentazione geometrica quantitativa delle variazioni qualitative, con i vari tentativi di definire i gradi dell'*intensio* e della *latitudo* delle qualità - estesi anche ai problemi delle perfezioni divine - , le discussioni sulla *reactio* del paziente rispetto all'agente, le analisi *de maximo et minimo*, le ipotesi sull'esistenza degli indivisibili e sulla possibilità di un infinito in atto, lo sviluppo amplissimo dei problemi di dinamica e di cinematica a partire dal grande *Tractatus de proportione* di Thomas Bradwardine, sono strade diverse che, anche quando si svolgono *secundum imaginationem* articolandosi *disputationis causa* - senza pretendere di costruire nuove concezioni della natura - convergono tuttavia nell'elaborazione di nuovi modelli mentali e di linguaggi analitici che investono settori non marginali della scienza aristotelica con inevitabili ripercussioni in tutte le zone del sapere, dalla logica alla fisica, dalla metafisica alla teologia.

Parallelamente la sempre più netta distinzione fra il dominio della filosofia naturale e quello della fede - in cui per più aspetti averroismo e occamismo finivano per convergere - insieme alla crisi di un universo gerarchizzato secondo una scalarità di essenze, mettevano in discussione le pretese teocratiche che di quell'universo erano state la trascrizione teologico-politica. Proprio muovendo da una rigorosa analisi filosofica dell'origine e della natura della società civile ("demonstrabo intenta viis certis humano ingenio adinventis, constantibus ex proposicionibus per se notis"), Marsilio da Padova riconduce la statuizione delle leggi umane a una sola "causa", l'*universitas civium (ipsius est auctoritas lacionis legum)*[160]: questa è *legislator* e *factor* di tutti gli ordinamenti che derivano *ex arbitrio humanae mentis*, ad essa spetta definire "quid eligendum et quid spernendum", secondo le varie esigenze dei tempi e dei

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160 Marsilii de Padua *Defensor Pacis*, ed. R. Scholz, Hannoverae, 1932-1933, vol. I, pp. 9, 63, 66.

luoghi ("secundum exigentia temporum et locorum"), senza riferimento a intemporali modelli metafisici o religiosi;[161] di qui l'individuazione - *per demonstracionem* - del fine *mondano* e *temporale* della vita civile che deve garantire il *bene vivere* dei cittadini, e l'affermazione dell'autonomia del potere politico rispetto alla chiesa che le pretese temporali del pontefice e dei sacerdoti hanno ridotto, da "corpo mistico", a *corpus monstruosum et inutile*.[162]

Quando alla metà del secolo - suscitando la violenta reazione e la condanna dell'autorità ecclesiastica - Nicola di Autrecourt denuncerà l'inutile atteggiamento di quanti preferiscono invecchiare sui *logici sermones* di Aristotele e di Averroè invece di rivolgersi *ad naturam rei* e *ad res morales et curam boni communis*,[163] e quando affermerà - *placeat vel non placeat* - che Aristotele in tutta la sua filosofia non ebbe *notizia evidente* "de duabus conclusionibus et fortasse nec de una",[164] indicava non solo l'esito di una sua ricerca personale - *extra gregem vulgi* - ma forse anche l'esaurimento di un'epoca con il suo ideale di scienza:

> Ex eo, quod aliqua res est cognita esse, non potest evidenter evidentia reducta in primum principium vel in certitudinem primi principii inferri, quod alia res sit.[165]

Mentre con il principio di causalità è messo in discussione tutto l'ordinato e compatto mondo aristotelico - ridotto a modesto complesso di proposizioni ormai neppure probabili ("sicut multo tempore visa sunt esse probabilia dicta Aristotelis quorum probabilitas nunc forsan diminuetur, sic

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161 Marsilii de Padua *Defensor Pacis*, vol. I, pp. 62, 71, 64.

162 Marsilii de Padua *Defensor Pacis*, vol. I, p. 17; vol. II, p. 459.

163 Nicola di Autrecourt, *Satis exigit ordo*, ed. J.R. O'Donnell, "Nicholas of Autrecourt", *Mediaeval Studies*, I (1939), pp. 181, 185: "falsum, erroneum et revocandum", "presumptuosum", si legge nella condanna (J. Lappe, *op. cit.*, alla nota segg., p. 37*).

164 Dai testi ed. J. Lappe, *Nicolaus von Autrecourt. Sein Leben, seine Philosophie, seine Schriften* (Beiträge zur Gesch. der Philosophie des Mittelalters, VI, 2), Münster 1908, pp. 12*-13*, 17*, 25*.

165 J. Lappe, *op. cit.*, p. 9*; cfr. pp. 15*-16*, 31*: tesi condannata come "falsa e erronea" (pp. 31*, 37*); a essa andrà collegata la tesi condannata come "falsa, eretica e erronea": "hec consequentia non est evidens: *a* est productum, igitur aliquis producens *a* est vel fuit" (p. 34*). Con il principio di causalità è rifiutata anche la finalità, come recita la tesi "quod aliquis nescit evidenter, quod una res sit finis alterius", condannata come "falsa, eretica e blasfema" (p. 33*). Gli scritti di Nicola furono bruciati a Saint Germain-des-Prés "tamquam multa falsa, periculosa, presumptuosa, suspecta et erronea et heretica continentes" (p. 43*).

veniet unus qui tollet probabilitatem ab istis")[166] - un altro principio di certezza e di evidenza si viene definendo: è la conoscenza chiara e evidente dei primi principi e "de actibus nostris". Un'affermazione solenne si leva in Vico degli Strami:

> Universaliter et conversive quicquid est clarum et evidens intellectui est verum... Deus non distinguitur ab homine in clarius cognoscere res.[167]

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166 *Satis exigit ordo*, cit., p. 187: "excusatio vulpina", recita la condanna (Lappe, *op. cit.*, p. 39*).

167 *Satis exigit ordo*, cit., pp. 235, 239; J. Lappe, *op. cit.*, pp. 6*, 8*; la tesi ricorrente negli scritti di Nicola "quod certitudo evidentie non habet gradus" è condannata come "falsa" (J. Lappe, *op. cit.*, p. 32*).

ABSTRACT:

Forms of Knowledge and Ideals of Learning in Medieval Culture

There were various models and ideals of knowledge and science in the Middle Ages. Beginning with a specific definition of science and scientific method and then proceeding to search for its application in medieval writers is a process which would lead us astray. We must therefore attempt to determine just what these various models of knowledge and learning were, conscious of the fact that even basic terms like philosophy and theology, science and wisdom, *ratio* and *intellectus* take on meanings and values which change drastically in various times and contexts.

The identification of Christianity and philosophy which was asserted by Greek patrology quite early on, allows the reduction of philosophical disciplines to the *philosophia Christi*. Christian thought, which claims the title of true philosophy for itself, puts into practice a form of knowledge whose foundations are to be found in the revelation of God, in the Bible, word of God. Faith in God who revealed to men the designs of His economy forms the horizon of a new experience and this faith nurtures a learning which transcends pagan culture because, historically speaking, it is far richer.

Knowing, *intelligere* thus means reading and deciphering the mysteries and sacraments woven into that Bible which brings not only a revelation of salvation but a learning and total science as well. The highest form of this learning can be found in exegesis, the access to that *scientia divina* which the Bible has transmitted. It should also be pointed out that intelligence of the Scriptures, just as with *intellectus* which is placed between faith and beatific vision, leads to the greatest possibility of deepening comprehension of the *mysteria* and the *ratio fidei* in order to participate in the *ratio divina* which manifests itself through revelation (*ratio veritatis nos docet*).

A radical mutation in medieval culture, with the emergence of new methods and areas of knowledge, took place when a different conception of *natura* and *ratio* was proposed to the Latin West through the knowledge of new Greek and Arabic philosophical and scientific texts between the 12th and 13th centuries. A *sapientia mundana* arose outside of the symbolism of the High Middle Ages (which, in any case, had represented a precise model of interpretation and knowledge of *natura rerum*). This found its tools in a *ratio*, separate from exegesis, which had the construction of natural knowledge as its goal. Nature, no longer *sacramentum salutaris allegorie* became *nexus* and *ordo causarum*. Its enquiry reached its peak in astronomy/astrology, that new science which linked heaven and earth and which found its most valid bases in the physics and metaphysics of Aristotle and his method in the syllogistic structure of scientific discourse. For this reason the importance of astrology in medieval culture and the new ideals of science cannot be underestimated and the same is true of the value which "magical" sciences assumed. The constant comparison between astrology and theology was quite important as was the use of astrology for scientific apologetics, for the demonstration of the truth of Christianity, for the hermeneutics of sacred history.

Aside from a defense of the legitimacy of a knowledge whose object was the *causa* and the *ratio* of events, new models of knowledge and learning developed through the 12th century primarily through the debate over *coerentia artium* and the relations between logic, dialectics and philosophy. At the same time new methodologies were adopted for theological discourse which was separated from the sacred text. New tools of logical-linguistic analysis or axiomatic procedures were adopted and exegesis was forced to come to terms with the science of nature.

The beginnings of Aristotelianism, especially after its insertion in university studies, posed problems of relations not only with a new model of scientific discourse but with a world system in which logic, physics and metaphysics were solid. There were various positions and options, from the revival of the Aristotelian-Averroistic ideal of *intelligere* as the highest good according to nature and reason, to the polemics against Aristotelianism in the name of a learning and reason whose basis was to be found in

Christ's mediation. The theme of *sapientia christiana* was also the basis for models of scientific knowledge such as that model proposed by Roger Bacon for the supremacy of mathematics and the accentuation of the cognitive value of *experientia* which was connected to the glorification of a form of learning capable of modifying reality to humanity's advantage.

Certain particular problems in the debate over theology as a science should be underlined: Odo of Rigaud's prior position on the theme, the theory of *subalternatio* which was rigorously followed by St. Thomas Aquinas, the relationship between the singularity of those event which make up sacred history and the atemporal network of Aristotelian science.

While it comes from a common experience of faith, theological reflection uses and transforms philosophical concepts inherited from the past thus creating different speculative systems. That which makes medieval speculative tradition homogeneous is not a metaphysics which unifies the various systems nor any identical scientific ideal, but rather the constant problematic reference to Christian experience. If, on one hand, this experience tends to absorb elements from ancient cultures and is itself ultimately modified, on the other hand it vindicates its own autonomy, professing ideals of knowledge and learning which cannot be traced back to the terms of profane philosophical traditions. We should keep in mind the importance which the theme *potentia Dei absoluta* assumed in the 14th century and the turmoil it created for all the structures of Aristotelian philosophy, taking a theme which was frequently considered in Christian tradition to its logical conclusion. It is useless to attempt any limitation of the radical consequences of Christian faith in God as the absolutely free principal creator to a purely theological sphere. It is actually that faith in *potentia Dei absoluta* which breaks down any attempt at necessitarianism and transforms the world into a fabric of divine initiative, of radical contingency. Scepticism has been spoken of as a term both equivocal and unnecessarily negative. It would be better to speak of a criticism of Aristotelian reason which may be oriented both in the sense of a recourse to God as the originating principle of all truth and towards a search for a principle of evidence no longer linked to the *adequatio* and the solidity of essence. On the other hand it is no accident that, while turning back to Aristotelian science becomes increasingly problematic, the circles close to Ockhamism concentrated their attention on the contingent world, on nature and on man. In Ockhamist circles, under the powerful influence of the Mertonians, a debate on crucial matters which lead outside the Aristotelian world was taking place. Political thought became a rigorous philosophical analysis of the origins of the nature of civil society with no reference to atemporal metaphysical or religious models. The criticism of Nicholas of Autrecourt not only denied the fundamental structures of Aristotelian metaphysics but formulated a new principle of evidence as well.

JAAKKO HINTIKKA

Concepts of Scientific Method from Aristotle to Newton

In this paper, I shall not try to present any results concerning the history of philosophy or concerning the history of philosophers' ideas about the scientific method in the middle ages. Instead, I shall comment on the conceptual frameworks which have been used, or can be used, in such historical studies. It seems to me that our understanding of what actually happened in the middle ages can be greatly enhanced by a suitable conceptual framework in which the specific historical problems can find their appropriate niche. I shall also suggest that in the study of the history of the scientific method, as in so many other walks of philosophical scholarship, the best way of finding the right framework (in the sense of the historically relevant and useful framework) is to go back to the main Greek philosophers, especially to Aristotle, and to try to reach a deeper understand of their ideas. Their philosophy was the most important backdrop of medieval thought, which often can be looked upon as a gradual transition from Greek ideas to ours. In other respects, too, will an appropriate map of the conceptual situation help to fit different actual historical developments together as pieces of a larger overall picture.

In this spirit, I am led to ask: How do we twentieth-century thinkers view the scientific process, and how do our ideas differ from Aristotle's ideas in this respect? This question might seem to be too general and ambiguous to admit of a clear response, but in reality there is a clear and yet informative answer to it. A twentieth-century philosopher is likely to think of scientific inquiry as consisting of making observations (and gathering other kinds of empirical evidence) and then of using them as a stepping-stone to general explanatory theories. The step form data to theories is sometimes called a (species of) scientific inference. It is generally agreed that this so-called inference cannot be deductive. The main watershed between different overall conceptions of science is the question whether there is a nondeductive kind of inference, usually called inductive inference, to mediate the step from observations

to general theories or whether this step is in principle a matter of hypothesis. According to the latter idea, we cannot infer theories or other general truths from phenomena, but we can test them by comparing their deductive conclusions with observations. Thus we obtain two of the main types of modern models of scientific inquiry: the inductivist model and the hypothetico-deductive model. Although these two models do not quite enjoy any longer the monopoly they used to have among philosophers of science, they are being widely used tacitly or explicitly by historians of philosophy as a part of their conceptual framework.[1]

The basic idea of the Aristotelian conception of scientific inquiry can also be indicated very simply. Aristotle conceives of scientific inquiry literally as inquiry, that is, a questioning procedure. This is shown amply by the *Topics*, among other things. One precedent for such a procedure were the Socratic questioning games practiced in the Academy.[2]

Originally, even deductive inferences were simply special kinds of moves in these questioning games, viz. answers that every rational person would have to give, given his earlier admissions. Aristotle soon realized the special role of such preordained answers or admissions and tried to systematize them in his syllogistic logic. He even tried to make syllogisms the only vehicle of putting the first principles of a science to use for the purpose of explaining various phenomena. But even then the road to these first principles remained a dialectical one.

The interrogative or erotetic concept of inquiry is thus amply in evidence in Aristotle. In a more traditional terminology, it would be called the dialectic method. I am avoiding this label, however, because on the long way to twentieth-century philosophy it has acquired all sorts of misleading associations.

It is fairly clear that something like the interrogative model of science remained influential in the middle ages. For instance, the various

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[1] Their restrictive character is shown by the difficulty of fitting major historical figures into either pidgeonhole. Was Newton an inductivist or a hypothetico-deductivist? Neither shoe fits very well. And the same question can be raised about the medievals.

What is needed is a wider and more realistic conceptual framework for understanding the actual history of philosophical, scientific, and theological thought. That is what I shall try to provide here for the history of the scientific method, just as I have (with several others) tried to provide a new framework for studying the history of the concept of being. That earlier attempt is documented in Simo Knuuttila and Jaakko Hintikka, editors, *The Logic of Being: Historical Studies*, Synthese Historical Library, D. Reidel, Dordrecht, 1986.

[2] See here my paper, "The Fallacy of Fallacies", *Argumentation* vol. 1 (1987), pp. 211-238, and the literature referred to there.

commentaries on Aristotle freely use Aristotle's interrogatively loaded terminology of "admissions", "acceptances by the learner", etc.

This fact is enough to put one facet of medieval thought into a new light. If there indeed was a relevant element of interrogative knowledge-seeking in medieval epistemology and philosophy of science, it is to be expected that the logic of such interrogative procedures should have been studied in so many words. This expectation is fulfilled by the important but incompletely understood *obligationes* tradition.[3] Whatever detailed problems there is about the interpretation of these question-answer dialogues, in their standard form (*antiqua responsio*) they were not, and could not have been, a form of counterfactual deductive reasoning, as has been claimed. For in them one was not examining what follows logically from the initial *positum* or what is inconsistent with it, but rather what follows logically from, or is inconsistent with, the *positum* plus the responder's earlier admissions. This is in fact characteristic of interrogative or "erotetic" knowledge-seeking. Admittedly, later in the fourteenth century obligation-games were given a more deductive twist by some logicians. But this merely illustrates my recommendation of viewing medieval thought as a transition from the Greek to the modern viewpoint.

Admittedly, at first sight the *obligationes* might not seem to have a great deal to do with conceptions of scientific method. However, their close link with the *sophismata* provides a bridge, for problems concerning knowledge-seeking and science were frequently dealt with in the form of sophismata in logic, theology, and natural philosophy, and in this context the obligations terminology was largely employed.

In general, obligation-games illustrate several features of interrogative knowledge-seeking. We can study this kind of knowledge-seeking by means of what I have called the interrogative model of inquiry.[4] This codification of the dialectical conception of knowledge-

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[3] Here the work of Simo Knuuttila and his associates promises to be decisive. I am here relying on their results. See, e.g., Simo Knuuttila and Mikko Yrjönsuuri, "Norm and Action in Obligational Disputations" in O. Pluta, ed., *Die Philosophie im 14. und 15. Jahrhundert*, B.R. Grüner, Amsterdam 1988, pp. 191-202.

[4] The work on this model is largely still in progress. For interim expositions, cf., e.g., my "Knowledge Representation and the Interrogative Model of Inquiry", forthcoming in a volume of new papers on epistemology, edited by Keith Lehrer and Marjorie Clay; Jaakko Hintikka and Merrill B. Hintikka, "Sherlock Holmes Confronts Modern Logic", in E.M. Barth and J.L. Martens, eds., *Argumentation: Approaches to Theory Formation*, Benjamins, Amsterdam, 1982, pp. 55-76; and "The Logic of Science as a Model-Oriented

seeking is the main conceptual framework I am recommending to the historians of scientific method.

The interrogative model seems at first sight to be simplicity itself. In it, an idealized inquirer starts from a given initial premise T. The inquirer may put questions to a source of information. Depending on the intended application, we may call this source of information "the oracle" or nature. The inquirer may draw deductive conclusions from T together with the answers. The aim of the game (or the inquirer's aim) is to prove a given conclusion C or (in another variant of the model) to answer a question "B or not-B?" Normally, the presupposition of a question must have been established before the question may be asked.

How does this model, applied to scientific inquiry, differ from the received models of science? It turns out to be more flexible than its rivals in several respects.

For one thing, the Oracle's answers need not be observations. In some of the most interesting variants of the model, controlled experiments are conceived of as a scientist's questions to nature. But the oracle's answers may instead be intuitions of innate ideas or, as in Aristotle, well-established general opinions, *endoxa*.[5] They need not even be all true, just as *endoxa* sometimes are deceptive. But all that happens then is that the inquirer has to ask further questions to establish the veracity of the oracle's particular answers.

One especially important corollary of this wider conception of what nature can tell us or what we can otherwise establish interrogatively is the following: An important parameter in the interrogative model is the logical complexity of the answers that the oracle can provide to the inquirer. In the received models of science, both in the inductivist and in the hypothetico-deductive model, it is assumed that nature (who in the game of science plays the role of the oracle) can only provide particular (i.e., quantifier free) propositions as answers to the inquirer's questions. In the wider model, there is no longer any reason to accept this "Atomistic Postulate", as I have called it. And if the Atomistic Postulate is not assumed, the rationale of both of these models collapses. For then

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Logic", in P. Asquith and P. Kitcher, eds., *PSA 1984*, vol. 1, Philosophy of Science Association, East Lansing, 1984, pp. 177-185. See also the work referred to in other notes.

5 For the concept of *endoxa* and for their role in Aristotle's argumentation, see. G.E.L. Owen, "Tithenai ta Phainomena", in S. Mansion, ed., *Aristote et les problèmes de méthode*, Louvain, 1961, and. cf. my "The Fallacy of Fallacies", op. cit.

there is no reason to conclude that general theories could not be arrived at deductively from nature's answers to the inquirer's questions or, as Newton puts it, could not be deduced from the phenomena.[6]

Now there are at least two historically important ways in which a scientist can be thought of as being able to obtain general truths as immediate (non-inferential) answers to his or her questions.

The first way is post-medieval. It is the way of controlled experimentation. For the typical outcome of a successful controlled experiment is to find a dependence between two variables, the controlled and the observed one. The codification of such an "answer" is no longer a quantifier-free proposition. It has at least one existential quantifier dependent on a universal one.[7] This was essentially Newton's way.[8]

The other way is Aristotle's. It is deeply rooted in his psychology of thinking according to which to think of X is for one's soul to take on the form of X. This is as genuine a realization of the form as any external one. And if so, any other form Y which necessarily accompanies X will also be present in the soul. Thus any necessary connection between forms can be ascertained simply by thinking about them, according to this Aristotelian psychology (and metaphysics) of thinking.[9]

This means that for Aristotle general truths can be seen immediately in one's own soul, of course after suitable preparation. In terms of the interrogative model, this means that the oracle is assumed to give an Aristotelian scientist general answers, and not only particular ones. In the light of what was said earlier, it is therefore small wonder that neither the inductivist nor the hypothetico-deductive model of science played any appreciable role in medieval philosophy.

This does not mean, however, that the Aristotelian idea of direct access to general truths was universally accepted in the middle ages. As soon as scientific inference was conceptualized as involving a step from

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6 Cf. note 4 above.

7 See here my paper, "What Is the Logic of Experimental Inquiry?", *Synthese* vol. 74 (1988), pp. 173-190.

8 See here Jaakko Hintikka and James Garrison, "Newton's Methodology and the Interrogative Logic of Inquiry", forthcoming in the proceedings of the April 1987 symposium on Newton in Jerusalem.

9 This peculiarity Aristotelian psychology of thought is so striking that it is barely been acknowledge in its full strangeness (strangeness from our twentieth-century viewpoint, that is to say). For indications of it, cf. my paper "Aristotelian Infinity", *Philosophical Review* vol. 75 (1966), pp. 197-219.

particulars to a general truth, it became clear that such a step was not unproblematic, and could not be thought of as nature's direct answer to a scientist's question. In the middle ages, the rise of nominalism seems to mark an important watershed in this respect. This is only to be expected in view of Aristotle's idea of the realization of universal concepts in the form of "forms" in the human soul as a source of scientific truths. Indeed, this Aristotelian background helps us to understand why the rejection of universals was as crucial a development in medieval thought as it in fact was. This helps us to understand the impact of nominalism in general. For instance, nominalism cannot be construed as a skeptical philosophy, as several speakers at this very congress will emphasize. Its impact is seen by comparison with Aristotle's methodology which in effect means giving up, at least partly, the idea that nature can give us *general* answers to suitable questions by means of a realization of the relevant forms in one's mind.

Did this mean a radical change in philosophers' idea of the scientific process? The interrogative model suggests an interesting answer, which is *no*. For the interrogative model shows that you can often compensate for the effects of an additional restriction on the oracle's (nature's) answers by strengthening the initial theoretical assumption T.[10] In fact, logicians know that even if answers to questions are restricted to (negated or unnegated) atomic propositions, there can be theories T which jointly with nature's answers to questions enable the inquirer to establish *any* true proposition. (These are the theories that are known as *model-complete* ones.)

These observations throw highly interesting light on developments in the medieval period. The very same philosophers who began to think of scientific inference as a passage from particular observations to general truths were also among the first ones to evoke prior general propositions to back them up. Duns Scotus is an especially interesting case in point. He writes as follows:[11]

> As for what is known by experience, I have this to say. Even though a person does not experience every single individual, but

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[10] Cf. here my "The Logic of Science as Model-Oriented Logic", op. cit.
In general, the possibility of partial trade off between strong assumptions as to what is answerable and strong a priori premises is an extremely interesting fact which can throw light on several other historical phenomena.

[11] Duns Scotus, *Opus Oxoniense*, i, d.3, q.4, translated in Wolter, *Duns Scotus: Philosophical Writings*, p. 109.

> only a great many, nor does he experience them at all times, but on frequently, still he knows infallibly that it is always this way and holds for all instances. He knows this in virtue of this proposition reposing in his soul: "Whatever occurs in a great many instances by a cause that is not free, is the natural effect of that cause." This proposition is known to the intellect even if the terms are derived from erring senses, because a cause that does not act freely cannot in most instances produce an effect that is the very opposite of what it is ordained by its form to produce.

This quotation is interesting in that it illustrates what for a thinker like Duns Scotus was the alternative to the idea that nature can answer questions concerning universals. Even though nature doesn't do so *apud Scotum*, the intellect knows certain completely general truths like the regularity of nature with a certainty that is not derived from sense-experience. They are therefore of the character of initial premises of the scientific enterprise rather than answers (new facts) contributed by nature.

What is important here is that this novelty does not turn Duns Scotus away from the interrogative conception of inquiry. What it does is to shift the focus from nature's answers to initial theoretical premises. One symptom of this is what Duns Scotus says in so many words in the quoted passage, viz., that the results based on the principle of the regularity of nature are infallible, even though they are based only on a sample of the individuals covered by the generalization. In this respect, I can say, they are just like the results of an interrogative inquiry. Thus Duns Scotus does not anticipate Hume's doubts about induction nor even the twentieth-century conception of induction, even though one recent author refers in this context to Duns Scotus's "inductive evidence".[12] Admittedly, soon afterwards Duns Scotus says that in this way we can only reach "the very lowest degree of scientific knowledge".[13] But this inferior degree does not mean a lower level of certainty, for the principle of the regularity of nature is said to remove in such cases all "uncertainty and infallibility".

Thus it is in principle misguided to see in medieval thinkers like Duns Scotus anticipation of Hume's problems or even anticipations of the hypothetico-deductive or the inductivist models of science. These models came about only when the skeptical ideas found two different inroads into

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12 See N. Kretzmann, A. Kenny and J. Pinborg, eds., *The Cambridge History of Later Medieval Philosophy*, Cambridge University Press, Cambridge, 1982, p. 511.

13 Op. cit., i, d.3, q.5; Wolter, p. 119.

the interrogative conception of scientific inquiry. It was not enough to restrict nature's answers to negated or unnegated atomic ones. One also has to eliminate in principle all nontrivial initial premises. It is for this reason why is was crucially important for modern empiricist philosophers like Locke and Hume to attack the doctrine of innate ideas.

The same observation explains why Newton's overall conception of the structure of science bears striking resemblances to Aristotle in spite of its mathematical character.[14] For according to Newton nature can yield general answers to a scientist's questions, of course not answers concerning necessary connections between "forms" as in Aristotle but answers taking the form of functional dependence between variables, typically obtained through a controlled experiment. No wonder Newton, too, believed that general truths can be deduced from phenomena.

It is of interest to see a little bit more closely what is involved in the abandonment of the Aristotelian idea of direct access to general truths. One corollary to the Aristotelian theory of thinking as a realization of forms in the soul is that whatever follows as a matter of the nature of things in question, that is, as a matter of their essential forms, can be established in thought. There is therefore no distinction in Aristotle between logical and natural ("formal") necessity. This conclusion, which has of course been misunderstood time and again, is shown to be a genuine Aristotelian doctrine in my monograph on Aristotle's theory of modality.[15] Another corollary is that whoever does realize the premises clearly and distinctly in his or her mind, cannot avoid drawing the conclusion. Full-fledged *akrasia* is as impossible in logic as it is in rational action (i.e., in a practical syllogism).[16] All these Aristotelian views have their echoes in medieval thought.

Of course, in order to be able to see what necessarily accompanies a form one must first realize fully the form in one's mind. Hence the crucial task for an Aristotelian scientist is not inference from particulars to general truths, but the formation of general concepts ("forms"). Accordingly, the first premises of an Aristotelian science are definitions,

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14 See Hintikka and Garrison, op. cit. The view we reject is represented, e.g., by I. Bernard Cohen, *The Newtonian Revolution*, Cambridge University Press, Cambridge, 1980.

15 Jaakko Hintikka (with Unto Remes and Simo Knuuttila), *Aristotle on Modality and Determinism* (Acta Philosophica Fennica, vol. 29, no. 1), Societas Philosophica Fennica, Helsinki, 1977.

16 See here my "Aristotle's Incontinent Logician", *Ajatus* vol. 37 (1978), pp. 48-65.

and the way to reach them is the dialectial process which leads up to the definition of a concept (i.e., a full grasp of its essential "form").[17]

All this is part and parcel of what I meant by saying that for Aristotle questions concerning general propositions were (directly) answerable. To give up this answerability assumption can therefore take the form of giving up the identification of logical (metaphysical) necessity and natural necessity. In so far as this natural necessity is construed as nomic necessity, the step away from Aristotle took the form of denying the identification of unrestricted generality and metaphysical (conceptual) necessity. As Knuuttila and others have spelled out, this step was taken most resolutely by Duns Scotus.[18]

Now we can see that this step was not an isolated change in scholastic philosophers' ideas about necessity and other modal concepts. It affected their outlook on the entire structure of the scientific search of knowledge.

These general observations can be illustrated by applying them to the history of one particular concept, that of induction. There exists a useful study of the history of this concept by Julius Weinberg, but unfortunately he assumes throughout his essay something essentially tantamount to the twentieth-century notion of induction as an inference from particulars to general truths.[19]

At first sight, the story of induction within an interrogative framework might look rather like the "curious incident of the dog in the night-time" in Sherlock Holmes: the dog didn't do anything. Likewise, there does not seem to be any niche for the notion of induction in the interrogative conception of scientific investigation. Even if we relax our model and allow for answers by nature that are true only with a certain probability (and hence can be false), the result is not the inductivist model of science but its mirror image.[20] In inductive logic, we study uncertain (nondeductive) inferences from data that are typically assumed to be unproblematic. In the loosened interrogative model we are studying

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17 Cf. "The Fallacy of Fallacies", op. cit.

18 Cf. Knuuttila's own contribution to Simo Knuuttila, ed., *Reforging the Great Chain of Being*, Synthese Historical Library, D. Reidel, Dordrecht, 1981.

19 Julius Weinberg, *Abstraction, Relation, and Induction: Three Essays in the History of Thought*, The University of Wisconsin Press, Madison and Milwaukee, 1965.

20 See here my paper, "The Interrogative Approach to Inquiry and Probabilistic Inference", *Erkenntnis* vol. 26 (1987), pp. 429-442.

deductive (and hence certain) inferences from uncertain answers by nature.

This negative finding is nevertheless itself quite remarkable, just as its counterpart was in Conan Doyle. It is indeed remarkable how little the medievals had to say about induction in anything like the twentieth-century acceptance of the term.

There is more to be said of this concept, however. Even if the twentieth-century notion of induction is an uninvited guest in the house of interrogative inquiry, there is a historically important namesake notion that arises naturally from the idea of scientific inquiry.[21]

This can be seen as follows: Even if nature's answers can be general truths, they can be partial. For instance, in an Aristotelian search for a definition of pride or magnanimity (*megalopsychia*, cf. *An. Post.* B 13), we can directly find out only what characterizes each of a number of subclasses of pride. Likewise, an experimental scientist can find what functional dependence obtains between the variables he or she is interested in over a number of intervals of values of the controlled variable. The experimentally established dependence can even be different over the different intervals. Such general but restricted answers lead to the problem of reconciling these partial answers with each other. Thus Aristotle writes:

> I mean, e.g., if we were to seek what pride is we should inquire, in the case of some proud men we know, what one thing they all have as such. E.g. if Alcibiades is proud, and Achilles and Ajax, what one thing do they all [have]? Intolerance of insults; for one made war, one waxed wroth, and the other killed himself. Again in the case of others, e.g. Lysander and Socrates. Well, if here it is being indifferent to good and bad fortune, I take these two things and inquire what both indifference to fortune and not brooking dishonour have that is the same. And if there is nothing, then there will be two sorts of pride.

This reconciliation procedure, I have shown elsewhere, is precisely what Aristotle elsewhere calls *epagoge* or induction.[22] What I did not know when I wrote my earlier paper was that essentially this interpretation of Aristotle's concept of induction was fairly common among subsequent Aristotelians. Thus Aquinas assimilates to each other induction

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21 See here my paper, "The Concept of Induction in the Light of the Interrogative Model of Inquiry", forthcoming in the proceedings of the Pittsburgh Colloquium in the Philosophy of Science.

22 In "Aristotelian Induction", *Revue Internationale de Philosophie*, vol. 34 (1980), pp. 422-439.

and the method of looking for definition by means of the method of division. "... the same thing happens in the method of division as happens in the method of induction."[23] Here the method of division is "used in obtaining the *quod quid* of a thing". The context makes it clear that Aquinas is thinking of an interrogative search for definitions. This is shown by statements like the following:[24]

> For one who induces through singulars to the universal does not demosntrate or syllogize from necessity. For when something is proved syllogistically, it is not necessary to make further inquiry concerning the conclusion *or ask that the conclusion be conceded*; what is necessary is that the conclusion is true, if the premises laid down are true. [Emphasis added.]

However, Aquinas mistakenly thinks that the search for definitions described in *An. Post.* B 13 (by means of magnanimity example) is intended by Aristotle to be a method different from division and alternative to it. It is nevertheless significant that, in discussing the famous last chapter of *An. Post.* B, Aquinas assimilates induction and the search for definitions along the lines of B 13 to each other, and even refers to one of the examples employed there.

There identity of the two apparently different processes of definition-seeking (seeking for the *quod quid* of a thing) and induction throws some light on the history of the notion of induction. For instance, we can see in what sense Aristotelian induction must be complete: the different kinds of *megalopsychia* whose definitions have to be reconciled with each other must collectively exhaust the entire field of all instances of magnanimity. This means at one and the same time to exhaust different subclasses of magnanimity and all the particular instances of magnanimity. Of course, in Aristotle the real action in induction lies in the reconciliation of the definitions of the subspecies, not just in the exhaustion of all instances.

This shows how thin the line is from Aristotelian induction to the modern conception. This line was repeatedly transgressed as early as in the middle ages.

What is the inductive reconciliation process like? An answer to this question is facilitated by a comparison with the quantitative version of the extension and reconciliation problem. In this problem, different

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23 Thomas Aquinas, *Commentary on the Posterior Analytics of Aristotle*, Magi Books, Albany, N.Y., 1970, p. 177.

24 Thomas Aquinas, loc. cit.

partial functions with exclusive ranges of definition are to be subsumed under one single comprehensive functional dependence. I have shown elsewhere that this kind of reconciliation problem occurs often in the history of science and at crucial junctions in the development of science.[25]

It is easily seen that the reconciliation cannot be subject to simple rules. It involves experimentation with the mathematical expressions of the different functions to be reconciled with each other, and hence has a definite element of conceptual analysis to it. It represents a type of scientific reasoning, including the use of mathematics in science, that has not been discussed very much by philosophers.

Here the similarity between the reconciliation problem in modern science and Aristotelian induction is particularly close. For, as the *megalopsychia* example shows Aristotle understood inductive search of definitions to contain a heavy dose of conceptual analysis and even conceptual reorganization, including the partial rejection of some of the relevant *endoxa*. One is tempted to say that Aristotelian induction is merely a qualitative version of the modern reconciliation process.

Here a couple of challenging tasks open both to systematic and to historical research. One is to try to understand what goes into the inductive reconciliation process, both in its quantitative and its qualitative forms. Another problem is to understand the development of the concept of induction in its Aristotelian sense into an integral (though not always explicitly recognized) part of the methodology of modern science. I have argued that the functional extrapolation and reconciliation task is what Newton meant by induction. But where he got his ideas from and, more generally, what happened to the notion between Aristotle and Newton largely remains to be investigated.

Certain things can nevertheless be said. It is unmistakable that the modern conception of induction began to rear its ugly head in the fourteenth century. Such writers as Ockham, pseudo-Scotus etc. discuss induction unmistakably as a step from particular cases to a general law that falls short of necessity. This is for instance stated explicitly by pseudo-Scotus who says that incomplete induction cannot provide

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25 See op. cit., note 21 above.

necessity, only evidence.[26] This is a far cry from the Aristotelian idea of induction sketched earlier.

In a wider perspective, an especially interesting point seems to be a connection between this change in philosophers' concept of induction and the rise of nominalism. This connection is shown by the Aristotelian background mentioned above, and it helps us to understand why nominalism meant such a break with earlier ideas of human knowledge-seeking. A nominalist could not conceptualize thinking as a realization of a form in one's mind and therefore could not assume that necessary connections between forms could be seen simply by realizing them in one's mind. A nominalist, in brief, could not assume that nature answered general questions, at least not directly, only particular ones. This helps us to appreciate the impact of nominalism in general.

This is an instructive example of how observations of the kind proposed here can throw light on major issues in the history of philosophical thought.

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26 *Super Pr. Anal.* II, 9, 8.

MICHAEL E. MARMURA

The Fortuna of the *Posterior Analytics* in the Arabic Middle Ages

It is perhaps risky to begin a paper by suggesting a possible change of title, particularly if the suggested change approximates a reversal of the original. This may seem flippant. The risk, however, is worth taking, the purpose being to press home a point. When first asked to read a paper entitled, "The Fortuna of the *Posterior Analytics* in the Arabic Middle Ages," I thought the title could very well be changed to read, "The Fortuna of Arabic Philosophy after the Entry of the *Posterior Analytics* into Medieval Islam," for its influence on Arabic philosophy was powerful and pervasive. On further reflection, however, a change of title did not seem necessary; for part of the fortuna of this work is the influence it exerted. But perhaps more to the point is the truism that it was influential in the way it was understood. Influence and interpretation go hand in hand.

I

In terms of the history of the transmission of Greek thought to medieval Islam, the *Posterior Analytics* was a relatively late arrival. A complete Syriac version was made by the Nestorian scholar Isḥāq Ibn Ḥunayn (d. 910) and then, based on this Syriac version, another Nestorian scholar, the logician Abū Bishr Mattā (d. 940) made the Arabic translation that has survived.[1] The work became the object of intensive study by the

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[1] This is the translation mentioned in the medieval Arabic sources and which has been edited by A. Badawi and published (see n. 12 below). The research of L. Minio-Paluello ["note sul Aristotile Latino medievale IV; La tradizione semitico-Latina del testo dei secondi Analytici," *Ribista di Filosofia Neo-Scolastica*, 42 (1951), Fasc. II, republished in L. Minio-Paluello, *Opuscula: The Latin Aristotle* (Amsterdam, 1972), 127-54] indicates that Averroes used, in addition to the translation of Abū Bishr, another Arabic version by an unknown translator. R. Walzer has raised the possibility that this other translator may be the Marāyā, twice mentioned in marginal comments in the Paris manuscript of Abū Bishr's translation. See R. Walzer, *Greek into Arabic* (Oxford, 1962),

tenth-century Baghdadi school of logicians that included the philosopher Alfarabi (al-Fārābī) (d. 950).[2] There are indications, however, that such earlier philosophers as Kindi (al-Kindī) (d. ca. 870) and his student al-Sarakhsī (d. 899) had some knowledge of the work.[3] But, properly speaking, the credit for its introduction to the main stream of Arabic philosophy belongs to the school of Baghdadi logicians.

Its entry into medieval Islam marked a turning point in the development of Arabic philosophy. It provided the conceptual framework within which philosophical and scientific investigations operated. Its precepts became part of the texture of Arabic philosophical discourse, as the world came to be perceived through the medium of logical connections, expressed in the language of middle terms. Its influence, moreover, went beyond philosophy to reach Islamic speculative theology, *kalām*. Thus, in the eleventh century, as will be indicated more fully, Ghazali (al-Ghazālī) (d. 1111), a leading member of the then dominant school of *kalām*, the Ashᶜarite, suggested ways for retaining the Aristotelian requirements for demonstration within a non-Aristotelian occasionalist view of the world.

But while the *Posterior Analytics* exerted an immense influence on medieval Arabic philosophy, it itself was influenced by its new intellectual environment. In their attempt to understand this work and resolve some of the difficulties inherent in it, philosophers like Alfarabi and Avicenna

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[2] Alfarabi states that he studied the *Posterior Analytics* with his teacher, the Nestorian scholar, Yūḥannā Ibn Ḥaylān, but we have no details about this. One of our earliest, though by no means infallible, sources for the history of the transmission of Greek thought to Islam, Ibn al-Nadīm (d. 995), informs us in his *Fihrist* that a first partial translation of the *Posterior Analytics* was made by Ḥunayn Ibn Isḥāq (d. 873), and that his son Isḥāq made a complete Syriac translation, on which Abū Bishr based his Arabic translation. He further informs us that Abū Bishr studied this work with his teacher al-Marwazī who taught in Syriac and also with Quwayrī who wrote an exposition of the *Posterior Analytics*. Ibn al-Nadīm mentions commentaries by Abū Bishr, Alfarabi, Themistius and John Philoponus, the two latter presumably in their Arabic translation, but states that the commentary of Alexander of Aphrodisias was not available. Ibn al-Nadīm, *al-Fihrist* (Tehran, 1971), 309, 321-22.

[3] *Fihrist*, 316, 317, where we are told that these two philosophers wrote epitomes on this work. Kindi lists this work, referring to it as *Apodictica*, in his short treatise enumerating Aristotle's works, adding a few sentences about its content: al-Kindī, *Rasā'il al-Kindī al-Falsafiyya*, ed. M.A.A. Abu Rida (Cairo, 1950), 367, 368. See also N. Rescher, *Studies in the History of Arabic Logic* (Pittsburgh, 1963), 34, 36. Ibn al-Nadīm also states that the physician-philosopher al-Rāzī (d. 926) wrote a work entitled, *Kitāb al-Burhān* (*The Book of Demonstration*), consisting of two chapters. *Fihrist*, 357.

(Ibn Sīnā) (d. 1037) offered interpretations and expansions on it. Some of these expansions reflect the influence of the epistemology of the *kalām*. Thus, before Ghazali's endorsement of Aristotelian demonstration, it had already had some interaction with the *kalām*.

In what follows we will attempt to convey an idea of how the *Posterior Analytics* fared in the Arabic middle ages. We will begin with three examples illustrative of different ways it affected philosophical thought. We will then indicate some of the ways it was interpreted and expanded on, concluding with a section devoted mainly to the Ghazalian attempt to accommodate Aristotelian demonstration within an atomist, occasionalist theological metaphysics.

II

For our first example of the way the *Posterior Analytics* affected medieval Arabic philosophy, we will turn to Alfarabi's political theory. This theory offers, in effect, an interpretation of Islamic religious and political institutions in Platonic terms. The ideal city, or, as Alfarabi terms it, "the virtuous city," is hierarchically organized. Each level of its society fulfills a special function, all acting harmoniously under the leadership of a philosopher-ruler, a philosopher also endowed with exceptional practical ability and wisdom. The law governing the city is the revealed law. This law is an expression of philosophical truth, but in a language the non-philosopher can understand, that is, the language of the image and the symbol. It is within such a community that happiness in this life, leading to ultimate happiness in the hereafter, is attainable.

To realize this happiness, Alfarabi states at the very beginning of his political treatise, *The Attainment of Happiness*, four kinds of things are required: "theoretical virtues, deliberative virtues, moral virtues and practical arts." He then discusses the "theoretical virtues" which consist of "the sciences whose ultimate purpose is to make the beings and what they contain intelligible with certainty."[4] Before discussing these sciences, he offers a brief, but interpretive digest of the *Posterior Analytics*. He

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[4] Alfarabi, *The Attainment of Happiness*, in the trilogy, *The Philosophy of Plato and Aristotle*, translated with an Introduction and Notes by Muhsin Mahdi (New York, 1962), 13.

discusses, for example, the division of knowledge into the primary, the self evident, and that which is acquired through "investigation, inference, instruction and study." He differentiates between the demonstration that yields the fact only and that which gives the reasoned fact. With the former, he explains, the principles of instruction are other than the principles of being; with the latter, they are the same. He then identifies the principles of being with the four Aristotelian causes, drawing in discussing them on the second part of the *Posterior Analytics* (II, 1, 89b 23; also, II, 2, 89b 36).

Then, in terms of this digest, Alfarabi introduces the theoretical sciences beginning with mathematics where, he explains, only the formal cause in involved.[5] He then introduces physics, metaphysics and, what concerns us here most, political theory, where the teleological cause, the perfection of man, plays the dominant role.[6] Political theory, one of the theoretical virtues the philosopher-ruler must have, is a demonstrative science.[7] Alfarabi's concept of the ideal state, which is basically Platonic, is arrived at, not through the dialectic of the *Republic*, but through Aristotelian demonstrative reasoning. Here, however, a qualification is needed. Alfarabi's epistemology has a Neoplatonic element, basic to his explanation of prophetic revelation.

For the realization of the ideal state, the first ruler at least must be both a philosopher and a prophet receptive of the revealed law. Revelation takes place when the philosopher-prophet's rational faculty conjoins with the Active Intellect, the last of a series of celestial intelligences emanating from God. The prophet-philosopher's rational soul becomes inundated with the intelligibles proceeding from the Active Intellect. These, in turn, descend on the prophet's imaginative faculty which transforms them into particular images that symbolize them. These symbols are then expressed in the language which all people, non-

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5 *Ibid.*, 19. See also al-Fārābī, *Kitāb al-Musīqā al-Kabīr* (*The Great Book of Music*), ed. A. Khashaba (Cairo, 1967), 90-91, where Alfarabi expands on this. The source of his discussion is *Posterior Analytics*, I, 13, 78b 35 - 79a 10.

6 *Attainment of Happiness*, 22-23.

7 *Ibid.*, 23.

philosophers and philosophers, can understand, the language of the scriptures.[8]

It should be stressed, however, that the intellectual knowledge the prophet-philosopher receives from the Active Intellect does not differ in kind from the knowledge the ordinary philosopher acquires more laboriously through demonstration. It is demonstrative knowledge. Religion, in other words, offers symbolic expression of demonstrative knowledge. Since Alfarabi's religious model is Islamic, what his political philosophy provides in effect is an accommodation between the *Posterior Analytics* and the *Qur'an*, an accommodation that becomes more explicitly expressed by Averroes (Ibn Rushd) (d. 1198) who in his political theorizing is very much the disciple of Alfarabi.

For our next two examples, we will turn to Avicenna's metaphysics and begin with his theory that God knows particulars "in a universal way." Underlying this theory is the epistemological ideal of the *Posterior Analytics* that knowledge is of the universal. The object of God's eternal, intellectual knowledge is the universal. Some particulars, however, are in some sense known to God individually. These are the particulars, entities and events related to them, in the celestial world. In Avicenna's triadic emanative scheme, each celestial entity, whether intellect, soul or body, in each of the triads proceeding from the first of the emanated intellects, represents the only member of a species. God knows these species. But knowledge of these universals does not entail the knowledge that each is confined to one member. God knows that they are so confined as a consequence of His causality, where in the celestial realm the principle that from the one only one proceeds is operative. Thus God knows (a) the celestial species and (b) that its universal qualities are confined to one individual. It is in this sense that God knows celestial particular entities and, by extension, particular celestial events such as eclipses that relate to them.[9]

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[8] For a fuller discussion of prophetic revelation in Alfarabi, see the author's "The Islamic Philosopher's Conception of Islam," in *Islam's Understanding of Itself*, eds. R.G. Hovannisian and S. Vryonis, Jr. (Malibu, California, 1981), 94-96.

[9] Some medieval Islamic philosophers have interpreted Avicenna as holding that God knows each and every particular in both the celestial and terrestrial world by intellectual, conceptual knowledge. Textual evidence showing that this cannot be Avicenna's view is overwhelming. For a detailed discussion of this question and of the Avicennan theory, see the author's, "Some Aspects of Avicenna's Theory of God's Knowledge of Particulars," *Journal of the American Oriental Society*, 82.3 (July-

Included in this theory is Avicenna's definition of the universal in the *Metaphysics* of his *Shifa'* (*Healing*), namely as "that whose very conception does not disallow its being predicable of many." It may be actually predicated of many, as with "man," he explains, of none, as with a "heptagonal house," or of one, as with "earth" and "sun." That there is only one sun is not included in the universal concept, "sun," and is due to an extraneous cause.[10] This idea, however, is first given in the *Demonstration* of his *Shifa'*,[11] in an expansion on *Posterior Analytics* I, 5, 74a 4-12, an expansion, however, that reflects the medieval Arabic translator's interpretation of this passage.

In this passage Aristotle states that we may inadvertently err in taking a conclusion to be universal in its primary, widest sense, when it is not. He then gives three reasons for this error. The first occurs when (to use the Oxford translation) "the subject is an individual or individuals above which there is no universal to be found." Abū Bishr Mattā's translation of this passage gives a different interpretation of the error one is prone to commit. According to this translation it consists of two things: (a) mistaking a conclusion which in fact is universal not to be so, that is, thinking it to be a particular; and (b) the opposite of this, thinking the particular conclusion to be a universal. The translator then gives the first of the reasons for error as applicable to (a). It occurs when there is nothing "higher other than the things that are particular and solitary (*waḥīda*)."[12] Both Avicenna and Averroes interpret this as referring to particulars like the sun, each of which is the sole member of its species.[13] In the *Demonstration*, Avicenna stresses the distinction between the universal sun and its particular only instance. The universal

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September 1962), 299-312.

10 Ibn Sīnā (Avicenna), *al-Shifa': al-Ilāhiyyāt* (*Metaphysics*), ed. G.C. Anawati, S. Dunya and S. Zayid (Cairo, 1960), 195-96. This work will be abbreviated, *Metaphysics*, in the notes.

11 Ibn Sīnā (Avicenna), *al-Shifa': al-Manṭiq (Logic) V; al-Burhān* (*Demonstration*), ed. A.A. Affifi (Cairo, 1956), 144-46. This work will be abbreviated, *Demonstration*, in the notes.

12 Aristotle, *Anālūṭiqā al-Awākhir* (*Posterior Analytics*), tr. Abū Bishr Mattā, ed. A. Badawi in *Manṭiq Arisṭū* (*Aristotle's Logic*), 3 vols. reissued (Beirut, Kuwait, 1980), II, 345-46.

13 *Demonstration*, 144; Averroes (Ibn Rushd), *Middle Commentary and the Posterior Analytics*, ed. M.M. Kassem, completed, revised and annotated by C.E. Butterworth and A.A. Haridi (Cairo, 1982), 53. This strongly suggests that both were using Abū Bishr's translation.

sun does not include the information that there is only one sun. This distinction in Avicenna, as we noted, is part of his theory of God's knowledge of particulars "in a universal way." It first occurs as an interpretation of *Posterior Analytics*, I, 5.

For our final example, we shall turn to Avicenna's proof from contingency for God's existence.[14] This is an *a priori* proof in the sense that it operates exclusively in terms or rational concepts that are independent of our perception of the observable world. Just as there are self-evident logical propositional truths, he argues, there are also primary, very general, concepts such as "the existent," "the thing," and "the necessary." The impossible cannot exist and hence the existent is either in itself necessary or only possible. If necessary, it can be shown that it would be uncaused, necessarily one, simple. If in itself only possible and we suppose it to exist, then it can be shown that it would require for its existence the existent necessary in itself. In either case, since there is existence, there must be an existent necessary in itself. This is God. Once the existence of God is proved, then the existent that is only possible in itself, the world, is inferred from His existence.

That this is the pattern of argument intended is indicated in the *Metaphysics* of the *Shifa'*: Avicenna writes[15]:

> It will become clear to you anon through an intimation that we have a way of proving the existence of the First Principle, not by the method of evidential proof from the things perceived by the senses, but by way of universal rational premises that render it necessary that there is for existence a principle that is necessary in its existence, that makes it impossible for this principle to be in any way multiple, and makes it necessary that the whole is necessitated by Him according to the order possessed by the whole.
>
> Because of our incapacity, however, we are unable to adopt this demonstrative method which is the method of arriving at the secondary existents from the primary principles and the effect from the cause, except with some groupings of the ranks of existing things, not in detail.

These "groupings of the ranks of existing things" mentioned above are the celestial emanated triads in Avicenna's emanative scheme. Their proceeding sequentially from God parallels the demonstrative ideal of

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[14] In his writings Avicenna gives several (closely related) versions of this proof. The most comprehensive of these is in the *Metaphysics* where, however, it is scattered in different discussion and has to be reconstructed. See the author's, "Avicenna's Proof from Contingency for God's Existence in the *Metaphysics* of the *Shifa'*", *Mediaeval Studies*, XLII (1980), 337-52.

[15] *Metaphysics*, 21.

arriving at the secondary existents from the primary, at the effect from the cause. That Avicenna here is referring to the demonstration of the reasoned fact is not difficult to discern. Not that the way he goes about inferring the existence of the celestial triads is convincing. His argument, as Ghazali's devastating criticism of it shows, is seriously flawed.[16] But the demonstrative ideal of inferring the effect from the cause, enunciated in the *Posterior Analytics*, is very much there. It is God, the cause, that explains the fact of the world, not the other way around.

III

How then did the *Posterior Analytics* fare at the hands of its medieval Islamic interpreters? It was "The Book of Demonstration" and demonstration meant to them the perfection of syllogistic reasoning, its ultimate goal. "Our primary and essential purpose in the art of logic," Avicenna writes, "is knowledge of syllogisms and that part of [the art] that examines demonstrative syllogisms." "The use of this for us," he continues, "is the acquisition of the demonstrative sciences."[17] Again, after explaining in the first chapter of the *Demonstration* of the *Shifa'* that properly speaking this work should be entitled, the *Book of Demonstration and Definition*, he writes[18]:

> Once we mention the book's purpose which is to bestow the methods productive of assent that is certain and conception that is true, the benefit of the book becomes clear. It is to arrive at the cognitions that are certain and conceptions that are true, nay necessary for us when we engage in using this instrument, that is logic, and begin to weigh with its scales the theoretical and practical sciences.

Whatever else the *Posterior Analytics* may have meant for these philosophers - Alfarabi, for example, emphasizes its pedagogical intent[19]

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16 Al-Ghazālī, *Tahāfut al-Falāsifa* (*Incoherence of the Philosophers*), ed. M. Bouyges (Beirut, 1929), 110-132.

17 Ibn Sīnā (Avicenna), *al-Shifa': al-Manṭiq (Logic) IV: al-Qiyās* (*Syllogism*), ed. S. Zayid (Cairo, 1964), 3. This work will be abbreviated, *Syllogism*, in the notes.

18 *Demonstration*, 18.

19 See D.L. Black, *The Logical Dimension of Rhetorica and Poetics: Aspects of Non-Demonstrative Reasoning in Medieval Arabic Philosophy*, Doctoral Dissertation (University of Toronto, 1987), 116-21. See also M. Galston, "Al-Fārābī on Aristotle's Theory of Demonstration," *Islamic Philosophy and Mysticism*, ed. P. Morewedge (Delmar, New York, 1981), 31. See, in particular, Alfarabi, *Book of Letters* (*Kitāb al-Ḥurūf*), ed.

- it was a work of logic, providing the criterion, "the scales," for ascertaining knowledge in the true sense, knowledge that is certain. It also presented an exacting, ideal definition of knowledge. Scientific demonstration, in the best sense, does not only ascertain the facts but gives the reason for them. The ideal hence is the demonstration of the reasoned fact, where both the middle term and its referent in reality are the cause of the conclusion and its referent in reality. The premises of demonstration are universal, necessary and eternal. The ideal syllogistic form for scientific argument is the first mood of the first figure.

This conception of scientific demonstration posed for the Islamic philosophers, as it did for their predecessors and successors, many a question - for example, the relation of the universal to the particular, the necessary to the contingent, the role of observation in all this. The *Posterior Analytics*, however, while enunciating stringent conditions for realizing scientific knowledge, is not without statements suggestive of flexibility. Science is not confined to the demonstration of the reasoned fact. Demonstration establishing the fact is also acknowledged. The object of scientific knowledge, to be sure, is the universal. But demonstration can be - in an accidental manner - of the perishable particular.[20] Observation certainly plays a role in scientific investigation. True, in one passage, Aristotle states that if we were on the moon and saw the earth obstructing the sun's light, we would experience the eclipse without understanding the reason for it. He immediately adds, however, that frequent observation of a fact enables us to grasp the universal and attain demonstration.[21] The Islamic philosophers expanded on these and related points, and extended the range of premises admissable in demonstration to include assertions of particular experiential facts.

This can be seen particularly in the writings of Avicenna. He discusses, for example, different kinds of the demonstration of the fact (*burhān inna*).[22] These include for him a type of inductive argument where there are finite instances, allowing the induction to be complete,

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M. Mahdi (Beirut, 1970), 151-52. This does not contradict Alfarabi's view that it is also a criterion for ascertaining what is certain and a means of arriving at it: Al-Fārābī, *Iḥṣā' al-ʿUlūm*, ed. U. Amin (Cairo, 1949), 64.

20 *Posterior Analytics*, I, 8, 75b 25-27; Avicenna reiterates this in *Demonstration*, 172-73.

21 *Posterior Analytics*, I, 33, 87b 39 - 88a 4.

22 *Demonstration*, 79-80.

these instances expressed in a disjunctive premise.[23] He warns his readers against believing that this kind of argument is not a demonstration. He also urges them not to pay any attention to the claim that demonstration is confined to the attributive syllogism. The most common type of demonstration of the fact, which he terms *dalīl*, "evidential proof," involves the inference of the cause from the effect. In one place he illustrates this type of demonstration by using a conditional syllogism: If there is a lunar eclipse, then the earth intervenes between sun and moon; there is a lunar eclipse; therefore the earth intervenes between sun and moon. The repeated premise, "there is a lunar eclipse," he states, acts as a middle term.[24] The most general demonstration of the fact, however, is the one in which two effects are necessitated by one cause. In such a case, the existence of the one effect is inferrable from the existence of the other. *Al-sarsām*, brain fever due to the swelling of the membrane envelopping the brain, and viscous white urine, Avicenna states, are concomitants, two effects of the same cause, namely the movement of the acrid humours towards the head.[25]

Turning to the modality of demonstrative syllogisms, Avicenna urges the reader to pay no attention to the contention that necessary premises are demonstrative, those possible for the most part, dialectical, the equally possible, rhetorical, the least possible, sophistical, and the impossible, poetical.[26] There can be demonstrations of the possible (of whatever degree). His position, which in effect includes the distinction

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[23] In *Demonstration*, 79, Avicenna refers to this as a conditional syllogism called "the divided," *al-muqassam* (possibly, "the dividing," *al-muqassim*), stating that these instances are expressed in a disjunctive premise. The different kinds of this syllogism, including the inductive, are discussed in *Syllogism*, Bk. VI, Ch. 6, 349-59. For a translation and commentary on the different kinds of this syllogism, see N. Shehaby, *The Propositional Logic of Avicenna* (Dordrecht and Boston, 1973), 152-60, 262-65.

[24] Ibn Sīnā (Avicenna), *al-Ishārāt wa al-Tanbīhāt (Vol. I: Logic)*, ed. S. Dunya (Cairo, 1953), 536-37. This edition, which will be abbreviated, *Ishārāt*, includes the commentary of Naṣīr al-Dīn al-Ṭūsī. For an English translation, see Ibn Sīnā, *Remarks and Admonitions: Part I; Logic*, tr. with an Introduction and Notes by S.C. Inati (Toronto, 1964), 155.

[25] *Demonstration*, 79-80.

[26] *Qiyās*, 4; *Ishārāt*, 512. Avicenna in this criticism may well have had in mind Alfarabi who adopts this position in his short treatise, *Qawānīn al-Shiʿr*, edited and translated by A.J. Arberry: A.J. Arberry, "Fārābī's Commentary on Poetry," *Rivista delga Studi Orientali*, 267-78, 268. I owe this reference to D.L. Black. For a full discussion of this passage and the issues involved, see her doctoral dissertation, cited in note 19 above, p. 142ff.

between modalities *de dicto* and *de re*, is summed up by his follower, the scientist philosopher Naṣīr al-Dīn al-Ṭūsī (d. 1274)[27]:

> Demonstrative syllogisms consist of propositions whose acceptance is necessary. These are the ones to which assent is necessary, regardless of whether they are in themselves necessary or possible. If necessary in themselves, then their conclusions are necessary according to both circumstances, and if possible in themselves, necessary in terms of acceptance. In short, demonstrative syllogisms are certain, materially and formally.

In the case of premises that are in themselves necessary, Avicenna raises the question of the duration of their necessity. A predicate, he maintains, will always belong necessarily to a subject if the latter always exists - for example, in the statement, "God is one." In universal statements about corruptible things, however, a predicate belonging necessarily to a subject will always exist as long as the subject exists, as in the statement, "all men are animals." The same applies when a description associated with a subject has a necessary predicate. A white object has a necessary predicate, its being of a color distinguishable (presumably as definitely white) to sight. Then there is the necessity of the predicate existing as long as the predicate exists (a man is necessarily seated when he is seated). Finally, there is the necessity associated with a particular event at a specific time, such as a lunar eclipse.[28]

This analysis, which includes questions regarding the meaning of existential (assertoric) premises and their relation to the modal, was severely criticized by Averroes who maintains that universal statements about corruptibles are still universal. Hence when we state that man is necessarily an animal, the predication is eternal, "regardless of whether or not each man exists necessarily and always." Avicenna's conditions, Averroes observes, apply to particular, not universal statements.[29] Whatever the strengths or weaknesses of Avicenna's analysis, it should be remarked that it appears in several of his works, often in discussions of modality arising from the *Prior Analytics*. One of its fullest expressions,

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27 *Ishārāt*, 512.

28 *Qiyās*, 53; *Demonstration*, 121. Cf. *Posterior Analytics*, I, 8, 75b 33-36.

29 Arabic text published by Dunlop. See, D.M. Dunlop, "Averroes (Ibn Rushd) on the Modality of Propositions," *Islamic Studies*, Vol. I (1962), 33. For an English translation with an Introduction and comments, see N. Rescher, *Studies in Arabic Logic*, 91-105.

however, occurs in the *Demonstration* of the *Shifā'*,[30] as an expansion on *Posterior Analytics*, I, 6.

As mentioned earlier, philosophical expansions of this work were also influenced by the epistemology of the *kalām*. The school of *kalām* that concerns us most here is the Ashᶜarite. According to this school, human knowledge divides into "necessary" and "reflective," the latter being inferential knowledge based on the former.[31] Necessary knowledge is created in us directly by God. It includes self-evident logical truths, knowledge of our own existence and our psychological and physical states, knowledge of the world around us attained immediately in association with our senses and knowledge based on *tawātur*. This latter is knowledge of individual historical events and geographical places rendered certain through innumerable individual corroborative reports, ultimately based on veridical observation. *Tawātur* in Islamic theology and religious law is very significant. It gives certitude about events in the past, particularly religious events, the existence of the prophet Muhammad, for example, his utterance of revelation, some of his actions and sayings.[32]

Now Avicenna includes all these cognitions as usable in the premises of demonstration. He thus includes particular empirical premises arrived at through direct observation and *tawātur*. He and his followers, however, insist that in the case of the former, sensation is always accompanied by judgement. It is only thus that utterances about particular observables are either true or false, certain or uncertain.[33] Avicenna, moreover, goes beyond this to include as premises of demonstration universal empirical

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30 *Demonstration*, 120-24. See also, *Ishārāt*, 308-16; *Syllogism*, 32-33 and Ibn Sīnā, *al-Najāt* (Cairo, 1938), 20-21.

31 For a discussion of the Ashᶜarite theory, see my article, "Ghazali's Attitude to the Secular Sciences and Logic," *Essays on Islamic Philosophy and Science*, ed. G.F. Hourani (Albany, New York, 1975), 104-105.

32 See B. Weiss, "Knowledge of the Past: The Theory of *Tawātur* According to Ghazali," *Studia Islamica*, LXL (1985), 90-105.

33 *Demonstration*, 58, where Avicenna is reluctant to admit apprehension by the senses as constituting knowledge, but elsewhere he affirms that particular premises based on observation are admissible in demonstration: *Ishārāt*, 389ff. Al-Ṭūsī, in his *Talkhīṣ al-Muḥaṣṣal* (Tehran, 1980), 112-13 is very explicit in insisting that particular premises based on sense experience must include judgment, otherwise they would not constitute propositions that are either true or false, certain or uncertain.

statements of the form, whenever A then B. These consist of two related kinds, *al-mujarrabāt*, "the experienced," and *alḥadsiyyat*, "the intuited."

A discussion of the experienced premises occurs in Alfarabi's *Great Book of Music* (*Kitāb al-Mūsīqā al-Kabīr*) devoted to both musical theory and practice. In this work he locates harmonics within the epistemological confines of the *Posterior Analytics* and discusses aspects of the latter.[34] According to Alfarabi, the process of arriving at the certainty of these experienced premises begins with sensation and imagination, followed by the mind's activity of separating and combining images. Then the mind uses a special natural power for a specific action, enabling it to arrive at certain knowledge from the recurrence of the events observed. He does not indicate, however, what this natural power is and of what its action consists. He only states that induction does not involve this mental activity and hence does not provide the certainty required in demonstrative premises.[35]

In his treatment of both the experienced and intuited premises, Avicenna is more explicit about the role of the mind in arriving at their certainty. Both these kinds of premises depend on the observation of regularities in nature. In the case of the experienced premises, the regular association of events is directly perceived, as for example, fire and the burning associated with it. With the intuited, the association is not directly perceived. Avicenna's example of this derives from Aristotle's definition of "quick wit" in *Posterior Analytics*, I, 1, 34. Thus, as Avicenna puts it, "an example of this would be for a person to observe the moon and that it gives light according to its various shapes and from the side facing the sun. The mind then seizes a middle term, namely that the cause of its light is the sun."[36]

The observation of regularities in arriving at both types of certain premises, while necessary, is not sufficient. In addition to this, Avicenna argues, there is always a hidden syllogism to the effect that if the regular association of events was coincidental it would not have continued always or for the most part. From this argument, which has a background in *Physics*, ii, 5, 196b, 10-16, he concludes that the regularity derives

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34 Alfarabi, *Kitāb al-Mūsīqā al-Kabīr*, 92-98.

35 *Ibid.*, 97-98.

36 *Demonstration*, 259.

from the inherent causal properties in natural things.[37] As we shall shortly see, Ghazali uses the same argument, but draws from it a different conclusion.

IV

It is to Ghazali that we must now turn. He wrote a number of expositions of the logic used by the Islamic philosophers, urging his fellow theologians and lawyers to adopt it.[38] He argued that it did not differ from their logic in essentials - only in terminology, in its greater refinement and more exhaustive treatment. Furthermore, he maintained, it is a neutral tool of knowledge, not committed to any one philosophy or doctrine. But the aim and perfection of logic, according to the philosophers, is demonstration. Explanatory reasoning in demonstration hinges on the Aristotelian four causes. Is it not then committed to a specific metaphysics of causality?

Of the Aristotelian causes, the efficient, in particular, posed a difficulty for Ashᶜarite acceptance of demonstrative logic. This concept of cause, as developed by Avicenna,[39] embodied a necessitarianism, which when applied to divine agency, was totally unacceptable to Ashᶜarism. According to this concept, the proximate, essential, efficient cause and its direct effect coexist, the priority of cause to effect being ontological, not temporal. When all the causal conditions obtain, barring impediments, the cause necessitates the effect. In extramental reality, the relation between cause and effect is irreversible, that is, one can only remove the effect by removing the cause. In the mind, however, the inferential relation between cause and effect is reciprocal. The connection between the proximate efficient cause and its effect is a necessary one, its disruption impossible. Hence certain miracles reported in the scripture, involving such a disruption, are impossible and the language reporting them must be read as metaphor.

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37 *Demonstration*, 95, 96, 223-24; *Ishārāt*, 394-96.

38 See, "Ghazali's Attitude to the Secular Sciences and Logic."

39 See the author's, "The Metaphysics of Efficient Causality in Avicenna," *Islamic Theology and Philosophy: Studies in Honor of G.F. Hourani*, ed. Michael E. Marmura (Albany, New York, 1984), 172-78.

Ghazali himself, a leading Ashᶜarite theologian, criticized and rejected this causal concept. His theological school was occasionalist. It denied secondary causes, conceiving the world to consist of transient atoms and accidents inhering in them. These entities are created *ex nihilo* by the divine voluntary act, related to form bodies[40] and sustained in temporally finite spans of existence. There is no causal interaction between these created entities, only concomitance. The orderly flow of events has no inherent necessity. It is a habit, *ᶜāda*, or a custom, *sunna*, decreed by God, but can be disrupted at His will. How then would the *Posterior Analytics* relate to this scheme of things?

To see how this question arises in Ghazali's writings and how he attempts to answer it, we will first turn to his influential *Tahāfut al-Falāsifa* (*The Incoherence of the Philosophers*), written to refute the Islamic philosophers, not to affirm his own doctrine. In its seventeenth discussion, he argues for the possibility of certain miracles deemed impossible by the philosophers. One can show the possibility of such miracles either in terms of the Ashᶜarite causal theory or even an Aristotelian theory when properly modified. Ghazali expounds and defends both the Ashᶜarite and the modified Aristotelian theory as possible, without explicitly committing himself in this work to either.[41] In introducing the Ashᶜarite theory, he begins with his well-known argument that the connection between what is habitually believed to be the cause and its effect in observable things is not logically necessary and that hence one can affirm either one and deny the other without contradiction. After giving examples of such habitual causes, he concludes[42]:

> The connection of these things is due to the prior decree of God, who creates them side by side, not to any inherent necessity in these things that would render their separation from each other impossible. On the contrary, it is within God's power to create satiety without eating, death without decapitation, to prolong life after decapitation and so on in the case of all concomitant things.

Ghazali then continues with his argument that observation shows only concomitance, not necessary causal connection.

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[40] For the subtleties involved in the question of what constitutes a body in Ashᶜarism, see R.M. Frank, "Bodies and Atoms," *Islamic Theology and Philosophy*, 39-53.

[41] See the author's, "Al-Ghazālī's Second Causal Theory in the 17th Discussion of the *Tahāfut*," *Islamic Philosophy and Mysticism*, ed. P. Morewedge (Delmar, New York, 1981), 278-79.

[42] Ghazali, *Tahāfut al-Falāsifa*, 278-79.

In the above passage, however, special attention should be given to the example of decapitation, which recurs in two key passages in two different works associated with the *Tahāfut* and written in the same period.[43] The first of these is his *Iqtiṣād fī al-Iʿtiqād* (*The Golden Mean of Belief*), written shortly after the *Tahāfut*, a work in which he affirms and defends his Ashʿarite theology. In it he subjects the theory of generated acts of the rival Muʿtazilite school of *kalām*, which he identifies with the philosophers' theory of efficient natural causality, to criticism and rejects it.[44] He affirms unequivocally the Ashʿarite causal theory, proclaiming it to be the true theory.[45] The example of decapitation occurs in a discussion of *al-ajal*, the individuals's predestined time of death. If a man is decapitated, does he die because of decapitation or his *ajal*? Ghazali writes[46]:

> Killing means the cutting of the neck. This reduces to accidents that are motions of the hand of the striker with the sword, accidents that are separations in the parts of the neck of the one being struck, another accident being associated with these, namely, death.
>
> If there is no bond between the cutting and death, the denial of death would not follow necessarily from the denial of cutting. For these are created together, connectedly in accordance with habit (*ʿāda*), there being no bond of the one with the other. They are similar to two separate things that are not habitually connected.

After further discussion, including an explanation of the philosophers' causal position, he concludes[47]:

> It ought to be said that he died by his *ajal*, *ajal* meaning the time in which God creates in him his death, regardless of whether this occurs with the cutting of a neck, the occurrence of a lunar eclipse, or the falling of rain. For all these things are for us associations, not generated acts, except that with some their connection is repeated according to habit, but with some they are not repeated.

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43 In *Posterior Analytics*, I, 4, 73b 15-16, decapitation is given as an essential cause in the killing of an animal. That a similar example (though with reference to people) occurs in Ghazali's discussion of causality may well be coincidental.

44 Al-Ghazālī, *al-Iqtiṣād fī al-Iʿtiqād*, eds. I.A. Çubukçu and H. Atay (Ankara, 1962), 95-99; for an explicit identification of the Muʿtazilite theory of generated acts and the philosopher's theory of efficient causality, see *Tahāfut*, 377.

45 *Iqtiṣād*, 224, line 8.

46 *Ibid.*, 223-24.

47 *Ibid.*, 225.

It is with this example as it occurs in the *Tahāfut* and the *Iqtiṣād* in mind that we shall turn to the third work, the logical treatise he appended to the *Tahāfut*, his *Miʿyār al'Ilm* (*The Standard of Knowledge*). This is essentially an exposition of Avicenna's logic where the causal language in the discussion of demonstration is for the most part Aristotelian. There is, however, a reminder of Ashʿarism. It occurs in his discussion of the *mujarrabāt*, "the experienced" premises. Following Avicenna, he argues that we arrive at the certain knowledge of these empirical generalizations through (a) observation of the regular association of events, and (b) the hidden rational argument that if this regularity was coincidental or accidental it would not have continued always or for the most part. Avicenna, as we have seen, draws from this the conclusion that this certainty derives from the causal, natural powers of things, and the necessary causal connections between natural things. Ghazali does not make this conclusion. Instead, he reports a possible objection to his analysis of these premises and answers it. He writes[48]:

> Someone may say: How do you consider this certain when the theologians have doubted this, maintaining that it is not decapitation that causes death, nor eating satiation, nor fire, burning, but that it is God, the Exalted, who causes burning, death and satiation at the occurrence of their concomitant events, not through them.
>
> We answer: We have already directed attention to the depths and true nature of this problem in the book, *The Incoherence of the Philosophers*. It is sufficient here to say that when the theologian informs the questioner that his son has been decapitated, the theologian does not doubt his death - no rational man doubts this. The theologian admits the fact of death, but inquires about the manner of connection between decapitation and death.
>
> As for the inquiry as to whether this is a necessary consequence of the thing itself, impossible to change, or whether this in accordance with the passage of the custom (*sunna*) of God, the Exalter, due to the fulfillment of His will that can undergo neither substitution nor change, this is an inquiry into the mode of connection, not in the connection itself.

If we read Ghazali aright, nature proceeds in a uniform manner. God decrees the creation of regularly associated events we habitually regard as causes and effects. But they are not true causes and effects, only concomitants. They have, however, an order in their relation to each other that parallels that of the Avicennan essential efficient causes and their effects. Thus the habitual cause coexists with the habitual effect, its priority to it being ontological, not temporal. In extramental

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48 Al-Ghazālī, *Miʿyār alʿIlm*, ed. S. Dunya (Cairo, 1961), 190-91.

reality the order of the habitual cause and the habitual effect is normally irreversible, but in the mind their inferential relation is reciprocal. This inferential relation is not based on any necessary connection between them, but on a uniform pattern decreed arbitrarily by God. This order can thus be disrupted. God in His goodness, however, disrupts it only on the rare occasion when a miracle is needed. As Ghazali tells it in his *Tahāfut*,[49] God creates in us the assurance that the uniformity will continue: when a miracle takes place, he refrains from creating in us knowledge of the uniformity, creating knowledge of the miracle instead. Under normal circumstances, however, we have the assurance from God that the order of the world will continue. On this basis we can have scientific demonstrations about the natural order.

To be sure, there are difficulties in this epistemology. But what is significant for our purpose here is that one of Islam's most important and influential theologians did not discard demonstration, but sought to adapt it to his religious metaphysics. Not that all Islamic religious thinkers looked kindly on demonstration. A case in point is the renowned Islamic lawyer Ibn Taymiyya (d. 1328), for whom the object of knowledge is what exists extramentally, this being the singular in its singularity. Demonstration, which for the Aristotelian purists is concerned with the universal, cannot arrive at such knowledge. It thus does not arrive at the existence of the unique, one God, but only at the universal concept of deity, a universal "whose conception does not disallow partnership therein." He writes[50]:

> Universal, general propositions do not exist externally as universal and general. They are only universal in [our] minds, not in concrete existence. Regarding external existents, these are specific things, each existent having a reality proper to it, differentiating it from what is other, no other sharing [the reality] with it.
>
> As such, it is impossible to arrive at the particularity of a specific existent through the syllogism. [The logicians] acknowledge this, stating that the syllogism does not indicate a specific thing. They may express this by saying that it does not indicate a particular, but only the universal, intending by the particular that whose conception prevents the occurrence of partnership in it. [Now] every existent has a reality proper to it whose conception prevents the occurrence of partnership in it. Hence the syllogism does not bestow knowledge of a specific existing thing. Every existent is a specific existent. [The syllogism] thus does not bestow knowledge of the realities of existing things, but only of universal,

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49 *Tahāfut*, 286.

50 Ibn Taymiyya, *al-Radd ᶜalā al-Mantiqiyyīn*, ed. S. Nadawi (Bombay, 1949), 344.

> absolute things, supposed in the mind, not realized in specific existence.
>
> We have spoken of this and other things at greater length elsewhere, where it was shown that none of the things the theoreticians mention regarding the syllogistic arguments they term demonstration for proving the existence of the Creator, may He be praised and exalted, indicate anything about His specific existence, but only an absolute universal thing, whose conception does not disallow partnership therein.

The concluding remark is a barbed insinuation, since associating a partner with God is Islam's cardinal sin.

All things considered, however, in its medieval Islamic journey, the *Posterior Analytics*, fared very well. It exerted enormous influence on Arabic thought. Its sponsors, the Islamic philosophers, developed its ideas, widening its epistemological range, while a leading theologian, Ghazali, "the proof of Islam," sought to render its canons operative within a non-Aristotelian view of God and the world.

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The *Posterior Analytics* in the Latin West

1. *Preliminary: Aristotle on True Knowledge*

It is common knowledge that Aristotle had the conviction that all reality was to be found within our world of sensible experience and that Plato's assumption of another, Transcendent World of Perfect Being was merely 'empty talk and poetic mataphor' (*Metaph.* A9, 991a20). Indeed, Aristotle took Plato's Forms to be quite useless for explaining the possibility of true knowledge about our world. However, like his master, Plato, Aristotle stuck to the Parmenidean conviction about the real existence of unchanging formal principles of being. As is well-known, his formal principles are *in* things as their immanent dynamic natures (*eidê*).

For Aristotle, true knowledge concerns the essential natures immanent in things (see e.g. *Metaph.*, 991a12-3; 999a24-9; 1018b36; 1032b1 ff. et alibi). To be sure, all being is individual being and so Aristotle is compelled to answer the quite intriguing question: if the proper object of true knowledge is universal nature and everything real is a particular, how, then, are we able to gain genuine knowledge about the things in their own right? In his *Posterior Analytics* Aristotle explains what he understands by truly knowing things. Well, quite in line with his philosophical stand, Aristotle claims that all scientific knowledge is concerned with discerning a universal nature as *immanent in* a particular. In I2, 72a25-7 e.g., it is explicitly said that the elements of the deduction are such and such *in concreto* (cf. 73a29-31). For Aristotle, demonstration in fact concerns some *phenomenal state of affairs* of which the investigation aims to clarify the essential structures.

Let us start, now, with a sketch of the basic tenets of scientific proof according to Aristotle and list the key terms involved.

2. *The Nature of Scientific Attribution (Predication)*

For there to be a true demonstration (*apodeixis*) the way in which attributes are assigned to their subjects has to meet special conditions. (I4, 73a26 ff.)
(1) The attribute should belong to the subject *kata pantos* (*universaliter*), i.e. hold good for each member of the subject's class: 'Every S is P'
(2) it should belong *kath' hauto* or *per se*, i.e. be said of the subject in virtue of a thing's proper nature: 'P belongs to S in virtue of the nature of S' or 'in virtue of the nature of P'
(3) it should belong *kath' holou*, i.e. be said of the subject in virtue of the latter's *entire* nature: 'S is P in virtue of the entire nature of S'.
Nota bene. This *kath' holou* is commonly read as *katholou* and rendered 'universally', which is highly confusing. Rather it should be printed *kath' holou* and rendered 'commensurately applying'. The proper Latin translation would be: *de toto* = *de tota intentione* or *ratione*, but all translations have quite unfortunately, the substantive noun *universale*.

In fact, these requirements are cumulative such that the third one *'kath' holou'* comprises the first two and adds to them the notion of *hêi auto* ('as such'). The *kath' holou* requirement is intended to prevent the demonstrator from picking out an attribute which *is* 'per se' but does not belong to the subject in virtue of the *whole* of its essential formal constituents. E.g. when seeking the appropriate subject for the attribute 'having angles equal to two right angles', the *kath' holou* requirement makes you reject the isosceles triangle as the proper subject because that property is not related to its complete nature, but only to part of it, viz. its being a triangle. In other words, the *kath' holou* requirement does not allow the demonstrator to use the sentence: 'Every isosceles has its angles equal to two right ones' as an appropriate scientific premiss, although it is *per se* true.[1]

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[1] These requirements also play an important role in the Ramistic philosophy of science, and later on when they as *lex veritatis*, *lex justitiae* and *lex sapientiae* developed into the criteria constitutive and discriminative of the diverse arts and sciences. See e.g. Petri Rami, *Dialecticae libri duo*, Audomari Talaci praelectionibus illustrati, Parisiis 1566, pp. 224-38. It is noteworthy that this edition prints *kath' holou*. See Cesare Vasoli, *La dialettica e la retorica dell' Umanesimo*. Invenzione e metodo nella cultura del XV e XVI secolo, Milan 1968, pp. 554 and 584 (for the 1592 edition). - I owe this information to the kindness of my colleague, Professor Gabriel Nuchelmans.

The question may arise, now, by what kind of questions scientific enquiry should commence. Aristotle lists four: the 'that' (*quia*), the 'why' (*propter quid*), the 'whether' (*si est* or *an est*) and 'what' (*quid*). It should be noted that *quia* and *propter quid* ask about some state of affairs (*pragma*) whereas the other two concern the subject involved in that state of affairs. A crucial role is played by the *meson*, which is not 'middle term' but rather 'middle', or intermediate *pragma*. The Medievals are quite right in speaking of *medium* (not, *terminus medius*!).

The initial process of acquiring knowledge may now be described as follows: The senses produce some sensation which, in turn, is presented to the intellect as an *as yet unanalyzed* phenomenon (*pragma*). Next, the intellect sets out to analyze it into subject and attribute by hitting upon the appropriate *meson*. E.g. the *pragma* 'some-noise-occurring-in-the-clouds' is analyzed, through the *medium* 'there-being-a-quenching-of-fire', into 'the noise is <or is caused by> quenching of fire' and 'quenching of fire is <or: causes> thunder'. The pre-existent knowledge in this case is the supposition that thunder is a noise in the clouds caused by the quenching of fire in them.

So Aristotle views scientific enquiry as a movement from a rough idea provided by sense-perception and experience to a full understanding of what some kind of thing or type of event is, as John Ackrill[2] aptly expresses it.

The following rules of thumb concerning the four questions may now be described as follows:

- *hoti esti* (*quia*) introduces some *state of affairs* (*pragma*); even in the case of a simple term used, e.g. 'animal', it should read: 'some-x-being-an-f'
- *ei esti* (*si est*) introduces some *subject somehow qualified* or being in a certain state; the formula does not ask for the existence of some unqualified *hypokeimenon*, as the latter is already presented by sense-perception
- *ti esti* (*quid est*) asks for the correct categorization of the *hypokeimenon* (*subjectum*) of the phenomenon; this question mainly concerns the subject's formal identification
- *dioti* (*propter quid*) asks for the *why* of the state of affairs involved.

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2 *Aristotle, the Philosopher*, Oxford 1981, 102 f.

Definition plays an important role in this process. (See e.g. II8, 93a16-33; 93b15-8; I10, 93b29-94a7). Aristotle distinguishes four types of definition:

(1) definition taken as a non-causal essential categorization of the proper *subject* of the state of affairs involved

(2) definition taken as a causal (and essential) categorization of the state of affairs

(3) definition as performed by the conclusion of the apodeictic syllogism which reveals the essential nature of the proper subject involved in the state of affairs under discussion

(4) definition *qua* definition of the 'immediates' (*amesa*) which is the indemonstrable assumption of their essential nature.

In II13 Aristotle offers some recipes for discovering useful definitions and what is called 'the hunting for essential attributes' (96a22-3). This part of the scientific process amounts to correctly connecting the specific terms just mentioned, i.e. subject, attribute and definiens.

The role (and indeed the precise nature) of 'essential attribution' and, generally speaking, essential categorization also appear from Aristotle's discussion of the relationship between the *quid est* and *si est* items (II8, 93a20-28; 10, 93b34-5).[3] Why must knowledge that there is such a thing as (x) precede enquiry into what (x) is? Would it not be possible to seek x's nature, quite apart from our knowing whether or not x exists?

In order to answer this question one should be aware of the empirical framework of what Aristotle means by scientific enquiry. What Aristotle intends to do is to seek the essential nature of particulars *as* occurring in the daily world. (cf. above, p. 104) The first thing to achieve, then, is to define a phenomenon by properly categorizing it and thus grasp its essential nature. However, Aristotle's claim that the state of affairs (including its *hypokeimenon*) is familiar to us does not imply that we should know *this* subject as qualified such-and-such but rather that the demonstrator should be aware of what I have called above (p. 106) *an as yet unanalyzed phenomenon*. What he has to investigate, then, is whether the essential categorization he has in mind really obtains. In my opinion that is precisely what Aristotle means when remarking that it is not sufficient to be familiar with some thing under a non-essential

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3 Cf. Ackrill *op.cit.*, 101-2.

categorization.[4] For example, supposing there is some noise in the clouds. One may come up with some god in order to explain this phenomenon (e.g. Zeus). However, a rational explanation requires the true definition or true categorization of the cause, namely 'quenching of fire'. Moreover essential categorization is not sufficient as long as it is still at the level of nominal definition; it should also reveal the 'why' (*propter quid*) of the *pragma* involved (93b38-94a7).

Let us now pick up some important items. First Aristotle's notion of 'necessity'. Aristotle is quite explicit about the nature of the object of scientific knowledge (16): it cannot possibly be otherwise than it is and therefore demonstration is based on necessary premisses. However, what exactly should we understand by 'necessity'? Well, it must strike the reader of *Posterior Analytics* that first and foremost necessity is a property required for the demonstration and its premisses, not of the things they are about. In other words, demonstration is about necessary connections between subjects and attributes. So Aristotle speaks of the principle that "demonstration *implies* necessity, that is: if something has been proved, it cannot be otherwise" (I6, 74b13-5). Something's being *per se* is not sufficient; we shall know it as a *per se* connection.

Well, what is proved is not a thing but a state of affairs, as signified by a necessary connection between subject and attribute (see esp. I6, 75a28 ff.). Aristotle even argues that something's 'being *per se*' is not a sufficient explanation; we rather have to know its being as a *per se* connection between its essential constituents. In his philosophical lexicon (Book D of *Metaphysics*, cap. 5) Aristotle confirms this once more (1015b6-9).

In *Anal.Post.* I8 the author claims that the conclusion of a demonstration must be eternal and that, accordingly, there can be no demonstration of knowledge in the strict sense of what is corruptible. In the next lines it is a *proposition* (or premiss) that is called corruptible, not the thing itself it is about.

Besides, in *Physics* II9 Aristotle clearly argues that in expressions as 'Men *must* be made of flesh, blood' etc., the necessity is only hypothetical, i.e. it depends on whether they exist at all. He rejects Democritus' view that the expression means 'men of flesh and blood *must*

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4 See II10, 93b29-37. E.g. calling thunder 'noise' or Callias 'a white <thing>'.

be'. And in *Metaphysics* D5 just mentioned the author concludes his discussion of 'necessary' as follows (1015b9-15):

> Now, some things owe their necessity to something other than themselves; others do not, but are themselves the source of necessity in other things. Therefore the necessary in the primary and strict sense is the simple (*to haploun*); for this does not admit of more states than one. ... If then, there are any things that are eternal and unmovable, nothing compulsory or against their nature attaches to them. (*Oxford translation*)

To my mind, in *Posterior Analytics* Aristotle is not interested in the eternity of things but rather in the perpetuity of the truth of certain propositions (premisses and conclusions). For that reason, the quite interesting controversy[5] among modern interpreters about Aristotle's adherence to the statistic conception of necessity may be left aside for the moment.

I shall conclude this survey of important issues taken from *Posterior Analytics* with a short discussion of the apprehension of the so-called First Principles (or 'immediates', *amesa kai archai*).

Not all knowledge is demonstrative, Aristotle argues as early as in I2 (72b19-22); rather demonstration is made possible thanks to our previous acquaintance with 'immediates' or first principles. Well, the latter type of cognition is discussed at length in the famous final chapter of *Posterior Analytics* (II19). In this chapter Aristotle describes in a way similar to that found in *Metaph.* A1 the apprehension of the first principles as proceeding from sense-perception through the intermediate stages of 'memory' and 'experience', or the framing of a universal cognition on the basis of repeated memories. Such a transition is possible because sense-perception already has an element of 'universality' in it (e.g. we perceive Callias as a 'man'). Starting from such rough 'universals' we arrive at higher ones and finally come to the highest ones, the 'unanalyzables', or highest categories. This passage from particulars to the 'universal' inhering in them is called induction (*epagôgê*). Incidentally, this kind of induction should be well distinguished, I think, from the kind

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5 See esp. Jaakko Hintikka, *Time and Necessity.* Studies in Aristotle's Theory of Modality, Oxford, *etc.* 1973 and Jeroen van Rijen, *Aristotle's Logic of Necessity* (diss. Leyden), Alblasserdam 1986 (forthcoming in Reidel's Series: Synthese Historical Library: *Aspects of Aristotle's Modal Logic*) esp. chs 8 and 9.

of induction as found elsewhere in our treatise (e.g. 72b9; 78a34; 81a38-b9).[6]

Aristotle's description of induction and its role in the scientific process fits in remarkably well with what he has earlier remarked about the process of proper categorization. Referring to the well-known battle simile - how a general retreat comes to an end after one man makes a stand, and then another *etc.* -, the author argues that "as soon as one of the undifferentiated <percepts> makes a stand, there is a primitive universal in the mind ... until the highest genera <have been reached>" (II19, 100a14-b4).

The faculty, or rather cognitive attitude, by which we become familiar with the first principles is the *Nous* or intellective apprehension. Well, just as the Nous precedes all principles (such as axioms etc.), in the same way scientific knowledge covers the whole domain of states of affairs (*pragmata*), Aristotle concludes (100b16-17).

Let us try, now, in the next sections, to discover the Medievals' doctrinal reception of the *Posterior Analytics* by discussing their views of some themes characteristic of Aristotle's scientific method. It would be useful, to that end, to single out the following items: the Medievals' discussion of the well-known four questions, their views of the three requirements for 'hunting essential attributes', their (different) views of necessity, and, finally, the Medieval conceptions of induction and our knowledge of the First Principles.

3. *The Four Basic Questions Involved in* Apodeixis

One should clearly notice, at the outset, that the Medievals were in no way preoccupied with epistemological problems. They did not ask themselves whether knowledge as such is really possible at all. They rather started from the firm conviction that knowing things is possible. What they were interested in, in the footsteps of the Ancient thinkers, esp. Plato and Aristotle, was the question *how* to arrive at true knowledge about things, and to determine the latter's nature or status. On this footing the Medievals were interested in Aristotle's *Posterior Analytics*. At the same time, they were fully aware of our capacity of

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[6] Cf. Kurt von Fritz, 'Die Epagôgê bei Aristoteles' in *Grundprobleme der Geschichte der antiken Wissenschaft*, Berlin-New York 1971, 623-76, esp. 655.

knowing a great many of truths not attainable by scientific demonstration, among which not only all kinds of theological truths but also direct experiences about our sublunar world. They were particularly interested in the *Posterior Analytics* precisely because this work intends to afford a rational foundation of strict knowledge and place it within the framework of human cognitive processes in general.[7]

To turn now to the specific items announced, quite naturally, every Medieval commentator extensively discusses the four questions that are so indispensable for any scientific proof; in their terminology: *quia*, *propter quid*, *si est*, *quid est*. As we have seen before, the first two concern a *pragma* or 'state of affairs', the other pair are about the appropriate subject as involved in the state of affairs.

3.1. *Robert Grosseteste (not after 1168 - 1253)*

Allow me to start with a pertinent quotation from Mc Evoy's excellent study[8] of the philosophy of Robert Grossesteste [1982:320]:

> While the modern preoccupation with epistemological problems should not be read back into the Schoolmen, there is a deal of interest to be found in inquiring how a theologian of the thirteenth century, writing out of the background of Augustinian ideas, reacted to the theory of knowledge created by Aristotle in his struggle to free himself from Platonism.

As a matter of fact, Mc Evoy mainly confines himself to elucidate that tension in Grosseteste between Augustinian (neo-Platonic) and Aristotelian thought. He is right in arguing that Grosseteste did not really see any harm in assenting to Aristotle's scientific method as far as our transient world is concerned. You might think, now, that his assent is global, of the kind so generously given by people who are not really interested in logical matters. However, Grosseteste is not only quite open towards Aristotle's way of thought but succeeded well in providing the Latin West with an extensive commentary, which goes into many

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[7] For the reception of the *Posterior Analytics* in the Middle Ages, see also Eileen Serene, in *The Cambridge History of Latin Medieval Philosophy* (eds. Norman Kretzmann, Anthony Kenny and Jan Pinborg, associate editor Eleanore Stump), Cambridge *etc.* 1982, 496-517.

[8] James Mc Evoy, *The Philosophy of Robert Grosseteste*, Oxford 1982. I used the Rossi edition (Robertus Grosseteste, *Commentarius in Posteriorum Analyticorum libros*. Introduzione e testo critico di Pietro Possi. Firenze 1981).

interesting details, and more importantly, (I really must say this) quite profitable for modern commentators too. For that matter, many a modern interpreter could have saved himself the trouble of asking and answering questions (rather unsuccessfully, at times) that had been solved with all due understanding as early as in the thirteenth century.[9]

Grosseteste is quite explicit in distinguishing the two different pairs of questions and points out that *si est* (or: *an est*) and *quid est* ask about what he calls the *essentia rei* whereas *quid* and *propter quid* concern the *complexio rei*. However, unlike Aristotle, he starts with the questions concerning the *subject*: (a) is it really given and (b) what is its essential nature?; next, the questions concerning the state of affairs in which the subject is involved ('complexio rei'), come up for discussion (290, 64-70 ed. Rossi). Robert is fully aware of the fact that for there to be a real *apodeixis* the occurrence of a *complexio rei* or state of affairs must be our startingpoint rather than the question whether this or that subject as such does exist.[10]

What is under consideration at the outset is, not, for example, the sun or the moon as such but their being involved in some condition such as an eclipse. And so, some lines further on (292, 100-10), Robert quite rightly explains the four questions in the correct order, and, more importantly, he describes the *complexio rei* as a product of sensation; he adds the gloss *per sensum* to Aristotle's lemma: *Ut scientes* (II1, 89b29).

Further, Grosseteste nicely explains the role of the *medium* and our 'hunting' for the correct attribute (292, 111 ff.). Unlike many a modern commentator he understood the true sense of *medium* very well, in not thinking of some *terminus medius* but precisely that causal or explicative state of affairs responsible for what we are up to prove (see esp. 294, 145-6). Accordingly, Grosseteste formulates four theses (*Conclusiones* II-V) about the role of the *medium*, the fifth one explicitly stating quod

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9 Thus Robert finds no difficulty in the phrase *in numerum ponentes*, (89b25) where Barnes (*Aristotle's Posterior Analytics*, translated with notes, Oxford 1975) speaks of a 'bizarre phrase' (apparently ignoring that the Greek *arithmos* as the Latin *numerus* always stand for a plurality of things (terms), our 'number', *one* being not a number to Ancient and Medieval mind, but the *principium numerandi*. For Robert's correct interpretation of this phrase, see 290,77-291,93.

10 Thus the phrase *complexio rei* does not only refer to any *enuntiatio* whatsoever including that of the form: '*Sol est*' but, more precisely, to a three piece proposition ('S est P'). Incidentally, all Medieval commentators had the right understanding of this important issue (Cf. Thomas Aquinas, 407-11).

omnia que queruntur sunt questiones medii (=Aristotle, *Anal.Post.* II2, 90a35).

3.2. *Thomas Aquinas (1225 - 74)*

Thomas Aquinas, (who could doubt about that?) gives quite a clear exposition about the four questions. He starts with clarifying the purport of Book II, taken as a whole (nr. 407 ed. Spiazzi). Next he deals with the four questions (408-13). He discusses them in the correct order (see esp. 409) and is quite explicit about the fact that the *quid* and *propter quid* questions ask about some state of affairs.

Next, St Thomas clearly shows that in fact both the *si est* and the *quia est* question ask whether there is an appropriate *medium*, since, indeed, the *medium* is the *ratio* of the state of affairs under consideration.

The final words of the passage (412, see our note 11) are important but their meaning is somewhat confused by the incorrect punctuation given in the editions. What Aquinas is quite right in pointing out, is that the original question concerning some sensation did not as yet put the phenomenon in the light of the appropriate *medium*[11] and that our hunting for the appropriate *medium* is precisely the first thing to do in order to arrive at the *scientific* explanation of the phenomenon under consideration. You will remember: as long as we take 'some noise in the clouds' as just some noise, rather than something caused by quenching of fire, we will never succeed in arriving at the scientific explanation of the phenomenon of thunder.

Thus the pivotal role of the *medium* and our hunting for it is nicely explained by Aquinas. At the same time, our author understands remarkably well the semantic aspect of the procedure (which we have labelled before: the 'correct categorization'), where he remarks (415) that Aristotle seems to claim that the definition (read: *definiens*; see above, p. 108) of the attribute (*passio*) is the *medium*. In this connection

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[11] So you should read: *id quod est medium est ratio eius de quo quaeritur an hoc sit hoc (vel an simpliciter, ut infra dicetur), non tamen quaeritur sub ratione medii*, and translate: "that which is the *medium* is the proper element ('ratio') of that about which the predicative question (or else the simple one as will be said below) is asked, although not <yet> under the proper aspect ('ratio') of the *medium*". (I have used the Leonina edition as printed by R.M. Spiazzi, Marietti).

Thomas points out that the definition of say whiteness in fact concerns *album* or a white subject. Thus, it becomes absolutely clear, again, that Aquinas too is aware of the fact that the object of scientific proof is always the particular as somehow qualified, rather than some essential nature taken as such.

3.3. *William of Ockham (c. 1285 - 1347)*

A preliminary remark. To my understanding, Aristotle's *Posterior Analytics* deals with the scientific procedure of *apodeixis* in general rather than apodeictic syllogism in particular, the latter being merely the vehicle for correctly framing a scientific proof. For that reason, when reducing *scientia* to a set of propositions ordered in the (most) appropriate way into a so-called *demonstratio potissima*, Ockham tends to reduce Aristotle's theory of scientific proof to a theory of apodeictic syllogism. This leads the Venerable Inceptor to deal with Aristotle's doctrine of scientific proof in a somewhat different perspective from that of the Master himself.[12] In this pioneering and still interesting study of Ockham's theory of demonstration Father Webering fell victim, I am afraid, to similar optical errors as did indeed Gordon Leff as well (*op. cit.*, 300 ff.).[13] Nevertheless, Ockham's exposition of the *Posterior Analytics* is quite important, not only as a personal interpretation but also as an elucidating commentary.

Turning now to the famous four questions, unlike Aristotle, Ockham does not see them as four elementary stages in any scientific procedure.

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[12] To be honest, the confusion is not quite alien to other Medievals either. So the well-known three qualities which are characteristic of a *per se* proposition (viz. *per se nota*, self-evident and easily recognized) are, in fact, for Aristotle not specific qualities of the *per se* proposition but rather of the principles of scientific knowledge, as Webering rightly argues (D. Webering, *Theory of Demonstration according to William Ockham*, St. Bonaventure, N.Y./Louvain/Paderborn, 1953 (Franciscan Institute Publications, Philosophy Series, 10), p. 42). On the other hand, like the Schoolmen Webering failed to recognize that Aristotle discusses the *terms* of demonstrative proof, rather than the *propositions* of demonstrative syllogism, so that Webering's opposing the two (21-31 and 32-57) is rather unfortunate, in that it entirely obscures the main issue of the correct categorization; for the latter, see above, p. 107 ff.

[13] Gordon Leff, William of Ockham, *The Metamorphosis of Scholastic Discourse*, Manchester 1975.

Rather he considers them as four different questions,[14] the two pairs of which lead to two different types of demonstration, viz. *a priori* and *a posteriori* demonstration, to the extent in fact that Ockham even uses *a priori* and *propter quid* demonstration as equivalent expressions as well as *a posteriori* and *quia* demonstration. It is most significant, then, that Webering felt compelled to remark [1953:11] that when we study Ockham carefully, this identification "is not entirely justified." In this respect it is interesting to note that in his *Theological Summa* (I, 912 art. 2) Thomas Aquinas has the same identification, but Aquinas certainly did not reduce the two pairs of questions to types of demonstration; and quite right he was.

Another characteristic of Ockham's treatment of the questions is still more worthwhile to consider. Once Ockham has made Aristotle's *si est* question the question of the demonstrability of some thing's real being, quite an important divergence between Ockham and Aristotle unavoidably comes in. Indeed, with Aristotle the question merely concerns the applicability of *this* or *that* categorization to the subject of the *pragma* under consideration, whereas its real existence is quite out of the question (see above, p. 107). But to somebody who, as Ockham does, makes the *si est* question concern the demonstrability of the subject's real being, the latter's actual existence is not a matter of fact as yet. More importantly, it is as such no guarantee for universal and necessary knowledge, since the actual existence of all beings, except that of God, is contingent and individual. For that reason, Ockham is bound to give the *si est* question a wider range; indeed it covers, not only actual existence but also the *possibility* of existence.[15] By doing so, he reveals a concern quite different from what Aristotle had in mind when devising the *si est* question.

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[14] See Webering (*op.cit.*, 80-172) who failed, however, to see the quite different issues involved in the four questions put forward by Aristotle.

[15] *Summa logicae* III-2, cap. 25, 550, 7-10: Est autem primo sciendum quod quaestio *si est* terminatur per hoc quod evidenter cognoscitur quod res *est*. Quod fit si sciatur propositio in qua esse existere per propositionem de inesse vel de possibili praedicatur de subiecto. See Webering, *op.cit.*, 28-31 and 88-106; Leff, *op.cit.*, 257.

4. *The Three Requirements for Scientific Predication*

In fact, Aristotle's requirements for 'hunting' essential attributes were, quite understandably, taken by the Medievals as rules for scientific predication as accomplished in framing adequate premisses. Of course, the most interesting question here is whether the Medievals did in fact have the right understanding of the *kath' holou* requirement (unlike quite a lot of modern commentators, for that matter). Admittedly, the different Latin translations were not in favour of the correct interpretation. James of Venice, the Anonymous named Johannes, Gerard of Cremona and William of Moerbeke as well all render *katholou* (I4, 73b25 ff.) by using the substantive noun *universale*. A similar disadvantage was to affect their understanding of the whole passage anyway. However, as usual the Medievals' affinity with Ancient doctrine made them overcome many a difficulty and pick up other unequivocal hints from the text.

4.1. *Robert Grosseteste and Thomas Aquinas*

Grosseteste gives a fine exposition (110, 35-116, 62 ed. Rossi) of the three requirements. First, of what Aristotle labels *kata pantos* or the requirement of *universalitas tam ex parte subiecti quam ex parte temporis* (110, 36). Then, the *kath' hauto* and the *kath' holou* requirements are described as *et quod predicatum dicatur de subiecto per se et quod de subiecto primo*. An excellent interpretation, first and foremost, in that Grosseteste rightly indicates that the three requirements merely concern three ways of attributing something to something. As to the *per se* requirement his Latin translation was bound to put him (as the other Medievals) on the wrong track in rendering the phrase *kath' hauta d'hosa hyparchei* (at 73a35): "per se autem *sunt* quaecumque sunt". However, Robert does not hesitate to phrase: "est autem per se alterum de altero *et dicitur per se alterum de altero*" (111, 51-2), and he is wise enough to start from the logical rather than the ontological sense as is quite clear from his gloss (112, 79): "Dicit ergo *Per se autem sunt*, supple: altera de alteris *vel dicuntur*." Robert's explanation of *kath' holou* is quite to the point. He apparently interprets this requirement as what I took the liberty of translating into *de toto* (= *de tota intentione* or *ratione*; see above p. 105); i.e. the special attribute is appropriate to the subject's

whole intension, not merely to part of it.[16] Of course, Robert avoids the rendition *katholou* = 'universaliter' and speaks of *dici de subiecto primo* (after picking up the useful clue found at 73b34 and elsewhere). And so our author exactly hits the mark.

Thomas Aquinas also clearly sees that the three requirements are cumulative and that the third one, the *katholou* requirement comprises the other two. He straight-forwardly explains *katholou* (*universale*) as *primo* (*sc.* praedicari) and gives an interpretation which closely fits in with Aristotle's sayings on this score.[17] He warns his readers that *universale* here is not used in the well-known Porphyrian sense.[18] From the viewpoint of modal logic it is also noteworthy that Aquinas clearly sees that the 'necessity' claim is only implied in the *kath' holou* requirement (i.e. not in the *de omni* requirement) so that no extensional conception of modality is involved.[19]

4.2. *William of Ockham*

In his *Summa logicae* Ockham extensively discusses the three requirements, *de omni*, *per se* and what he labels, quite in line with the Medieval tradition, *primo vera* (III-2; capp. 6-8; 514-21; cf. *Ordinatio*, prologue, q.4, pp. 144,17-145,2 and 152,6-17).[20] In order to trace Ockham's own views of scientific proof and his personal interpretation of *Posterior Analytics* we have to pay special attention to his definition of

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16 Nichil est in triangulo quod non sit causa respectu habitus trium angulorum *etc.*, nec est aliquid in habitu trium angulorum *etc.*, quod sit non causatum respectu trianguli. (115,148-116,150); cf. 115,141 ff.

17 *In Post.Anal.* 78: Oportet enim in propositionibus demonstrationis aliquid universaliter [= *kata pantos*] praedicari (quod significat dici *de omni*); et *per se* [*kath' hauto*]; et etiam primo (quod significat *universale*). Haec autem tria se habent ex additione adinvicem (...). *Primo* vero dicitur aliquid *praedicari* de altero per comparationem ad ea quae sunt priora subiecto et continentia ipsum. Nam 'habere tres angulos *etc.*' non praedicatur primo de isoscele, quia prius praedicatur de priori, scilicet de triangulo; cf. 91-96.

18 *Ibid.*, 91.

19 *Ibid.*, 93: Manifestum est quod universalia praedicata, *prout hic sumuntur*, ex necessitate insunt rebus de quibus praedicantur.

20 Webering's treatment (*op.cit.*, 50-3) of Aristotle's view of *kath' holou* ('commensurately universal') is vitiated by his following the (wrong) common interpretation of the phrase, and his discussion (53-7) of Ockham's *propositio primo vera* is not free of confusion either.

the *propositio primo vera* (*S.L.* III-2, cap. 8, 519, 5-7): "*that* proposition is primarily true (*primo vera*) in which the predicate does not belong earlier[21] than to its own subject to any other subject which is more general than the former, or to a subject which is not predicable of its own subject". In that case the predicate is called 'universale' *with regard to this subject*[22], and the subject is called 'first subject of that predicate', at least if it is predicable in the second mode of essential predication", Ockham elucidates (*ibid.* 7-10).

Well, the second part of the definition contains an additional requirement for a proposition to be *primo vera* which is not mentioned by the other Medieval commentators (and not found in Aristotle either) in requiring that the attribute do not belong earlier to some subject which is not predicable of its own subject. The reason that forces Ockham to make this addition is worthwhile to examine. The extra requirement is intended to prevent misattributing to a concrete particular a *passio* which, properly speaking, belongs 'earlier' (*prius*) to its abstract. Take for example, the property of heat-giving (*calefactivum*), which is predicable of heat (*calor*) *before* it is predicable of something hot (*calidum*), since only if there is first heat something can become hot through calefaction. On the same footing is his earlier remark (cap. 4, 510, 10-20) that the principle expressed in the proposition: 'Every hot thing is heat-giving' presupposes as its further principle the proposition 'All heat is heatgiving.'

It cannot be denied that Ockham thus has a special problem concerning the *kath' holou* requirement. It should be recalled that this requirement is meant to prevent us from wrongly categorizing the appropriate subject of a demonstration. Well, take the proposition (the example is Ockham's):

'Omne calidum est calefactivum'

'Every hot *thing* is heat-giving'.

Ockham has to recognize, now, that just as the 2 R property (= 'having two angles equal to 180^{o}') belongs to 'triangle' *before* it belongs to 'isosceles triangle', in the same way heat-giving belongs to the property or quality 'calor' *before* it belongs to the concrete hot thing. So of all people Ockham should be the one to set a thing's *forma* apart and give it

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21 'earlier' (*prius*) refers to logical priority.

22 Cf. Thomas Aquinas, 78: *Primo* vero dicitur aliquid praedicari de altero per comparationem ad ea quae sunt priora et continentia ipsum.

logical priority to the *concretum* it informs.[23] One need not to be surprised, then, that Ockham's exposition of the problem starts from the counterfactual condition, 'if nothing *were* heat-giving other than heat ... *etc*.'[24] However, most fortunately, as Ockham seems to suggest, there *are* hot things, so that 'heat-giving' does primarily belong to 'hot thing'. It is true that as far as qualities of the *calor* type are concerned, there is not much of a problem since Ockham's ontology does admit of them. But what then to do about forms such as *paternitas*? The latter problem is not raised by Ockham, let alone solved.

However, returning to the *calidum* example, this view still seems to contradict the *kath' holou* requirement since the complete ambitus of the concept 'hot thing' contains definitely something more than merely the *forma* 'heat' (e.g. the *forma*, 'iron').

The same problem is found in the *Ordinatio*, prologue, q.4, but there things are explained in greater detail, whereby Ockham's personal view inevitably comes to the fore. Ockham sets out to define the relation between the first subject and its attribute due to which (relation) a proposition is primarily true (*primo vera*). This relation is stated through defining the notion of 'first subject': "I call 'first subject' that (1) to which <the attribute involved> can <still>[25] belong when any other subject has been ruled out and (2) which <can belong> to no other subject when it has itself been ruled out".[26] In other words: the 'first subject' can still possess the attribute when every other subject that may possess it, is ruled out, while every other subject can possess it only through the first subject. Ockham adds an example: E.g. 'capable of

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23 Of course, the forma *calor* is nothing else but the particular heat inhering in this or that particular hot thing and an individual 'thing' itself as well as the hot thing. But all the same, remarkable it is, if you think of *formae* (like fatherhood; e.g. in 'Every father has a child') which, unlike *calor* etc., are not distinct from the particulars involved. For a related question, see *Ordinatio*, prol. q.4.

24 *S.L.* cap. 8, 520, 23. Both Webering (*op.cit.*, 55) and Leff (*op.cit.*, 288) failed to notice the *modus irrealis* (For that matter, Leff used a bad text). For another counterfactual startingpoint, see *S.L.* III-2, cap. 7, 517, 75-83.

25 See the adverb *adhuc* used in the following example (144,20); see below.

26 Leff's translation 'with everything else excluded and nothing of the attribute excluded' (p. 288) is rather awkward and quite ungrammatical (*nulli* being a dative). The difficulty lies in the fact that *nulli* (dative) does not correspond with *omni* (which here is an ablative case, not a dative) but with *cui*; further *circumscribere* has the sense of 'to take away, rule out or destroy'; cf. *homine destructo* in the example given at 145,3; finally, the *adhuc* found twice in the example, is pivotal for a correct understanding of the passage.

learning' has the intellective soul as its first subject because, even when every other <subject> has been ruled out, the soul still (*adhuc*) is capable of learning and <on the other hand> nothing is capable of learning when the intellective soul has gone. And the examples may easily be multiplied, the author argues: "the same applies to other accidents that belong to a whole through one of its parts."

Again, the author cannot help upgrading a subject's property at the cost of the subject itself, in spite of the fact that the latter is something subsistent and the property merely something inherent. However, such a view does not seem to fit in well with Ockham's basic philosophical doctrine, which is founded upon the ontological primacy of the individual. Well, unlike in the *Summa logicae* (where he took refuge in counterfactual suppositions; see above), in the *Ordinatio* Ockham's tackling of the problem is somewhat more realistic. He distinguishes the notion of subject: *either* it is used to stand for only[27] one thing of which something can be predicatd *or* for everything of which something can be predicated. Ockham instances this by opposing the definition (rather the *definiens*) of triangle ('something which has 2 R'[28]) to triangle, that is to say, the property of having 2 R to a figure which has 2 R. In the former sense of 'subject' the property is the 'first subject', while in the latter sense it is the figure taken as a whole which is the first subject.

As is easily seen, Ockham's doctrine of the primacy of individual subsistent being is bound to meet with some difficulties in Aristotle's *kath' holou* (*primo vera*) requirement for there to be a truly scientific predication.

5. *Some Important Divergencies about 'Necessity'*

All Schoolmen follow Aristotle unanimously in affirming that necessity is *the* characteristic of a scientific proof. It is scientific predication

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27 The *termino* of the edition is not correct, I presume and should be read: *tantum* or rather *tantummodo* (which is paleographically (*t̄m* for *tm̄o*) quite easy te explain); *aliquo uno tantum* is opposed to *omni illo*. The edition's reading (*termino*) forces the reader so supply *omni illo* <*termino*> at 145,20 which gives a clumsy sentence.

28 'has 2 R' should read 'has its interior angles equal to two right angles'.

accomplished according to the three requirements, *de omni*, *per se* and *primo vera*, that warrants the premisses and conclusions being necessary.

It should be noted at the outset that for the greater bulk of Medieval commentators, the problem of necessity goes beyond the limits of logic since it has great impact on the ontological status of the objects of true knowledge. Thus unlike Aristotle, these Medievals paid much attention to the question of whether the objects of demonstration have to be incorruptible. However, if they really are, what, then, about the contingency of this sublunar world?

5.1. *Robert Grosseteste*[29] *and Thomas Aquinas*

Some remarks, first, about the incorruptibility of the proper objects of knowledge. As we have noted before (p. 108) Aristotle speaks of the *phtharta* (*corruptibilia*) as states of affairs signified by certain propositions, definitely not things that are themselves corruptible by nature. So he argues (75b24 ff.) that when trying (in vain, of course) to frame a strict demonstration of *corruptibilia* (corruptible *states of affairs*, you should recall), our minor premiss must be non-universal and corruptible (where the author is clearly referring to the universal and incorruptible truth of *propositions*, not things, as appears from what follows, at 75b28-30). Well, in spite of the Latin translation *ad locum* correctly running 'propositionem esse universalem *et corruptibilem*', Thomas as well as Grosseteste take the liberty of making Aristotle discuss propositions concerning incorruptible and eternal *things*. Thomas even anticipates (140-1) Aristotle's remark about the superfluity of Platonic Forms (at 77a5 ff.; see Thomas, nr 166). By this move, Robert and Thomas (and others) in fact changed the subject. Small wonder that Ockham felt no qualms about being strictly faithful to Aristotle's sayings, this time!

Turning now to the issue of incorruptibility, Grosseteste deals with it by asking himself (17, 139, 96 ff.) how the objects of demonstration can be incorruptible, given the fact that the universals featuring in scientific knowledge are found in particulars which are themselves corruptible. As a matter of fact the principle according to which a

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29 See the fine exposition on this account in Mc Evoy, 327-9.

particular is known is its substantial *form* and scientific knowledge is obtained through the definition of the genera and species involved. However, a mind not capable of knowing a thing after its substantial nature can only know the accidents accompanying its true essential nature. Grosseteste is somewhat hesitant on account of the incorruptibility of these principles of knowledge (141, 145 ff.). His guess is that a form is not corruptible in itself, even though matter is, or else that the permanence of a species is preserved by the fact that at some place or another in the world it is instantiated.

Thomas Aquinas' stand is well-known on this score; see e.g. *In Anal.Post.* I 140 f.; 166. Knowing things amounts to setting apart their *universal* form by means of the most characteristic operation of the human mind, abstraction. Even though material things are corruptible and not intelligible, they are made intelligible by taking away the characteristic marks of their material constitution. Sensation and abstraction together enable the human mind to grasp the material things such as they essentially are. In principle Thomas' doctrine of scientific proof is truly Aristotelian: scientific knowledge is substantially a set of conclusions syllogistically deduced from principles and for its procedure definition and attribute-hunting is pivotal.

5.2. *William of Ockham*

To begin with, Ockham did not find Aristotle's sayings about 'incorruptibles' hard to swallow. On the contrary, he (*S.L.* III-2, cap. 5, 512, 19-34) closely joins the text of *Posterior Analytics* and explains it (correctly, it should be recalled) as referring to *propositions*. However, his own, quite specific contribution to the discussion cannot wait for long. For to his mind, even speaking of necessary *propositions* sounds imprudent, as only God is a necessary Being. For that reason, although Ockham's view of *scientia* as a set of propositions is as such not in opposition with the Aristotelian view, his notion of 'necessary proposition' basically differs from that of Aristotle. The latter thinks in terms of propositional content (*pragma*), but Ockham acknowledges this content only *as long as* a proposition is actually framed by somebody. So a proposition is necessary and eternal and incorruptible when it is always true and never false *if it is framed* (*si formetur*; *S.L.* 512, 30-2). That is

to say: the propositional content is necessarily the case... *etc.* but without a proposition framed no propositional content exists.

However, what are the conditions for its always being true (always being the case)? Ockham claims that *either* it should be about eternal Being (God) *or* framed quite independently from actual being ('the existential order'). Those of the latter sort are the negative ones, the hypotheticals and the *de possibili* ones, because they do not presuppose their subject's actual being. E.g. 'Man is a rational animal' is not necessarily true, since it is false when no man exists, but its alternatives are: 'if x is a man, x is a rational animal', or 'man can be a rational animal'. (*ibid.*, 513,51-514,2; cf. *Ord.* prol. q.4, 157,1-16).

Finally, how do we know a proposition is necessary? Ockham answers (quite in line with the Medieval tradition, for that matter): if one knows that its contradictory opposite involves a contradiction (*Ordinatio*, prol. q.2). (Of course, unlike other Medieval thinkers such as Aquinas, for Ockham, the absence of contradiction implies possibility only, but the latter suffices for there to be a necessary proposition *de possibili*).

Thus Ockham, unlike Aquinas, does not attribute necessity to universal forms. To his mind, the things' contingent nature should never be left out of consideration and does not need to be considered either for the sake of demonstration. It simply suffices to use a way of logical framing which takes ontological contingency into account, e.g. when you say: 'si est homo, est animal' instead of 'homo est animal', which can only refer to some man actually being an animal.

6. *The Apprehension of the First Principles. Induction.*

All deductive knowledge is ultimately based on self-evident first principles, which are required as the foundation of every true proposition. Quite naturally, the Schoolmen too are really interested in the question of how we obtain such principles, above all, that called 'universale'.

6.1. *Robert Grosseteste*[30] *and Thomas Aquinas*

Through sensation, which is never a cause of knowledge but its *occasio* only (I14, 212, 195), we apprehend some determinate particular determinately in space and time. It cannot grasp, therefore, the universal (265, 135 ff.). How we do obtain knowledge of the universal is explained by Grosseteste in closely following Aristotle's famous exposition in II 19. As with Aristotle, the human intellect abstracts the universal from the data provided by the external and internal senses.

It is striking that Grosseteste, who describes[31] the process both as induction and abstraction, does not accept any Platonic innatism or *anamnesis*. The intellect certainly has its own specific role but it cannot but start from sensory experience, from which it abstracts or induces the *universale incomplexum* (see 214, 250-2).

Thomas Aquinas basically adheres to the Aristotelian conception of intellectual cognition through abstraction.[32] In his commentary on *Anal.Post.* II19 he uses the word 'induction' to describe the process by which universals are generated.[33]

6.2. *William of Ockham*

The main characteristic of Ockham's opinion about the apprehension of principles is that he takes the latter as propositions (*S.L.* 522, 22-8), rather than incomplex universals as Aristotle and most Medievals do. For that matter, Ockham does know of the simple apprehension of contingent notions through the senses which is at the basis of an intellectual

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30 See Mc Evoy, *op.cit.*, 340-5.

31 I14, 212, 207-11. Cum inductio sit ex singularibus, deficiente aliquo sensu deficiet inductio accepta a singularibus ... et deficiente inductione accepta ab illis singularibus deficit apud intellectum cognitio universalis eorum singularium, quia ipsum universale non est acceptum nisi per inductionem. For this important passage, see Mc Evoy, 329-35. See also II6 (ad *Anal.Post.* II19) 406, 67-9: universalia prima, composita sicut et simplicia, ex inductione a sensibilibus facta nobis sunt manifesta. The notion of abstraction is found at 214, 246-50.

32 See esp. *S.Th.* I 85, qq. 1 and 2 and *Contra gentes* I44; II, 77; 82.

33 595, *ad fin.*: Quia igitur universalium cognitionem accipimus ex singularibus, concludit manifestum esse quod necesse est prima universalia principia cognoscere per inductionem. Sic enim, scilicet per viam inductionis, sensus facit universale intus in anima, inquantum considerantur omnia singularia.

cognition, but to his understanding this apprehension acts only as an initial stage of the inductive acquisition of propositional principles.[34] One need not be at all surprised to find *Post.Anal.* II 19 constantly explained by Ockham on the same footing since the Venerable Inceptor is only interested in induction inasmuch as questions about demonstrability and immediateness of propositions are under consideration, just as for him the *medium demonstrationis* is always associated with the middle term of the premisses of a scientific syllogism.

7. *Conclusion*

Generally speaking the Medievals proved to be well acquainted with the basic tenets of the *Posterior Analytics*. To my mind, in one respect only (but quite a decisive one, I am afraid) all Medieval commentators deviated from Aristotle's basic purpose. While Aristotle first and foremost intended to give a scientific procedure to clear up diffuse phenomenal data by discerning essential structures in them, his commentators, and not only the Medievals, all seem to take demonstration, ultimately, as a scientific proof of certain well-formed theses at hand which are put forward as candidates for the warrant of verification. On the other hand, the Medieval interpreters of *Posterior Analytics* were certainly right in considering this treatise as something more than merely a logical treatise about argumentation. Rather they took it as dealing with the kind of knowledge we may obtain about things which is of a higher rank than mere opinion about them.

It is because of its epistemological impact (or rather philosophical impact, in Medieval terminology) that *Posterior Analytics* was differently interpreted and assessed by diverse commentators, as according to their own diverse philosophical and theological stands. Let us finally take a general look at the different interpretations.

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[34] *S.L.* III-2, cap. 10, 523, 9-14; cf. cap. 4, 511, 42-7. See also Webering, 70-9; 161 and Leff, 282-3. For Ockham's doctrine about the First Principles, see Webering, 58 ff.

7.1. *Robert Grosseteste*

For Grossesteste, Aristotle's theory of scientific knowledge is unrestrictedly valid on the level of human knowledge in its present limited condition when man is scientifically inquiring into the unchanging incorruptible principles of nature which underly ephemeral things. However, the highest part of the human soul, the *intelligentia*, would have complete knowledge by illumination, without any help from the senses, were it not encumbered and darkened by our present status of fallen man. Accordingly, when set free from this earthly body after this life, it will enjoy that very knowledge (see I14, 213, 228-214, 238). The knowledge attainable in this life, however, is just a stage on our way to beatific vision. Truly, Aristotle was not aware of the fact that the universal principles he was after are the created products of other Principles, the Eternal Ideas in God's Mind. Mc Evoy is quite right in saying that Grosseteste had no doubt whatsoever about the validity of the Aristotelian methodology but, at the same time, no illusions about its comprehensiveness (*op.cit.*, 345).

7.2. *Thomas Aquinas*

St Thomas was a faithful adherent of the Aristotelian view of demonstrative knowledge, even when discussing various other roads to knowledge, such as Revelation. Especially in commenting upon the *Posterior Analytics* he proves to be a thinker congenial with the Greek Master. At the same time, there is nothing slavish in his behaviour. He rather vindicates his own rights as a Christian thinker and never fails to see the limits imposed on thought by what Gilson has labelled 'Greek necessitarism'. In a way similar to Grosseteste Thomas knows how to give the Aristotelian theory of knowledge its proper place within philosophical and theological thought.

7.3. *William of Ockham*

Unlike Robert and Thomas, Ockham could not help being rather unfaithful to Aristotle. More importantly, he is fully aware of what he is doing,

which appears from the many occasions he opposes Christian faith (*secundum fidem catholicam*) or rational truth (*secundum veritatem*) to Aristotle's sayings (e.g. *S.L.* III2, cap. 5, 512, 34ff.).

On the one hand, when adhering to the general framework of the *Posterior Analytics* Ockham affords many refinements to the Master's theory of demonstration. Whereas Aristotle never explicitly differentiates degrees of demonstration, Ockham does and, accordingly, makes an important distinction between self-evident principles which are indemonstrable and indemonstrable principles whichs are not self-evident and, thereby, not necessary.

On the other hand, Ockham starts from a notion of necessity, rather different from Aristotle's. Furthermore, his theory of demonstration, as Leff rightly observed (*op.cit.*, 273), "is governed by the epistemological scope and limits of what can be known self-evidently and absolutely by intuitive cognition", and this made Ockham also give experience priority to demonstration, not only as its precondition but also as a higher form of cognition. Both his Christian belief in the radical contingency of all creatural being and his ontology of the strictly individual make for important divergencies from Aristotle. Still, Ockham was deeply convinced that he himself was always on the safe track of the *intentio Aristotelis*. To him, the Aristotle of *Posterior Analytics* really was the authority, but, as so often, Ockham took himself as the Philosopher's most reliable spokesman.

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Metaphysics as a Science

The topic of this paper may be understood in many different ways, yet two of them appear to be the most promising:
1. to investigate the topic from the point of view of modern conceptions of science,
2. to investigate it from the point of view of science in its mediaeval sense.

In the first case we would be asking whether metaphysics meets all the scientific criteria considered valid today. It is obvious that we would then have to begin by specifying whether under the notion of "scientific" we understand some general idea of science, which constitutes a *bonum commune* of the contemporary philosophical thought, or a concept of science proclaimed by some philosophical orientation.

In the second case the problem would be to confront metaphysics with the concept of science as it was understood in the Middle Ages, particularly in the period to which we would like to limit ourselves. The question that should be posed would read: is metaphysics a science under the mediaeval understanding of the notion of *scientia*, which again may be an idea of "scientificity" common to a certain period or concepts of science defined by various philosophers.

Yet both of these formulations of the subject appear to be wrong. The first is anachronistic. Moreover, the investigations of the scientific character of metaphysics would have to be "intermediated" by an investigation of the notion of science itself and by the comparison of its mediaeval formulations with its modern understanding. All this would rather draw us away than bring us closer to the essence of the matter.

The second formulation is simply needless. The question whether metaphysics was considered to be a science in the Middle Ages has a positive answer in all cases. None of the mediaeval philosophers doubted that metaphysics was a science, nor - what may be more important - that it was the most important of all sciences, cultivated by the natural intellect.

Thus we must rephrase the question posed at the beginning. Without questioning the scientific character of metaphysics, I would like to answer the problem of the specificity of this scientific character, especially as we recall that metaphysics is treated as the most important, the highest, of all sciences. I shall try to answer the question of this specificity with the criteria commonly used to determine the essential features of each science: its subject, material and formal, and its relation to other sciences.

It appears that each of those features bears some, so to say "constants" and "variable"; in other words: aspects characteristic of all (or practically all) mediaeval philosophers and certain individual opinions which often vary greatly from one thinker to the others.

Let me also draw to your attention the considerable progress accomplished in the last years in the subject of our concern. A number of excellent works, to name just those of Albert Zimmermann, Armand Maurer, James Doig, John Wippel, Ralph Mc Inerny, Zofia Włodek and others, have - on the base of detailed source investigations - answered a number of questions and proposed interesting interpretations of them.[1] I am deeply indebted to their achievements.

At the beginning let us recall the basic opinions about metaphysics expressed by mediaeval philosophers, opinions in which they did not differ from one another:

1. Metaphysics is a science (*scientia*),
2. As such it belongs to the category of *habitus* - i.e. intellectual disposition,
3. Metaphysics is the highest science, the first and the most noble one (*prima et nobilissima*),
4. As such it is also considered to be wisdom (*sapientia*),
5. Synonyms - with some limitations - of "metaphysics" are:

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[1] A. Zimmermann, *Ontologie oder Metaphysik? Die Diskussion über den Gegenstand der Metaphysik im 13. und 14. Jahrhundert. Texte und Untersuchungen*, Leiden - Köln 1965; A.A. Maurer, "The Unity of Science: St. Thomas and the Nominalists", in: *St. Thomas Aquinas 1274 - 1974. Commemorative Studies*, Toronto 1974, vol. II, p. 269-291; A.A. Maurer, "Ockham's Conception of the Unity of Science", *Mediaeval Studies* XX, 1958, p. 98-112; J.C. Doig, *Aquinas on Metaphysics. A historico-doctrinal study of the Commentary on the Metaphysics*, The Hague 1972; J.F. Wippel, *Metaphysical Themes in Thomas Aquinas*, Washington D.C. 1984; R. Mc Inerny, *Being and Predication. Thomistic Interpretations*, Washington D.C. 1986; Z. Włodek, *Filozofia bytu* (Dzieje filozofii średniowiecznej w Polsce t.III), Wrocław 1977; Z. Włodek, "Koncepcja metafizyki według Jana Burydana", *Studia Warmińskie* IX, 1972, p. 215-230.

theologia, *theosophia*, *scientia divina*, *philosophia prima*, *transphysica*, *sapientia*,

6. Metaphysics has its own proper subject (or subjects), different from subjects of other sciences,

7. Metaphysics demands a specific way of procedure (it has its own scientific method),

8. Metaphysics is characterized by a specific unity (it is one),

9. Metaphysics is a difficult science, it demands a special preparation, and being the first in the system of sciences it should be the last in teaching,

10. Metaphysics belongs to a system of sciences, and is - despite its specificity - interrelated with other sciences.

These cautiously formulated statements as I have tried to present them, have not been questioned. Yet each one of them was interpreted in many ways. And so, e.g., it has been agreed that metaphysics belongs to the category of *habitus*, but it was not clear whether it is one or many *habitus*: also an answer to the question concerning the character of metaphysics' "unity" (the "substantial" unity - St. Thomas and others; or "accidental" - as in Ockham) depended on whether it was one or many *habitus*. Many notions of metaphysics were used commonly, but their sense was explained differently.

It has been agreed that metaphysics has its own specific subject, but in answering the question what this subject is, we would probably come across a very grat range of answers. The same applies to the methods of analysis, or, more widely, the conditions of procedure in metaphysics. Lastly, the relation of metaphysics to other sciences was also viewed in different ways.

I. *"The names" of Metaphysics*

Let us begin with a point which may seem to be not very important, but which in reality designates the most general character of the various approaches to metaphysics, namely its names. All of them, except for the notion "metaphysics" itself, have common roots which go back to Aristotle. He also gave the classical interpretation of their meaning. Mediaeval authors do not, for the most part deviate from his

interpretations, yet the stresses attached to various justifications are significant.

Various names attributed to metaphysics have usually been treated in three manners: 1) as thoroughly synonymous; thus the subject explanation of the character of metaphysics is not related closely to the meaning of various designations (Roger Bacon, St. Albert the Great), 2) with preference of one name with the omission or distinct secondary treatment of others (Dominicus Gundissalinus), 3) with a distinct differentiation of each designation, leading to the extraction of all aspects of metaphysics and its many-sided, but specific character (St. Thomas).

(1) *Scientia divina*. The name which appears most often and is most understanding is *scientia divina* - the Latin equivalent of Aristotle's "theology". Yet already the translation of the *logos* of "theology" it was erroneously replaced by *scientia*. Replaced, but at the same time limited in its meaning and moved towards the Platonic-Aristotelian *epistéme*. It is hard to determine whether it has any essential meaning or whether the translation is merely a linguistic one. The notion "theology" will be shared with the revealed theology, *sacra doctrina*, from which it shall of course deeply differ.

Dominicus Gundissalinus, whose treatise *De divisione philosophiae* is the initial point of our deliberations, having divided philosophy into the practical and the theoretical, describes the three parts of the latter in the following way: "... tercia dicitur theologia siue scientia prima, siue philosophia prima, siue metaphysica".[2] Yet when he turns to making it more precise, he changes the notion *theologia* to *scientia divina*, defining it at once in three ways: "diuina sciencia est sciencia de rebus separatis a materia diffinicione". - item: "diuina sciencia est philosophia certissima et prima". - item: "diuina sciencia est sapiencia certissima",[3] of which only the first one is, in reality, a definition, while the next two are assessments designating more specifically this kind of knowledge. These three definitions are the most general and apply to divine knowledge and its synonyms. Thus the notion: *scientia divina* - and it is this notion that always appears first - is justified by the fact that it applies to God: it

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[2] Dominicus Gundissalinus, *De divisione philosophiae*. Herausgegeben ... von Ludwig Baur (Beiträge zur Geschichte der Philosophie des Mittelalters, B. IV, H. 2-3), Münster 1903, p.15.

[3] *Ibid.*, p. 35.

enquires (*inquirit*) whether He is and demonstrates (*probat*) that He is: "ipsa de deo inquirit an sit, et probat quod sit".[4]

We find similar definitions, but with more concise motivations in Michael Scot, except that the notion theology is not to be found in Scot's works; instead he constantly uses the name *scientia divina* or simply *divina*.[5] This name is applicaple "... quia de rebus diuinis et spiritualibus tractat".[6]

Avicenna is undoubtedly a common root for these conceptions. Metaphysics is a divine science since it deals with God (although He is not its direct subject!), with being which has the highest dignity as it is completely separated from the nature: "... et hunc nominabitur haec scientia ab eo, quod est dignus in ea scilicet vocabitur haec scientia, scientia divina".[7]

Similar arguments are to be found in St. Thomas. The notion *of scientia divina* applies to metaphysics since it deals with knowledge of the being most separated from nature. Although we get to know them indirectly and only through the consequences of their acts, yet it is enough to designate them as the most divine, the more so since their prime cause is God. Thus: "Dicitur enim scientia divina sive theologia, inquantum praedictas substantias considerat".[8]

A somewhat different emphasis is found in St. Albert the Great's works. Although he also maintains that the reason for calling metaphysics a divine science are the first causes with which it is concerned and which, they in themselves, are "divina et optima et prima".[9] Yet, he adds, that the notion *divina* applies to those aspects of created objects, which are the most evident (manifested), noble and the most fundamental in relation to others. These aspects are connected with the main subject of

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4 *Ibid.*, p. 38.

5 *Ibid.*, Anhang. Die bei Vincentius Bellouacensis im Speculum doctrinale erhaltenen Fragmente einer Einleitungsschrift des Michaël Scotus, p. 399.

6 *Ibid.*, p. 400.

7 *Metaph.*, t. I, c.4, fol. 71v. Cf. J.C. Doig, *op. cit.*, p. 85.

8 *In Duodecim libros Metaphysicorum Aristotelis expositio*, Proemium; Cf. *In Boethium De Trinitate*, 5, 4 c.

9 "Vocatur autem et divina, quia omnia talia sunt divina et optima et prima, omnibus aliis in esse praebentia complementum. Esse enim, quod haec scientia considerat, non accipitur contractum ad hoc vel illud, sed potius est prima effluxio dei et creatum primum, ante quod non est creatum aliud." *Alberti Magni ... Metaphysica.* Libros quinque priores. Ed. Bernhardus Geyer, Monasterium Westfalorum in Aedibus Aschendorff 1960, p. 2-3.

metaphysics: being, existence, *esse*. "Nec denominatio ideo fit, quod divina dicitur. Omnia enim apud naturam omnium rerum manifestissima sunt divinissima et priora omnibus, et haec sunt ens et entis partes et principia."[10]

(2) *Philosophia prima*. While the same arguments were usually used in defining the notion of *scientia divina,* the explanations of "first philosophy" were often quite different.

1) First philosophy is such because, whereas other sciences refer to it, seeking in it their final premises, it does not appeal or base itself on any other. First philosophy poses questions which no other science poses and, at the same time, is the only science that testifies all its assessments. The priority of first philosophy is evidently methodological, in particular, it is established by its relation to other sciences. So, among others, St. Thomas views it when in his comments to the *De Trinitate* of Boethius he writes: "Dicitur enim philosophia prima, in quantum aliae omnes scientiae ab ea sua principia accipientes eam consequuntur. Et exinde etiam est quod ipsa largitur principia omnibus aliis scientiis, in quantum intellectualis consideratio est principium rationalis, propter hoc dicitur prima philosophia."[11]

2) First philosophy owes its name to the priority of beings with which it deals: spiritual substances and, above all, God. The justification of the name is not of a methodological, but of an ontological character; it appeals not to primary premises, but to the primary causes on the existence and the functioning of which depends everything that exists. It is due to this that Dominicus Gundissalinus defines it as *scientia primarum causarum*.[12] In his *Proemium* to his *Commentary* on the *Metaphysics St. Thomas* also draws our attention to its relation to immaterial substances; his argumentation here differs from the earlier one found in the *Commentary* to Boethius' *De Trinitate*. Avicenna maintained that, since philosophy treats of the first cause, it has itself to appear as prime and also as *sapientia* and *scientia nobilissima*.[13] The same thought

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10 *Op. cit.*, p. 5.

11 Sancti Thomae de Aquino, *Expositio super librum Boethii de Trinitate*, ed. B. Decker, Leiden 1959, p. 166 and 212.

12 *Op. cit.*, p. 38 and 268.

13 Cf. J.C. Doig, *op. cit.*, p. 85.

was beautifully formulated by St. Thomas: "Itaque prima philosophia tota ordinatur ad Dei cognitionem sicut ad altimum finem."[14]

St. Albert the Great again enriches the ontological argumentation. First philosophy applies to what is first, and what, at the same time, is the most divine and most connected with God of all things: in being itself, and in its parts and principles.[15] And as it considers being in its whole universality and not only partly, from this point of view it also deserves the designation "first".[16]

3) Besides the methodological and the ontological argumentation, another type, which we could call pragmatic, appears. And so, in addition to the fact, or possibly because of the fact, that it applies to the first causes, first philosophy is first in the order of love (if I may say so here): "dicitur etiam prima philosophia quia primo ab homine desiderata, et etiam quia est secundum sui partem de primo principiorum omnium, et etiam de omnibus primis principiis...."[17] This formulation comes from Roger Bacon.

(3) *Metaphysica*. Like *philosophia prima*, *metaphysica* has been interpreted at least in three ways. It depended on how was the first part of this name, namely *meta*, was understood: as *supra*, *trans* or *post*.

1) In the first case metaphysics was treated as a science dealing with the supra-physical, immaterial, existing autonomically spiritual beings: pure intelligences and God. Argumentation is similar to the case of *scientia divina* or *philosophia prima* (2).

2) In the second case, metaphysics deals with abstracts which, omitting the moment of materiality and the quantitative determination, make up a class of terms that, in respect of contents, is the most general and of the broadest range. The abstract with which metaphysics deals is, above all, the idea of being. Its separation from matter is double: as a

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14 *Summa contra gentiles* III, 25.

15 "Omnia enim apud naturam omnium rerum manifestissima sunt divinissima et nobilissima et priora omnibus, et haec sunt ens et entis partes et principia ..." *Op. cit.*, p. 5.

16 "Et ideo et honorabilissimorum et mirabilissimorum et certissimorum per totum et non in quadam sui parte est scientia ista, quam ideo merito primam vocamus philosophiam," *ibid.*, p. 5.

17 *Opera hactenus inedita Rogeri Baconi*, fasc. XI *Questiones altere super libros prime philosophie Aristotelis*, ed. R. Steele collaborante F.M. Delorme, Oxonii 1930, p. 30.

notion it belongs to intellectual beings, as an abstract (relative to its contents) it constitutes the highest genus.

According to St. Albert the Great metaphysics is called *transphysica* as it deals with the general principles that are fundamental for anything which belongs to nature: "... transphysica vocatur, quoniam quod est natura quaedam determinata quantitate vel contrarietate, fundatur per principia esse simpliciter, quae transcendunt omne sic vocatum physicum."[18]

St. Thomas thinks similarly: the name of metaphysics, or transphysics, is related to the place it holds in the process of analysis (*via resolutionis*), where the more general is discovered after the less general: "Haec enim transphysica inveniuntur in via resolutionis, sicut magis communia post minus communia."[19]

Duns Scotus' arguments are worth special attention. Metaphysics, in accord with the most essential meaning of its notion, is a science treating transcendentals. "Necesse est esse aliquam scientiam universalem, quae per se consideret illa transcendentia, et hanc scientiam vocamus metaphysicam, quae est dicitur a *meta*, quod est *trans*, et *physis, scientia*, quasi transcendens scientia, quia est de transcendentibus."[20] Thus transcendentals have been, *expressis verbis,* considered the subject of metaphysics; as being is the first among them, metaphysics is a science of being as *transcendentale*.

3) In the third case, when *meta* is understood as *post*, we can distinguish two orders: (a) of cognition or discovery, and (b) of teaching. The subject of metaphysics is discovered by us due to the investigations carried on before, and in the field of, physics. From the point of view of our cognition (*quoad nos*), metaphysics appears to be a science posterior to physics; yet, from the point of view of the objective theoretical order, it is prior. This opinion, probably formulated for the first time by Avicenna, was shared very likely by all scholastics.[21] Similarly, the

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18 *Metaphysica*, liber I, c. 1, p. 2.

19 *In Met.*, Prooemium.

20 Duns Scotus, *Philosophical Writings*. A selection edited and translated by Allan Wolter, Edinburgh 1962, p. 2.

21 "Nomen vero huius scientiae est, quod ipsa est de eo quod est post naturam. Intelligitur autem natura virtus quae est principium motus et quietatis; ... quod vero dicitur post naturam haec posteritas est in respectu quantum ad nos ... unde quod meretur vocari haec scientia considerata in se haec est, ut dicatur quod est ante naturam. Ea enim de quibus inquiritur in hac scientia per eandem sunt ante naturam."

conviction was common concerning the second case: metaphysics could be studied only after becoming acquainted with natural science and it is thus posterior to physics (*post physicam*) in the order of teaching.[22] This is due to the fact that it seeks examples in physics, but also because it is more difficult than physics, and the way of teaching should lead from easier through more difficult matters.

(4) *Sapientia*. This name appears either as a synonym of "metaphysics" or as a narrower definition of this science.

All the essential features characteristic of wisdom are also fulfilled by metaphysics. Wisdom is the knowledge of first principles, is the cognition of greatest certainty, and, being the knowledge of the noblest objects, is also noble itself. Due to these three features, wisdom is also ruler of all the sciences.

According to Avicenna, metaphysics "... est etiam sapientia quae est nobilior scientia qua apprehenditur nobilius scitum".[23] Roger Bacon writes that "hec est nobilissima, quia ipsa est regula scientie speculative et practice", and adds: "sapiens habet cognoscere in particulari, scilicet, omnia particularia in universali, ut omnes partes entis, et omnia universalia in particulari, ut omnes causas universales et primas, et ita verissime cognoscit."[24] Most significant are the well known words of St. Thomas Aquinas: "Omnes autem scientiae et artes ordinantur in unum, scilicet ad hominis perfectionem, quae est eius beatitudo. Unde necesse est, quod una earum sit aliarum omnium retrix, quae nomen sapientiae recte vindicat. Nam sapientis est alios ordinare."[25]

Avicenna, *Met.*, T. 1, c. 4, fol. 71v. Cf. J.C. Doig, *op. cit.*, p. 85; "... quae alio nomine dicitur metaphysicsa, id est trans physicam, quia post physicam dicenda occurit nobis, quibus ex sensibilibus oportet in insensibilia devenire," S. Thomas Aq., *In Boet. De Trinitate*, ed. Decker, p. 166, 2-4.

22 "... Metaphysica enim nuncupatur quia transcendit physica, vel est post physica in quantum doctrina, post tamen in quantum scientia, unde *metha trans* vel *post* latine; ..." Roger Bacon, *op. cit.*, p. 30.

23 Avicenna, *Met.*, T. 1, c. 2, fol. 71r EF; cf. J.C. Doig, *op. cit.*, p. 85; cf. Dominicus Gundissalinus, *op. cit.*, p. 35-36.

24 Roger Bacon, *op. cit.*, fasc. X, p. 11.

25 S. Thomas, *In Met.*, Prooemium; "Hic igitur de sapiente conceptionibus sic suppositis, dicimus illam scientiam vere esse sapientiam, quae per se est scientia ista, quod sui ipsius ipsa causa est, hoc est, quam gratia sui ipsius quaerimus scire et volumus, et hoc est cuius finis, propter quem scire volumus, est in ipsamet ista scientia." *Alberti Magni Metaphysica*, Tractatus 2, c. 1, p. 18.

II. *The subject of Metaphysics*

The problem of the subject is crucial for our topic. Aristotle himself was the origin of the mediaeval controversies over this problem. In the his *Metaphysics* he defined the subject of that science which he himself called wisdom, first philosophy or theology many times. Let us recall the most important of those definitions: "Wisdom is knowledge about certain principles and causes" (A,1,982a 1-3); "There is a science which investigates being as being and the attributes which belong to this in virtue of its own nature" (Γ,1,1003a 16); "We are seeking the principles and the causes of the things that are, and obviously of them *qua* being" (E,1,1025b 1-2) - the two last quotations due to subsequent precising statements which make things more precise are specially important for us: "... the question which raised of old and is raised now and always, and is always the subject of doubt, viz. what being is, is just the question, what is substance" (Z,1,1028b 3-4); "The subject of our inquiry is substance; for the principles and the causes we are seeking are those of substances" (L,1,1069a 18-19); "There are three kinds of theoretical sciences - physics, mathematics, theology ... and of these themselves the last named is best; for it deals with the highest of existing things" (K,7,1064b 1-5).[26]

Although the aforesaid formulations apply to a variety of subjects, it is not impossible harmoniously to bring them together into one contention. It seems that this was evident for Aristotle himself. Similarly, the appropriateness of numerous definitions of metaphysics has not been questioned either by his direct followers or by his mediaeval commentators. The latter - as we may see from St. Thomas' *Proemium* to his *Commentary on the Metaphysics* - rather tried to demonstrate how metaphysics was a unity despite the variety of its subjects and to find the basis that would motivate such a unity. Controversies arose largely over the problem of what aspect to accent. There was no doubt as to the fact that the subject of metaphysics is being as being, yet whether it is preoccupied with all being or only with substantial being were among the questions that were posed. Studies were undertaken to determine how one might understand first principles: are they concrete, non-material beings, or principles of demonstrations, or both, and if so, do they

[26] All quotations in translation by W.D. Ross.

remain in any specific mutual relation? It was also agreed that metaphysics is a science which has to deal with the first cause - God, yet the problem of whether He is directly or indirectly (as the reason of being) the subject of its investigations found no common answer.

This last point is especially relevant since the two greatest Arab philosophers, whose ideas were always respected by Christian thinkers, namely, Avicenna and Averroes, had given contrary answers to the question of the subject of metaphysics. According to Avicenna, the main subject of metaphysics is being as being and its ultimate causes: "Nulla enim alia inquirit de causis ultimis nisi ista scientia; si autem consideratio de causis fuerit inquantum habent esse, et de omni eo, quod accidit eis secundum hunc modum, oportebit tunc ut ens inquantum est ens sit subiectum quod est convenientius".[27] At the same time metaphysics is the only science which seeks to find the existence of the first cause of being - God. But because God is for metaphysics the object of the question *an sit*, He cannot be its subject: all sciences assume their subjects as already existing. Metaphysics does this in relation to being, but it cannot assume the existence of God. "Dico ergo impossibile est esse ut ipse Deus sit subiectum huius scientiae, quoniam subiectum omnia scientiae est res, quae conceditur esse, et ipsa scientia non inquirit nisi dispositiones illius subiecti."[28] The following phrase puts it even more explicitly: "De eo autem inquisitio fit duobus modis: unus est quo inquiritur an sit, alius est quo inquiruntur eius proprietates. Postquam autem inquiritur in hac scientia an sit, tunc non potest esse subiectum huius scientiae. Nulla enim scientiarum debet stabilire suum subiectum."[29]

Avicenna's position was countered by Averroes: God is the proper subject of metaphysics. Metaphysics may omit the question of the existence of God as it is posed and answered in physics which prove the existence of the Prime Mover: "Substantia enim aeterna declarata est in naturalibus in fine octavi Physicorum."[30] Unfortunately we cannot undertake a closer analysis of the argumentation of these two

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27 *Philosophia prima sive scientia divina*, *Opera Philosophica*, Venise 1508, Reimpr. Louvain 1961, fol. 70v E; cf. J.C. Doig, *op. cit.*, p. 24.

28 *Avicennae peripatetici philosophi ac medicorum facile primi opera in luce redacta ac nuper quantum ars niti potuit per canonicos emendanda*, Venetiis 1508, f. 70ra-b; cf. A. Zimmermann, *op. cit.*, p. 109.

29 *Ibid.* C 70rb, cf. Zimmermann, *op. cit.*, p. 110.

30 Averroes, in: Aristoteles, *Opera latine cum commento Averrois*, ed. Nic. Varnia, Venetiis 1483, II, com 22.

philosophers; let us merely notice the fact that Averroes accepts a different conception of God than Avicenna: his God is a God of physics, an unmoved Mover explaining the phenomenon of movement, while Avicenna's God is the prime cause of contingent being. Those two concepts of God assume two radically different conceptions of metaphysics and lead to two divergent and far reaching consequences.

In general mediaeval thinkers followed Avicenna's conception, yet with significant difference in detail. Albert Zimmermann - who has devoted an excellent and thoroughly documented work, *Ontologie oder Metaphysik? Die Diskussion über den Gegenstand der Metaphysik im 13. und 14. Jahrhundert*,[31] to this problem - has distinguished three fundamental solutions:

1) God is one of the main subjects of metaphysics. This concept was shared, among others, by Roger Bacon, Giles of Rome, Peter Aureoli, William Ockham and John Buridan,

2) God is the cause of the subject of metaphysics, i.e. of being (as being); among the thinkers sharing this position we find St. Albert the Great and St. Thomas,

3) God is a part of the subject of metaphysics; this idea was proclaimed, among others, by Siger of Brabant, Henry of Ghent, but also by Augustine of Ancona, Peter of Auvergne, Alexander of Alexandria and Joan Duns Scotus.

Each of the above opinions was shared by a number of unidentified commentators, whose texts have been published by Zimmermann in his work.

The problem of God as a subject of metaphysics is crucial for its definition. Yet it appears that, from the point of view of the further development of metaphysics or possibly even its fate as a science, the problem of its relevance to those prime causes understood as the unmovable Movers of celestial spheres was of a special importance. To put it simply, if it were to appear that the hypothesis of their existence was false, at least one of the reasons for the existence of metaphysics as a science would have to be omitted. Should we not, then, see one of the reasons of a crisis within metaphysics in the late Middle Ages in the

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31 Albert Zimmermann, *Ontologie oder Metaphysik? Die Diskussion über den Gegenstand der Metaphysik im 13. und 14. Jahrhundert. Texte und Untersuchungen* (Studien und Texte zur Geistesgeschichte des Mittelalters, hrsg. von Joseph Koch, Bd. VIII), Leiden-Köln 1965.

appearance of a rival hypothesis explaining the movement of the celestial spheres, e.g., of Buridan's theory of impetus? Going further, was not the substitution of the notion of metaphysics for ontology in the seventeenth century significant testimony of a need for a new formulation of the subject of its investigations, especially in view of the fact that what had formerly been considered supra-physical - celestial movements - had then been included in the Newton's general laws of gravitation?

Let us return to our main problem. The order of presentation shall be governed by a single criterion, the criterion of the unity, or rather the integrity, of metaphysics. Metaphysics may, or even must, consider various subjects, yet I would like to bring to our attention the problem of how these subjects were brought together so as to achieve the unity of the fundamental subject of this science.

(1) The view according to which the essential subject of metaphysics is exclusively being, has been expressed by Michael Scot: "huius scientiae subiectum est ens, non Deus uel quattuor causae, sicut quidam crediderunt. Teste enim Aristotele nulla scientia subiectum suum inquirit. In hac autem queritur de Deo quid sit et similiter de causis...."[32] This opinion has been stated by Dominicus Gundissalinus: the subject, or to use Dominicus' terminology, the matter of metaphysics is being, which "communius et euidencius omnibus est".[33] This general being designates the four parts of metaphysics, which vary depending on whether they treat of beings completely isolated from matter, beings mixed with matter but not constituted by it, beings which can exist both with and without matter (e.g. causality, unity), and finally material beings in their most general aspects (e.g. in movement or motionless). From another point of view metaphysics may be divided into species corresponding to the division of being itself into substance and accident, what is universal and what is particular, cause and effect, and act and potency.[34] Yet God does not enter into the range of metaphysics' subjects, since no science seeks the existence of its own subject, but only assumes it. Dominicus clearly follows Avicenna in his argumentation.

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32 Dominicus Gundissalinus, *op. cit.*, Anhang, p. 400.

33 Dominicus Gundissalinus, *op. cit.*, p. 37.

34 *Ibid.*, p. 37.

(2) Being is the main subject of metaphysics for Albert the Great as well. In the Book I, chapter 2 of his *Metaphysics* he presents three opinions as to the essential subject of this science: God, first causes, and being as being. Rejecting two first while arguing similarly to Avicenna ("Deus autem et divina separata quaeruntur in ista scientia. Ergo subiectum esse non possunt"), "cum omnibus Peripateticis," he insisted that the third opinion is the correct one: "ens est subiectum inquantum ens est, et ea, quae sequuntur ens inquantum est ens et non inquantum hoc ens, sunt passiones eius."[35] The condition: "non inquantum hoc ens" is specially important: metaphysics does not deal with specific kinds of being, but with all being from the point of view of its entity. However, since the full meaning of this claim is that it is substance that is being, it is substance in the final analysis that is the main subject of metaphysics' interest, and thus the metaphysical search for causes and principles apply to the causes and principles of substance.[36] The unity of metaphysics is in any event guaranteed.

In stressing the role of substance as the subject of metaphysics, St. Albert the Great is not alone; similar opinions are to be found in other thirteenth century thinkers, to mention but only one, an anonymous Oxonian commentator on the *Metaphysics* used the same arguments to justify the dignity of metaphysics: "quia subiectum huius scientia est substantia vel ens universum".[37] Other thinkers from this circle, such as Robert Kilwardby or Adam of Buckfield, have specified the subject of metaphysics as *ens inquantum ens*.[38]

(3) St. Thomas followed the line favored by Aristotle, Avicenna and St. Albert the Great: Being as being is the subject of metaphysics, thus defining both the material and formal subject of this science. As in all

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35 *Metaphysica*, p. 4.

36 "Oportet primum philosophum ... habere scientiam substantiarum; et quia scientia non habetur nisi per causas et principia, oportet philosophum habere causas et principia substantiarum", *op. cit.*, p. 165; cf. Zimmermann, *op. cit.*, p. 156.

37 Daniel A. Callus, "The subject-matter of metaphysics according to some thirteenth-century Oxford masters", in: *Die Metaphysik in Mittelalter. Ihr Ursprung und Bedeutung...* (Miscellanea Mediaevalia, Bd. 2), Berlin 1963, p. 394.

38 *Ibid.*, p. 396-399.

knowledge, it is its formal subject that decides about its quality, and this is what is here expressed in the words "as being" - *inquantum ens*.[39]

The notion of being taken in its whole range, but simultaneously in its specific indefinableness means everything that *is* in any way. We could say that the notion of being covers both the material and the immaterial, the actual and the potential, what is finite and what is infinite, what is necessary and what is contingent. The most general notion of being is virtually transcendental, yet taken as denominating the essential subject of metaphysics i.e. - as what metaphysics assumes - it limits itself to beings which are presented to us directly. It is here that we should look for the reason why St. Thomas attachs such importance to the fact that being is the first datum of our intellect. This conviction - formulated already in *his De ente et essentia*: "ens autem et essentia sunt quae primo in intellectu concipiuntur"[40] - shall never change: "Illud autem quod primo intellectus concipit quasi notissimum, et in quo omnes conceptiones resolvit, est ens",[41] "... in prima quidem operatione est aliquod primum, quod cadit in conceptione intellectus, scilicet hoc quod dico ens...."[42]

We cannot emphasize too strongly this cognitive fact of being's priority, since it is basically this which assures the autonomy of metaphysics in relation to other sciences and guarantees the possibility of determining its subject. In other words: metaphysics, as every science, has to be based on certain initial assumptions, yet what it assumes is what is cognitively first, direct, and not referring to anything else.

The a priori horizon of the notion being is infinite, yet what is given to us as a being, i.e., what is directly experienced, cognitively appears as *having* existence: "ens simpliciter est quod habet esse".[43] So experienced and so defined, being is the essential subject of metaphysics. At the same time it marks the ways of the investigation of being. The first way deals with its essence as a being: what does it mean, to exist, to be something? What is the relation between what a thing is (*essentia*)

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39 Cf. S. Thomas Aq., *S.T.* I, 1, 4c and commentary by Thomas Gilby O.P in: St. Thomas Aquinas, *Summa Theologiae*, Latin text and English translation, Introduction, Notes, Appendices and Glossaries, vol. I, Christian Theology, Blackfriars, Cambridge 1964.

40 *De ente et essentia*, Prooemium.

41 *De veritate* 1, 1c.

42 *In Met.* IV, l.6, 605.

43 *Summa theologiae* I-II, 26, 4c.

and that it is (*esse*)? Answers to these questions, among others, render more precise the essence of substance as a being *par excellence*, but also of its parts and its accidents. A second way of investigating being is determined by the question: Why does something exist, i.e., have *esse*? This determines the horizon of the search for the first cause, for being whose *esse* and *essentia* is the same. The direction of the first way is horizontal, of the second, vertical.

St. Thomas' metaphysical dictionary is rich in additional definitions of being which were to raise controversies among his commentators in the future. *Ens quod ens*, *ens inquantum ens*, *ens simpliciter*, *esse simpliciter*, *ens commune* - are among the most important of them. Especially troubling was the notion of common being, *ens commune*. What is its range? Does it not suggest its univocity, contrary to the explicitly expressed assumption by St. Thomas' that being is an analogical notion?

When St. Thomas uses the formula *ens commune,* he doubtlessly does not mean any special species of being nor, even more so, the hypostasis which was directly created by God. It seems that *ens commune* is a being in its widest range, yet such as is accessible to our direct cognition. It is due to this that it is the essential subject of metaphysics since it is the being assumed by other sciences dealing either with it per se, or with its domains, its variations or aspects, yet these other sciences do not investigate it in the aspect of its beingness. Starting with the totality of sciences, metaphysics finds its subject in what is common to them all. Similar remarks may be made with regard to being as divided into categories. Common and analogical to all of them, it is not exhausted by any of them. "Et sic patet quod multiplicitas entis habet aliquid commune, ad quod fit reductio."[44]

Commentators who limit the range of *ens commune* to created being seem to be right: "ens commune est proprius effectus causae altissimae, scilicet Dei".[45] I know of no text in which St. Thomas would insist that *ens commune* included God as well, although the name *Qui est* attributed to Him finds its reason of existence also in its absoluteness, and the less a notion is determined and is more general and absolute, the more correctly it may be referred to God: "quanto aliqua nomina sunt minus determinata et magis communia et absoluta, tanto magis proprie dicuntur

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44 *In Met.* XI, 1, 2197.

45 *S.T.* I-II 66, 5 ad 4.

de Deo a nobis".[46] The notion of being that could apply to God has to transgress all the range limitations (and I believe that *ens commune* limits itself to categorial being) and thus be considered as a transcendental designation. This, of course, also falls within the domain of metaphysics.

(4) The problem of the subject of metaphysics with John Duns Scotus is more complicated. He also rejects Averroes' opinions and accepts Avicenna's proposition that metaphysics is a science about being *qua* being. But God is being as well and since Scotus assumes the univocity of the term "being", God's nature should be easier to understand than with St. Thomas' assumption of the analogy of being. Isn't God then the second and equivalent subject of metaphysics beside being or, according to Zimmermann, part of the subject?

I cannot take up a discussion of this problem here (by the way: it seems to me, that the notice of a mediaeval scholiast: "Certe quae in hac questione tradit Doctor videntur humanum ingenium superare"[47] appears to be still valid!). Let us recall what remains beyond any doubt:

1) being is the subject of metaphysics,

2) the notion of being that defines the subject of metaphysics should cover virtually all other notions which are attributed to metaphysics,

3) the notion of being is a transcendental notion, covering virtually not only the coextensive transcendentals (*passiones entis convertibiles*), but also disjunctive transcendentals, such as finite-infinite, necessary-accidental, *in potentia-in actu*, *causatum-causa*,

4) God is a being and thus falls within the range of the general notion of being. The point of departure of metaphysics is being and its task is the analysis of being as a transcendental: "Necesse est esse aliquam scientiam universalem, quae per se consideret illa transcendentia, et hanc scientiam vocamus Metaphysicam, quae dicitur a *meta*, quod est *trans*, et *physis scientia*, quasi transcendens scientia, quia est de transcendentibus."[48] But this analysis, as applying either to being as being or to its transcendental qualities (passions) or finally to disjunctive transcenden-

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[46] *S.T.* I, 13, 11c.

[47] Cf. J. Owens, "Up to What Point is God Included in the Metaphysics of Duns Scotus?" in: *Mediaeval Studies* X, 1948, p. 163.

[48] Duns Scotus, *Quaestiones subtilissimae in Metaphysicam Aristotelis*, Prol., n. 5; cf. Duns Scotus, *Philosophical Writings*, *op. cit.*, p. 2.

tals, must lead on to show the prime being, which is God.[49] In this way God, not being the point of departure of metaphysics, becomes its rightful subject as the point of arrival. No other science exists that would investigate Him as Being, as physics reaches Him as the First Mover, and theology treats of Him in the respect of His divinity. Although the notion of God appearing in metaphysics is general and not perfect (generality is, in any event, the attribute of the subject of any science, but only theology will speak of God *ut hic*), yet it is doubtlessly attributable to 1. God, 2. God who is infinite. As such an infinite being, God becomes the subject of metaphysics.[50] Averroes was not mistaken, when he maintained that God is the subject of metaphysics, but he was wrong when he insisted that He was taken over by it from physics as the unmovable Mover. Metaphysics does not adopt the notion of God from physics nor from theology: it comes to accept the necessity of His existence when analyzing being as being, an analysis which, at the same time, enables us to display, not clearly, but certainly, some features of His essence.

There is no doubt about unity of metaphysics. After all, it is being determined by the *uni*vocity of the notion of being. God is part of the subject of metaphysics as He is the highest Being, to whose discovery metaphysics is led through the analysis of the transcendentals. And it is this aspect in which He is being investigated by metaphysics; from the point of view of His divinity He is investigated by theology, to which metaphysics as metaphysics has no access.

(5) Where the unity of the subject of metaphysics is concerned, the position taken earlier by Siger of Brabant is less clear. Being in general, *esse universale*, is the subject of metaphysics. Within its limits we must clearly distinguish beings which are results and those which are causes. The problem is whether theorems which would apply and be true about both exist (e.g., general phrases stating that every being as being (*ens secundum ens*) has its cause are false since beings having no cause

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49 "Unde et actu et potentia, finitate et infinitate, multitudine et unitate, et ex multis talibus, quae sunt proprietates et passiones Metaphysicae potest concludi in Metaphysica Deum esse, sive primum ens esse." *Rep. Par.*, Prologus III, 1. Cf. J. Owens, *op. cit.*, p. 170.

50 Cf. J. Owens, *op. cit. passim*; Jacek Widomski, "Przedmiot metafizyki u Jana Dunsa Szkota. Próba rozgraniczenia zagadnień ontologicznych i metafizycznych w obrębie jego filozofii", *Studia Mediewistyczne* 19, 2, 1978, p. 49-73.

exist).[51] Thus God is a being among beings, it is a being that is the cause of those that are results, yet no common denominator exists that would enable us to speak about Him as well as about contingent beings within a single subject of metaphysics.[52]

(6) It seems to me that the problem of the integrity of the subject of metaphysics has not been solved any more completely by Roger Bacon than by Siger. Analyzing Aristotle's *Metaphysics*, he arrived at the conviction that the Philosopher has passed through three topics connected with three subjects of metaphysics: being as being, substance and God. We should stress that these are the three equivalent subjects of this science or, put in another way, that its subject may be defined in three ways: "subiectum in metaphysica tripliciter dicitur".[53] The common point of reference is God rather than being as being, God as the first cause of being: "ista tamen tria ad unum reducuntur, scilicet ad causam primam".[54]

The fact that Bacon treats the range of the notion of being as the first subject of metaphysics ("subiectum primo modo dictum est ens") very widely, is worthy of note. One of the questions from his *Comments on the Metaphysics* reads: "an metaphysicus habeat considerare significationes nominum". The answer is positive. A metaphysician regards the meaning of names in a way different from a logician, treating them as beings: "... et cum sermo sit pars entis, licet diminuta, ideo metaphysicus considerat sermonem".[55]

How then, finally, should one justify the unity of metaphysics when it is not grounded in its subject? Bacon's solution is of a pragmatic character: first philosophy is the subject of prime desire for those who desire knowledge, thus its relation to the cognizance of details is like that of happiness to virtues: although there are many virtues, there is only one happiness (*beatitudo*).

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51 "Tamen entis, secundum quod ens, non est principium, quia tunc omne ens haberet principium", Cornelio Andrea Graiff, *Siger de Brabant, Questions sur la Métaphysique*. Texte inédit, Louvain 1948, p. 5.

52 "Cum ens secundum quod ens non habeat causas et principia, quia non omne ens, ... haec scientia non considerat nisi causas et principia, quae communia sunt omnibus entibus causatis." *Op. cit.*, p. 364.

53 *Op. cit.*, vol. XI, p. 121.

54 *Ibid.*, p. 21, 22.

55 *Ibid.*, p. 95.

(7) A still different solution is given by William Ockham. He did not, unfortunately, write a commentary on the *Metaphysics* so, for the problem of interest to us, we must base our speculations on his opinions expressed in works not devoted directly to this problem. A sentence from the *Prologue* to the *Commentary* on The *Physics* is significant: "Sometimes one subject is first as regards one sort of priority, while another is first as regards another sort of priority. For instance in metaphysics 'being' (*ens*) is the first subject of all as regards priority of predication, whereas the first subject as regards priority of perfection is God."[56] The priority of a subject of a certain science depends on the point of view which could be one of many, methodologically all being equally qualified. The fact that the plurality of subjects for a specific science seems to undermine its unity does not have any significance for Ockham: the unity of science is, in his view only something accidental and is not based on any principle: science, being an aggregate of certain premises and conclusions, does not have to be characterized by some essential unity to be a science. This applies to metaphysics as well since its equal subjects are being and God; thus the following sentences are equally true: "in metaphysica primum inter omnia subiecta primitate attributionis est ens" and "in metaphysica ... primum (i.e. subiectum) primitate perfectionis est Deus".[57]

The review presented above of the positions taken in regard to the subject of metaphysics is not, of course, complete. It also does not entitle us to arrive at any far reaching conclusions. One thing appears to be certain: the cement which best assures the unity of metaphysics' subject is the notion of being, treated either univocally or analogically. Being assures the unity of the formal aspect of metaphysics as well, since it enables it to deal with everything that falls within its scope on behalf of features that tell us something is being as being. The reduction of the subject of metaphysics to something other than being: substance, prime cause, or even God, does not generate its integrity. It is lost even more, if we assume that the crucial notion of metaphysics, namely being, is equivocal.

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56 William of Ockham, *Philosophical Writings. A Selection*, transl. Ph. Boehner, Indianapolis - New York 1964, p. 11.

57 *Expositio super libros Physicorum*, Prol.; cf. *supra*.

III. *Metaphysics and other sciences*

What is the place attributed to metaphysics in the system of the sciences? We must, above all, state the fact that metaphysics, despite its characteristic features (which could have been observed even when examining the problem of its subject), is an integral part of a system constituted by the sciences. What is more, in the common opinion of all mediaeval philosophers, without it this system would have been impossible.

(1) A whole range of problems exist, which are common to all sciences, yet which each of them separately or together cannot cope with due to the limitations of their subjects. These are basically the problems of being, essence, and existence, but also problems of relations: whole-part, act-potency, etc.[58] The *ens commune* as defined by St. Thomas seems to be the being considered by metaphysics as the common subject of all sciences. Yet it does not exclude the problems of being as *ens simpliciter*, which, being the subject of prime interest to metaphysics, is considered as a transcendental and allows analogous procedure also in regard to the Prime Being.

The notion of being is assumed by all sciences. They receive it from metaphysics with the most general notion of which they make use, not caring to work out its fundamental contents. This is also a task for metaphysics, which, in its development in the Middle Ages, examined various ways of making it more precise as well as of referring it to reality. In the first case the reference was to abstractions, yet different from that abstractions in physics or metaphysics. A different opinion was expressed by St. Thomas, who maintained that the notion of being is not to be obtained through abstraction, but through separation.[59] Due to it he did not mix immaterial abstractions with individual, concrete immaterial beings such as pure forms (*substantiae separatae*).[60]

When it comes to the semantics of the notion of being, all possibilities that could take place have been exhausted. Duns Scotus maintained that "being" applies univocally to its designations, St. Thomas

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58 Cf. *S.T.* I-II 66, 5 ad 4; *In Met.* XI, l.1, 2146.

59 *In Boeth. De Trinitate*, 5 and 6.

60 "Et veritas haec est, quia nihil est in rerum natura praeter singularia existens, sed tantum in consideratione intellectus abstrahentis communia a propriis." *In Met.* XI, l.2, 2174.

that it does so analogically, and finally, Ockham that it applies equivocally. It would be interesting to investigate to what extent these solutions had influence on the character of metaphysics, and also on other sciences that drew their foundations from metaphysics.

(2) Each science assumes not only general notions, but specific principles as well. It assumes them as being evident or justified in another science which is responsible for their validity. It is this that metaphysics does; it not only makes use of first principles, but analyzes them and defends their validity: It was St. Thomas who said: "Et ideo sapientia non solum utitur principiis indemonstrabilibus, quorum est intellectus, concludendo ex eis, sicut aliae scientiae; sed etiam iudicando de eis, et disputando contra negantes."[61]

St. Albert the Great analyzes this problem in detail. When a physicist assumes the existence of moving bodies or a mathematician the existence of dimension, they assume them to be existing. Yet they cannot derive being as being from their theorems; this has to be demonstrated on the basis of principles concerning being itself.[62] This can be only done by metaphysics which provides the ultimate theoretical foundations for all sciences: "inter theoricas autem excellit haec divina, quam modo tractamus, eo quod fundat omnium aliorum subiecta et passiones et principia, non fundata ab aliis."[63] St. Thomas confirms it: "Et sicut nulla scientia particularis determinat quod quid est, ita etiam nulla earum dicit de genere subiecto, circa quod versatur, est aut non est. Et hoc rationabiliter accidit; quia eiusdem scientiae est determinare questionem an est, et manifestare quid est."[64]

St. Thomas formulates the fundamental question of metaphysics, namely the question about the essence and existence of being. They are fundamental and ultimate at the same time, since all questions about the causes rely upon them, i.e., questions of the *quid est?*, *quia est?* and *propter quid est?*. If one could not demonstrate that the cause at issue exists and also that one could demonstrate what it is, posing such

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61 *S.T.* I-II 66, 5 ad 4.

62 *Alberti Magni Metaphysica*, p. 2.

63 *Ibid.*, p. 3.

64 *In Met.* VI, l.1, 1151.

questions would be senseless. And let us add that no other science analyzes questions about essence or the questions about existence.

(3) The third area of interest to both metaphysics and to other sciences is the problem of immaterial substances, pure forms, even when they are understood as unmovable movers. Metaphysics covers the problem of unmovable movers in its scope, yet it does not seek to answer the question of their existence, but accepts the existential judgment about them from physics. Thus it appears that metaphysics bases itself not only on what is given in direct, i.e., everyday experience, but also on what comes from scientific experience.

The meeting of metaphysics and physics in this case is very peculiar. Physics, proving the existence of unmovable Movers, at the same time interprets them as if they had to be pure forms, that is, had to be immaterial. But because of the methodological limitations of physics to the realm of material objects, it cannot deal with them further. Thus it turns them over, as it were to metaphysics which, in turn, does not investigate them thoroughly, but only under the aspect of their *entitas*. First causes (*prima principia*) thus transgress not only the cognitive possibilities of physics, but of metaphysics as well. "Quomodo autem causa prima ubique sit et quomodo virtutes corporum celestium ubique sint et quomodo intellectus fit ibi ubi est illud intelligatur ... altioris est negotii et non est nostre possibilitatis explanare" wrote Robert Grosseteste in his *Commentary* on the *Posterior Analytics*.[65] And we could think that he wrote it from the point of view of a physicist, were it not for the fact that this phrase is a part of a larger whole of a typically metaphysical character.

Thus we could ask why metaphysics deals with subjects of which it is known from the beginning that they transgress its cognitive possibilities? There is but one answer: it is the postulate of faithfulness towards reality, the taking into consideration of everything, of what is given in any way, even indirectly through other sciences that causes it to deal with such subjects. If this were not done by metaphysics, it would be like the metaphysics of modern science, which would, e.g., declare a

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65 *Commentarium in Posteriorum Analyticorum libros*, I. 18, f. 19rb. Cf. A.C. Crombie, *Robert Grosseteste and the Origins of Experimental Science 1100-1700*, Oxford 1953, p. 128.

complete disinterest in regard of elementary particles or the "black holes" in the universe.

In any case, some thinkers had an even more important reason to be interested in prime causes. They related them closely to the first principles of cognition on which the sense of the whole of knowledge depends. Such ties may be traced to Robert Grosseteste; his relation to the spirit of neoplatonic philosophy is not without importance here. Complete cognizance of prime beings, immaterial prime substances, would guarantee the certainty of our cognition. Unfortunately it is not accessible to our intellect in its present condition, and we have to be satisfied with the certainty connected with mathematical subjects.[66]

Further, St. Albert the Great points to the fact that first causes are *maxima scibilia*. Although for the human intellect they are cognitively the most difficult due to their abstractness, they nevertheless guarantee the certainty of the cognizance which refers to them. Complete knowledge is a knowledge based on the cognition of causes; thus metaphysics seeking the prime causes guarantees certainty both to its own cognitive results and to the sciences which refer to it.[67] Metaphysics itself may be considered the aim of all sciences and its own cause: "dicimus illam scientiam vere esse sapientiam, quae per se est scientia ista, quod sui ipsius causa est, hoc est, quam gratia sui ipsius quaerimus scire et volumus, et hoc est, cuius finis, propter quem scire volumus, est in ipsamet ista scientia".[68]

(4) All the arguments cited above demonstrate that metaphysics is not only first in the system of sciences, but that it is the ruling one. Roger Bacon, recalling Aristotle and Avicenna, maintains that: "hec est nobilissima, qui ipsa est regula scientie speculative et practice quare habet potestatem supra omnem partem philosophie".[69] In another place he writes that the task of metaphysics is to determine the origin, number,

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66 Robertus Grosseteste, *Commentarius in Posteriorum Analyticorum libros*, Introduzione e testo critico di Pietro Rossi, Firenze 1981, p. 255-256. Cf. *De veritate*, in: *Die Philosophische Werke des Robert Grosseteste Bischofs von Lincoln*, Zum erstenmal vollständig in kritischer Ausgabe besorgt von Dr. Ludwig Baur (Beiträge zur Geschichte der Philosophie des Mittelalters, B. IX), Münster i. W. 1912; p. 137-138; cf. A.C. Crombie, *op. cit.*, p. 52-53.

67 *Alberti Magni Metaphysica, ed. cit.*, p. 21.

68 *Ibid.*, p. 18.

69 *Opera hactenus inedita Rogeri Baconi, ed. cit.*, fasc. X, p. 13.

and order of the sciences, and even the explanation of their specific features, for which reason some investigators of Bacon's philosophy consider him to be a precursor in treating metaphysics as proceding the methodology of other sciences.[70]

Siger of Brabant, stressing that metaphysics deals with "the aim of all theoretical sciences, what is God" sees a leading role in relation to the other sciences: "et iterum, haec scientia ordinat alias scientias".[71]

St. Albert the Great notices that metaphysics, is among other sciences, *maxime doctrinalis* and as wisdom orders all: "ista sapientia sit antiquior et prior omni alia scientia, quae formulatur ... Cuius signum est, quod iustum et dignum esse dicimus officium sapientis, quod non ab alio quodam ordinetur, sed ipse ordinet omnia alia."[72]

Let us end this list of quotations with St. Thomas. In his *Summa contra gentiles* he writes: "Hoc autem modo se habet philosophia prima ad alias scientias speculativas, nam ab ipsa omnes aliae dependent, utpote ab ipsa accipientes sua principia et directionem contra negantes principia: ipsaque prima philosophia tota ordinatur ad Dei cognitionem sicut ad ultimum finem, unde et scientia divina nominatur."[73]

IV. *Dignity of Metaphysics*

Several justifications of the names of metaphysics directly aim at showing its particular dignity. We can see this especially where reference of metaphysics to the first, immaterial causes and, most of all, to God is emphasized. Avicenna claimed that the dignity of the object gives dignity to the science which is subordinated to it; "... et tunc nominabitur haec

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70 "... Metaphysica, cujus proprium est distinguere omnes scientias, et dare rationem universalem de omnibus, quia est communis omnibus rebus et scientiis specialibus et in omnes suam influit potestatem." *Opera hactenus inedita Rogeri Baconi*, fasc. III, *Liber primus Communium naturalium Fratris Rogeri*, ed. by R. Steele, Oxford 1911, p. 9. "Nam nobilis pars Metaphysica, cum sit communis omnibus scientiis, est de origine et distinctione et numero et ordine scientiarum omnium, ostendens propria cuilibet et demonstrans" *ibid.*; cf. E. Charles, *Roger Bacon, sa vie, ses ouvrages, ses doctrines d'après des textes inédits*, Paris 1861, p. 142; M. Frankowska, *"Scientia" w ujęciu Rogera Bacona*, Wrocław 1969, p. 57.

71 C.A. Graiff, *Siger de Brabant, Questions sur la Métaphysique. Texte inédit*, Louvain 1948, p. 7-8.

72 *Metaphysica*, I, tract. 2, cap. 3, p. 20.

73 *Contra gentiles* III, 25.

scientia ab eo, quod est dignus in ea scilicet vocabitur haec scientia, scientia divina".[74] This view came to be shared by all scholastic commentators on the *Metaphysics*.

However, the knowledge which refers to the first causes, and especially to the most superior of them, also deserves the name of wisdom. "... Et haec est philosophia prima, quia ipsa est scientia de prima causa esse ... et est etiam sapientia quae est nobilior scientia qua apprehenditur nobilius scitum. Nobilior vero scientia, quia est certitudo veritatis et nobilius scitum, quia est Deus...."[75] We find a distinct trace of these statements in the definitions of "divine knowledge" included in *De divisione philosophiae* of Dominicus Gundissalinus who, having identified it with wisdom, states the reason for this identification with precision: "... hec autem tres proprietates sapiencie [i.e., cognition of what is most dignified, highest certainty, and reference to the first causes] conueniunt huic sciencie: ergo ipsa est sapiencia, que est nobilior sciencia, qua comprehenditur nobilius scitum, nobilior uero sciencia est, quia est certitudo ueritatis, et nobilius scitum, quia est deus et cause que sunt post eum, et eciam cognicio causarum ultimarum omnis esse et cognicio dei."[76]

The problem of the certainty of metaphysics deserves separate consideration. Let us see how this certainty is justified by one of the first commentators on Aristotle, Robert Grosseteste. In his *Commentary on the Posterior Analytics*, he states that that knowledge is more certain which is logically prior, i.e., relates to primary things (*est de prioribus*). At this moment, however, he introduces a new, neoplatonic element: primary things are more certain because they are better adjusted to the spiritual light which pervades our mind. Thanks to it, knowledge about immaterial substances is more certain than knowledge about material things. Furthermore, it appears that this certainty is not presently accessible to us. The human intellect in the state in which it now is must be content with the certainty of mathematical truths. If, however, it rose to the state in which it should be, the divine things would become most certain for it: "Intellectui igitur humano, qualis est adhuc in nobis, sunt res mathematice certissime ...; sed intellectui tali qualis debet esse

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74 *Met.*, t. I, c. 4, fol. 71v C; cf. J.C. Doig, p. 85.

75 *Ibid.*, c. 2, fol. 71r E-F.

76 *De diuisione philosophiae*, p. 36, 3-8.

secundum statum sui optimum sunt res divinae certissime, et quanto res sunt priores et natura sublimiores tanto certiores."[77]

Argumentation of Thomas Aquinas is worth considering here. In the *Proemium* to his *Commentary* on Aristotle's *Metaphysics,* the methodological arguments he refers to are anchored in assumptions made in ethics and even in politics. The goal to which all sciences and arts are subordinated is man's perfection as identified with his happiness: "Omnes autem scientiae et artes ordinantur in unum, scilicet ad hominis perfectionem, quae est ejus beatitudo." This close connection of wisdom and happiness -in same respects resembling the teachings of Socrates - is here a matter of the utmost importance: first of all, it allows us to treat knowledge as a coefficient of human perfection and therefore as belonging most strictly to man's essence; secondly, it becomes the starting point of the compound analogy between the hierarchy of the sciences, the hierarchy of cognitive powers, and social hierarchy. Hierarchy in the domain of knowledge is parallel to hierarchy within human society: the most intellectual knowledge, namely wisdom, is at the top and rules all other kinds of knowledge, just as those who are intellectually most efficient should rule and reign people of weaker intellect. Here Thomas Aquinas makes direct reference to Aristotle's *Politics*. We must notice, however, that the spirit of this argumentation is clearly Platonic: one step more and we will be able to identify sages (who, as will soon appear, are metaphysicians) with rulers. Among cognitive powers the most supreme is that which deals with objects requiring the purest intellectual cognition (*maxime intelligibilia*). They are objects which satisfy (together or separately) the following conditions: 1) they guarantee cognitive certainty, 2) provide the most general information, 3) are most adequate for intellectual cognition. These conditions are satisfied by: 1) first causes which guarantee absolute cognitive certainty, 2) Being and that which is connected with it as being, for there is nothing more general than that, 3) beings which are completely separated from matter, e.g., God and pure intelligences whose cognition is absolutely independent of material conditions and is therefore strictly subordinated to intellectual powers only.[78]

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77 *Commentarius in Posteriorum Analyticorum libros*, ed. P. Rossi, Firenze 1981, p. 257.

78 Compare this argumentation with Aristotle's *Metaphysics* A, 2 982a.

It is from these three objects and the manners of their cognition that knowledge which deals with them receives not only its supreme dignity, but also its names: first philosophy, metaphysics, divine science, or theology.

As a conclusion for this chapter, let us quote an opinion which is obviously eclectic, but which perhaps collects all of the reasons to be found to prove the dignity of our science. In the *Proemium* to his *Commentary on the Metaphysics*, John of Głogów, a XVth century philosopher from the University of Cracow, claims: "Dignitas itaque primae philosophiae et praestantia ultra alias disciplinas, ut expositores metaphysicae Aristotelis ostendunt, ex sex potest persuaderi: primo ex eius perfectibilitate, secundo ex eius sublimitate, tertio ex eius utilitate, quarto ex eius iocunditate, quinto ex eius firmitate, sexto et ultimo ex eius necessitate. (...)

"Primo metaphysicae vel primae philosophiae dignitas ex eius accipitur perfectibilitate, ipsa enim perficit maxime intellectum nostrum. 'Perficit enim metaphysica', ut dicit Albertus primo 'Metaphysicae', 'intellectum nostrum vel animam secundum illud, quod est divinum in ea'. (...)

"Secundo metaphysicae dignitas vel primae philosophiae accipitur ex eius sublimitate; est enim ipsa metaphysica secundum Aristotelem primo 'Metaphysicae' dea scientiarum et eius illa possessio plus divina quam humana est. Ipsa enim habet firmare et dirigere alias scientias, regere autem et gubernare sublimium et magnorum est. Omnes etiam aliae scientiae metaphysicae subserviunt et famulantur, ipsa enim sola est libera et gratia sui. Versatur etiam circa substantias separatas divinas, quibus nihil praestantius, sublimius et dignius invenitur. (...)

"Tertio metaphysicae sive primae philosophiae accipitur dignitas ex eius utilitate, utile enim est homini cognoscere omnium causas, sine quibus nihil perfecte sciri potest. (...) Utile etiam est maxima scibilia cognoscere, ab eorum enim cognitione omnium aliorum cognitio oritur et dependet. (...)

"Quarto metaphysicae vel primae philosophiae dignitas accipitur ex eius iocunditate. Delectabile enim est intellectui hominis ea noscere, quae nobilissima, dignissima et altissima sunt; metaphysica autem, ut dictum est, circa res divinas, altissimas et nobilissimas est. (...)

"Quinto metaphysicae vel primae philosophiae dignitas accipitur ex eius firmitate. Ostendit enim Aristoteles primo 'De anima', quod una

scientia est dignior altera duplici modo: primo ratione certitudinis, secundo 'ex eo quod quidem et meliorum et mirabiliorum est'. Metaphysica autem est certissimorum principiorum et causarum primarum speculatrix. Oportet autem divina esse immortalia, intransmutabilia et ab omni corruptione aliena.

"Sexto et ultimo metaphysicae dignitas accipitur ex eius necessitate; necessaria enim est disciplina huius scire ultra omnes alias disciplinas. Quod pulchre deducit Alexander in prooemio scripti sui super primo 'Metaphysicae', cum dixit in haec verba: 'metaphysica versatur circa ens inquantum ens et quae ens sequuntur; ens enim et ea quae sequuntur ens communia sunt omnibus, de quibus consideratur in scientiis particularibus. Scientia autem propriorum acquiri non potest sine scientia communium, eo quod communium virtus ingreditur cognitionem cuiuslibet specialis scientiae'. Concludit Alexander: 'Necessaria est una scientia, in qua determinatur de natura entis et omnium communium, quae sequuntur ens inquantum ens; et haec est metaphysica'."[79]

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The aim of this paper was by no way to exhaust its subject, something that would have been unrealisable in any case; nor was it to propose new interpretations, which I could not have aspired to do. If I have managed to recall and systematize some basic and very well known matters, I shall find myself satisfied with having accomplished my goal.

In conclusion let me pose a question which might move us not as historians of philosophy, but as philosophers. It reads: Is mediaeval metaphysics nothing more than an historical monument today or does it carry any vivid and important values for metaphysics "as such", metaphysics which, after a period of its detronization by positivism, today witnesses a calm, but unquestionable, renaissance?

Instead of a direct answer, let me refer to the thoughts of three contemporary philosophers whose opinions I see as confirmation of the value of at least some of the questions that are posed and answered by metaphysics.

First is Roman Ingarden. Faithful to the program of classical phenomenology in his works, he posed the essential question of the

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[79] *Jana z Głogowa Komentarz do Metafizyki (Commentarius in Metaphysicam Aristotelis)*, wydał Ryszard Tatarzyński, Warszawa 1984, fasc. 1, p. 19-21.

quid est type, but also stressed the role of questions about existence, *an est*, about modes of being and of the existential moments that constitute them. According to Ingarden, the problem of real, individual essence realized within the frame of real existence (being) is the main subject of metaphysics.[80] Does this subject differ essentially from that formulated by the scholastics?

The second thinker I would like to refer to is Nikolai Hartmann. In metaphysics he saw a science which was the only one to take up the problem of mystery and to approach the areas which are wrapped in it by necessity. In this context Hartmann speaks neither of God, nor about the so-called prime causes, the adequate cognition of which, according to scholastics, transgressed the cognitive possibilities of a human. Instead, he spoke of the sense of mystery common to them. The more so, as it is related to what in reality is the most fundamental: existence through its subject.

Lastly, Martin Heidegger. His efforts to restore the rightful position and importance to the problem of being - *Sein* - are worth the highest respect, even though they were accompanied by a bitter conviction that European philosophy had long since forgotten about being. I believe that mediaeval philosophy should be excluded from this indictment. Its metaphysical roots are active right now, enlivening our reflections about being and existence. Paths indicated by various trends of mediaeval metaphysics are indeed worthy of our attention and our following today.

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80 R. Ingarden, *Der Streit um die Existenz der Welt*, B. 1, Tübingen 1964, §§ 5 and 6.

ALAIN DE LIBERA

Le développement de nouveaux instruments conceptuels et leur utilisation dans la philosophie de la nature au XIVe siècle

Tant dans la tradition philosophique proprement dite (Heidegger)[1] que dans la perspective spécifique de l'histoire des sciences (Koyré) l'étude des sciences et de la philosophie de la nature au Moyen Age a, jusque dans un passé récent, été dominée par deux décisions théoriques: (1) les sciences de la nature sont réduites à la physique, (2) dans la physique est privilégié ce qui appartient à la mécanique et par conséquent à la théorie du mouvement local. Ces deux décisions expliquent que l'on considère la problématique médiévale des sciences de la nature à partir d'une comparaison rétrospective entre la conception du mouvement élaborée par les artisans de la mécanique classique (Galilée, Descartes, Newton) et la conception "aristotélicienne" des médiévaux plus ou moins identifiée à ce qu'on appelle la conception "ordinaire". C'est dans cette perspective que l'on a pris l'habitude de distinguer la physique de l'âge classique et la physique nouvelle forgée au XIVe siècle par les "nominalistes parisiens", en utilisant l'histoire de l'évolution et de la formation de la pensée de Galilée comme fournissant "le tableau synthétique de l'évolution de la physique pré-galiléenne": physique aristotélicienne, physique nominaliste (dite de l'*impetus*), physique archimédienne, en même temps que l'instance critique et le terrain de tous les enjeux: la "mathématisation". Avec Galilée on voit donc se scander les étapes d'une histoire en même temps que se délimiter des conceptions archétypiques du mouvement et de l'espace: le *mouvement-processus* de la physique aristotélicienne (qui implique "la nécessité de l'action continuelle de la cause-moteur contiguë au mobile") et la conception "nominaliste" du *mouvement-effet* de la force imprimée dans le mobile "qui s'épuise en produisant son effet" impliquant toutes deux l'"arrêt nécessaire du mobile" sont abandonnées au profit du *mouvement-état* (ou "translation simple") qui "comme tout *état* dure sans qu'aucune cause soit nécessaire pour expliquer cette persistance"; la conception de l'espace "subit une transformation

1 *Cf.* M. Heidegger, *Qu'est-ce qu'une chose?*, trad. Reboul-Taminiaux, Paris [1]1971, p. 92-106.

analogue": "à l'espace physique d'Aristote", ensemble de lieux qualitativement distincts, se substitue l'espace abstrait, homogène, de la géométrie (espace archimédien), ce qui entraîne la "disparition du cosmos de la physique médiévale"[2].

Il n'est pas question de remettre ici en cause les résultats des analyses de Koyré dans les années 1935: il est acquis que la dynamique de Galilée n'est pas le "prolongement naturel" de la physique de l'*impetus* et même qu' "elle lui tourne le dos, comme elle tourne le dos au sens commun et à l'expérience commune". Il n'est pas non plus question de revenir sur les analyses de Heidegger, formulées à la même époque[3], dans un autre contexte et selon d'autres perspectives. Nous voudrions, au contraire, au seuil d'aborder "une pensée qui n'est plus la nôtre", suivre un des préceptes fondamentaux de la méthodologie d'Alexandre Koyré: "oublier les vérités qui sont devenues partie intégrante de notre pensée" et "adopter" les "modes", les "catégories de raisonnement" et les "principes métaphysiques qui pour les gens d'une époque passée étaient d'aussi valables et d'aussi sûres bases de raisonnement et de recherche que le sont pour nous les principes de la physique mathématique et les données de l'astronomie".

Envisager le développement d'un nouvel "outillage conceptuel" et son "utilisation dans le domaine de la science" ou de la "philosophie de la nature" au XVIe siècle consiste donc, dans un premier temps, à *oublier* la

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2 Sur le développement de ces thèmes chez A. Koyré, *cf.* entre autres, "Galilée et Platon", trad. française d'un article "Galileo and Plato", paru dans le *Journal of the History of Ideas*, IV/4 (1943), p. 400-428, repris dans A. Koyré, *Etudes d'histoire de la pensée scientifique*, Paris: 1966, p. 166-195; "Galilée et la révolution scientifique du XVIIe siècle", trad. française de l'article paru dans la *Philosophical Review* (1943, p. 333-348), repris dans *Etudes d'histoire de la pensée scientifique*, p. 196-212. Voir également l'étude sur *Die Vorläufer Galileis im XIV. Jahrhundert*, in: *Archives internationales d'histoire des sciences*, IV/16 (1951), p. 769-783, et la réponse d'A. Maier, "Die naturphilosophische Bedeutung der scholastischen *Impetus*-Theorie", *Scholastik*, 30 (1955), p. 321-343. Sur l'évolution des perspectives historiques et méthodologiques d'A. Maier, *cf.* J. Murdoch & E. Sylla, "Anneliese Maier and the History of Medieval Science", in: *Studi sul XIV secolo in memoria di Anneliese Maier*, A. Maierù & A. Paravicini Bagliani (eds.), Roma 1981 (Storia e Letteratura, 151), p. 7-23 [avec une bibliographie d'A. Maier, p. 15-23].

3 On sait que *Die Frage nach dem Ding. Zu Kants Lehre von den Transzendentalen Grundsätzen*, Tübingen: Niemeyer, 1962, reprend en fait le texte d'un cours professé durant le semestre d'hiver 1935-1936 à l'Université de Fribourg-en-Brisgau. Les travaux de Koyré sur "les années d'apprentissage de Galilée", dont nous extrayons nos citations, sont exactement contemporains. *Cf.* "Résumé de la Conférence d'Alexandre Koyré au Comité international d'histoire des sciences, lors de sa VIIe réunion annuelle. 26-27 juin 1935", *Archeion*, 17 (1935), p. 250 *sq.*; "Procès-verbal de la séance de la section d'histoire des sciences du Centre international de synthèse", *Archeion*, 18 (1936), p. 238 *sqq.*; documents repris dans A. Koyré, *De la mystique à la science. Cours, conférences et documents, 1922-1962*, P. Redondi (ed.), Paris: Editions des l'Ecole des hautes études en sciences sociales, 1986, p. 38-40.

problématique des "précurseurs" ou des "prédécesseurs" de Galilée, la mise en parallèle de la conception aristotélicienne avec la conception dite "ordinaire" du mouvement, la prédominance du mouvement local sur les autres formes de mouvement ou de changement étudiées par les médiévaux, à tenter de dégager les "modes", les "catégories" et les "principes" qui ont *effectivement* déterminé la production d'un ensemble d'énoncés philosophiques et théologiques où se dit une certaine conception de la *nature* caractéristique des savoirs et des pratiques scientifiques du XIVe siècle.

C'est une donnée aristotélicienne, constante depuis le XIIIe siècle, que la *philosophie naturelle* ne se laisse pas uniformément réduire à la *physique*[4]. C'est donc sur le fond traditionnel d'une mise en ordre des écrits naturels aristotéliciens (ou pseudo-aristotéliciens) qu'il faut comprendre la détermination des six parties de la *philosophie naturelle* selon Guillaume d'Ockham: (1) *de condicionibus communibus et magis notis omnium naturalium*, (2) *de corporibus coelestibus et eorum proprietatibus*, (3) *de corporibus inanimatis et eorum passionibus*, (4) *de corpore animato anima rationali et actibus eius* (5) *de ceteris animalibus et eorum proprietatibus*, (6) *de plantis*. Pour être effectivement comprise, cette classification appelle, cependant, trois observations complémentaires:

- Si la théorie des mouvements naturels est un élément essentiel de la *scientia naturalis*, la science du *corpus mobile* (ou de l'*ens mobile*) ne se laisse pas ramener à un domaine de problèmes homogènes à la stricte problématique du mouvement local, qui seule autoriserait une évaluation rétrospective de la "physique" du XIVe siècle à partir des visées et des enjeux philosophiques et épistémologiques de la "mécanique" classique; en d'autres termes: la physique de l'*impetus* ne peut à elle seule constituer un terrain d'observation historico-philosophique suffisant pour reconstruire "la" conception de la nature caractéristique du XIVe siècle sous les espèces d'une physique *nominaliste*; la triade "physique aristotélicienne, physique nominaliste, physique classique" n'offre pas une grille de lecture suffisamment

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4 Pour Roger Bacon la *scientia naturalis* comprend la *perspectiva*, l'*astronomia iudiciaria et operativa*, la *scientia ponderum*, l'*alkimia*, l'*agricultura*, la *medicina*, la *scientia experimentalis*. Pour Albert le Grand les sciences naturelles se divisent en trois: la science du *corps naturel mobile per se* ou *physique*, la science du *corps naturel mobile matériel et simple*, qui comprend, par exemple, la théorie de la génération et de la corruption, du ciel et du monde, du lieu, des propriétés des éléments, la *science du corps naturel mobile matériel et mixte*, englobant notamment les météorologiques, la psychologie, les mouvements des animaux, la botanique, la zoologie.

fine pour apprécier les phénomènes qui ont déterminé, si elle existe, la pratique spécifique des maîtres du XIVe siècle.

- la *scientia naturalis* de la scolastique tardive est un moment particulier de la "réception d'Aristote". Cette "réception" ne peut être correctement appréciée aux seuls niveaux de la délimitation de l'objet de la philosophie naturelle (la délimitation de l'extension du domaine des *naturalia*) ni de ses accointances supposées avec les données de l'expérience commune et de la "représentation habituelle" : la mesure des innovations, des continuités et des ruptures apportées par les auteurs du XIVe siècle suppose la considération d'un *aristotélisme total* où la doctrine générale de la connaissance, les différents types d'instrumentation conceptuelle et les propositions de l'ontologie ou de la philosophie première doivent *nécessairement* aussi trouver leur place. Autrement dit: on ne saurait à la fois reprocher aux médiévaux d'avoir élaboré une physique *qualitative* proche des données de l'expérience commune et d'avoir procédé "d'une manière purement dialectique tournant en une analyse" ou un "poème"[5] conceptuels "sans assise"[6] - pourtant la conjonction de ces griefs est traditionnelle dans l'historiographie.

- la *scientia naturalis* de la scolastique tardive est aussi, mais non exclusivement, un moment particulier dans l'histoire de la pensée *mathématique* qui exige "une représentation fondamentale des choses qui contredit la représentation habituelle" et, *de ce fait même*, ne réclame pas non plus d'"expérimentation" effective pour "offrir corps à une représentation intuitive". L'essence du projet mathématique scolastique ne réside pas dans la mathématisation de la physique mais dans un ensemble de procédures et de méthodes de *calcul* portant sur des déterminations et des énonciations anticipantes, ou propositions, qui constituent autant de prises préalables et de variations sur la manière dont se *construisent* des processus de changement. Cette construction ne vise ni à décrire ni à reconstituer ce qui se passe *en réalité* mais à définir une vérité normative pour le "savoir naturel" conçu comme auto-enchaînement d'énoncés portant sur des objets, les *mobiles*, soumis par la pensée à des stipulations autonomes sinon arbitraires (*casus*). En ce sens l'objet de la *philosophia naturalis* est moins la Nature, ou même la Nature selon Aristote, qu'un ensemble d'entités ou de processus physiques formulé sur la base de la typologie "aristotélicienne" des mouvements et de l'ontologie catégorielle qui la supporte.

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5 M. Heidegger, *Qu'est-ce qu'une chose?*, p. 100

6 M. Heidegger, *Qu'est-ce qu'une chose?*, p. 93.

Cette dernière caractéristique est bien connue. Mais son sens même reste problématique. Vue dans les termes de l'opposition entre *via nominalium* et *via realium* elle correspond au fait que dans l'ontologie ockhamiste la quantité, le mouvement, l'espace et le temps n'ont d'autres objets de référence que les substances et leurs qualités: cette "méconnaissance des réalités physiques" aurait pour effet de dégrader la *philosophie naturelle* en *sémio-physique*, l'analyse quantitative des processus réels en analyse logique d'énoncés quantificationnels portant sur les substances et les qualités impliquées dans les changements. A terme, "la quantification" deviendrait "plus affaire de logique et de langage que de science physique", ce qui expliquerait "peut-être pourquoi les successeurs d'Ockham se sont bientôt lancés dans toutes les variétés possibles de *sophismata calculatoria*, s'attardant à d'interminables subtilités logiques n'ayant que peu de valeur quant à la mise en oeuvre d'une véritable compréhension de la nature"[7]. Cette appréciation négative a au moins un mérite. Elle met clairement en lumière le caractère *philosophique* du projet caractéristique du XIVe siècle ainsi que son trait interne: l'entre-implication de la logique et de l'ontologie. Mais elle manque le principal: les auteurs de *sophismata* et les *Calculatores* n'ont pas un projet de *compréhension* de la nature. Les techniques du "calcul" ne sont pas destinées à l'investigation systématique des phénomènes naturels. L'accent principal est mis sur des "expériences de pensée", *secundum imaginationem*, qui n'ont aucun rapport avec une réalisation concrète, et qui, pour une large part, ne sauraient même trouver place dans le cadre de la "nature".

Les nouveaux "outils conceptuels" du XIVe siècle ne sont pas de simples instruments destinés à assurer le transfert des raisons physiques dans le domaine de la logique, ce sont des systèmes conceptuels délimitant des réseaux de relations organisées *logice* ou *sophistice loquendo* sans référence originaire au réel, *naturaliter* ou *physice loquendo*[8]. Ces "outils", ou plutôt ces "langages" analytiques - *De incipit et desinit, De maximo et minimo, De intensione et remissione formarum, De proportionibus* - ont deux caractéristiques principales: (a) ce sont tous des langages *mathématiques* ou au moins *quantitatifs* dont les interférences sont reconnues et explorées pour

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7 W.A. Wallace, *Causality and scientific explanation* 1 (Ann Arbor 1972), p. 54.

8 Sur le sens de ces expressions, *cf.* C. Wilson, *William Heytesbury. Medieval Logic and the Rise of Mathematical Physics*, (The University of Wisconsin. Publications in Medieval Science, 3), Madison, The University of Wisconsin Press, 1956, p. 24-25.

elles-mêmes, (b) leur terrain originaire commun est le genre littéraire des *sophismata*, où s'exprime la pratique universitaire d'un genre particulier de *disputatio*, plutôt que le genre, orienté vers le "réel", que constituent les commentaires de la *Physique* et du *De caelo*.

Pour comprendre le sens de l'introduction des langages "analytiques" au XIV^e^ siècle on doit donc s'interroger autant sur *les conditions effectives de leur apparition* et les *changements des mentalités et des paradigmes scientifiques* que sur les modalités pratiques de leur application. On constate alors que les "nouveaux outils conceptuels" des *Calculatores* sont le fruit d'une évolution dans la conception de la *science et de la scientificité en général* plutôt que d'un changement dans la représentation particulière de la nature ou d'une modification dans la perception de la rationalité naturelle. S'il est vrai que les langages analytiques portent sur des objets non empiriques librement construits par l'imagination sans pour autant cesser de produire du *savoir*, il faut postuler un changement radical dans la perception des rapports entre le rationnel et le réel (au-delà ou en deçà du clivage traditionnel entre l'*ens reale* et l'*ens rationis*, le *verum* et le *fictum*) en même temps qu'une refonte et une redistribution des notions "habituelles" du nécessaire, de l'impossible et du contingent, telles que les avait élaborées la doctrine de la *matière des propositions catégoriques*.

Nous tenterons de décrire cette évolution en analysant les points suivants:

(1) le changement des conceptions de la démonstration et de la "certitude" occasionné par la résorption des *topiques* dans la théorie et la pratique des *consequentiae*;

(2) l'accroissement pratique de ces résultats dans le nouvel espace *mental* ouvert par le *obligationes*;

(3) le développement de nouveaux modèles pour les modalités (possible, impossible, nécessaire, contingent) sur la base des acquis ou des problèmes de la théologie *de potentia Dei absoluta*;

(4) l'aboutissement de ces convergences dans le "format" théorique des *sophismata*.

Avant d'entamer cette analyse, il nous faut, cependant, revenir sur la notion même d'"outil analytique". La notion de "langage conceptuel" appliquée au domaine de le philosophie naturelle du Moyen Age tardif a, comme chacun sait, été introduite par le Professeur John Murdoch. Afin d'en saisir la nature et la portée effectives il convient d'en rappeler brièvement les traits

caractéristiques. Dans "Philosophy and the Enterprise of Science in the Late Middle Ages", J. Murdoch a défini un changement de perspective dans la scolastique tardive présentant la double caractéristique de s'éloigner d'Aristote sans pour autant annoncer Galilée[9]. Le facteur initial ou l'élément déterminant de ce changement consiste dans le "développement de nouveaux langages conceptuels permettant de traiter les problèmes traditionnels de la philosophie naturelle tout en inventant et en résolvant de nouveaux problèmes". Ces nouveaux langages sont de deux types. Les deux premiers sont "mathématiques" ou "quasi mathématiques", il s'agit: (1) du langage de l'intension et de la rémission des formes, avec les concepts solidaires de degrés et de latitudes; (2) de celui des *proportiones* appliqué notamment par Bradwardine aux variables du mouvement local, mais utilisé de manière beaucoup plus générale pour comparer tout accroissement arithmétique dans un ensemble de choses données avec un accroissement géométrique dans tel autre ensemble. Un autre langage, le plus extensif quant au champ de ses applications effectives, est logique: il s'agit (3) du langage des *suppositiones*, autrement dit du langage formulé dans le cadre de la théorie sémantique médiévale de la référence, langage caractérisé par Murdoch comme un "outil analytique" permettant de traiter toutes sortes de problèmes logiques, épistémologiques, ontologiques, métaphysiques, physiques ou plus spécifiquement *de motu*. Le langage des *suppositiones* n'est évidemment pas une création du XIVe siècle: on sait, grâce aux travaux du Professeur L.M. De Rijk, qu'il a été mis au point dans la seconde moitié du XIIe siècle[10]; J. Murdoch marque donc la spécificité du XIVe siècle dans la combinaison de ce langage ancien avec une ontologie nouvelle, le Nominalisme, ou plus exactement l'ontologie "particulariste" d'Ockham. A ces trois langages, il faut ajouter: (4) une nouvelle "prescription pour la recherche" plutôt qu'un langage analytique proprement dit: le recours à la *potentia Dei absoluta*, qui permet de "pousser l'examen d'une question au-delà des limites des *possibilités physiques* reçues comme licites à l'intérieur de la philosophie naturelle et de s'engager dans le champ plus large de ce qui est *logiquement permissible*". Enfin, on doit prendre en compte (5) toute une "constellation de concepts dont l'opérativité se vérifie" de manière plus qu'englobante, et que

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9 *Cf.* J. Murdoch, "Philosophy and the Enterprise of Science in the Late Middle Ages", in: *The Interaction between Science and Philosophy*, Y. Elkana (ed.), Humanities Press, 1974, p. 58.

10 *Cf.* essentiellement: L.M. De Rijk, *Logica modernorum*, II, 1: *The Origin and Early Development of the Theory of Supposition*, Assen: Van Gorcum, 1967.

l'on peut regrouper sous le titre de "valeurs *infinies*", qu'il s'agisse de poids, de forces, de durées ou d'intensités de toutes sortes.

Telle que la présente "Philosophy and the Enterprise of Science", la place prise par le langage des *suppositiones* dans la reformulation des problèmes traditionnels de la philosophie naturelle est double: réduction des termes connotatifs à une "une fonction" des termes absolus; élimination des "fictions" représentées par des termes comme "instant", "point", "ligne" et transfert du rôle joué par ces termes à des propositions épurées dans lesquelles ils ne figurent plus. Dans un texte postérieur: "Propositional Analysis in Fourteenth-Century Natural Philosophy"[11], la solidarité entre langage sémantique et ontologie particulariste est définie comme donnant corps à une véritable méthode, l'"analyse propositionnelle". C'est dans cette ligne de pensée que s'inscrit "*Scientia mediantibus vocibus*", prononcé au Symposium de Bonn[12]. On parle désormais d'une "analyse métalinguistique des problèmes de philosophie naturelle", véritable "outil méthodologique" complétant ou encadrant l'utilisation des autres "langages analytiques". Ce recours à la notion d'*analyse métalinguistique* permet en outre de reclasser certains langages selon une distinction entre traitement *de re* et traitement *de intentionibus*. C'est ainsi que le problème aristotélicien de l'instant du changement est assumé *de re* au niveau du "langage objet" formé par le langage analytique *de primo et ultimo instanti* en termes de premier ou de dernier instant de l'être ou du non-être d'un sujet donné, alors qu'il est assumé *de intentionibus* au niveau du "métalangage" offert par l'outil métalinguistique que constitue l'analyse, l'"expositio", d'une proposition, en termes de commencer et de finir, *de incipit et desinit*[13].

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11 "Propositional Analysis in Fourteenth-Century Natural Philosophy: A Case Study", *Synthese*, 40 (1979), p. 117-146.

12 "*Scientia mediantibus vocibus*. Metalinguistic Analysis in Late Medieval Natural Philosophy", in: *Sprache und Erkenntnis im Mittelalter*, (Miscellanea Mediaevalia, 13/1), 1981, p. 73-106.

13 Sur la problématique *de incipit/desinit* et *de primo/ultimo instanti*, *cf.* A. Maier, *Die Vorläufer Galilei im XIV. Jahrhundert* (Storia e Letteratura, 22), Rome: Edizioni di Storia e Letteratura,1949, p. 9-25; *Zwischen Philosophie und Mechanik* (Storia e Letteratura, 69), Rome: Edizioni di Storia e Letteratura,1958, p. 3-59; N. Kretzmann, "Incipit/desinit", in: *Motion and Time, Space and Matter*, P. K. Machamer & R. G. Turnbull (eds.), Columbus: Ohio University Press, 1976, p. 101-136; S. Knuuttila & A. I. Lehtinen, "Change and Contradiction: A Fourteenth-Century Controversy", *Synthese*, 40 (1979), p. 189-207; A. de Libera, "Apollinaire Offredi critique de Pierre de Mantoue: Le *Tractatus de instanti* et la logique du changement", in: *English Logic in Italy in the 14th and 15th Centuries. Acts of the 5th European Symposium on Medieval Logic and Semantics. Rome 10-14 November 1980*, A. Maierù (ed.), (History of Logic, 1), Naples: Bibliopolis, 1982, p. 253-291; R. Sorabji, "Stopping and Starting", in: *Time, Creation and the Continuum. Theories in Antiquity and the Early Middle Ages*, Londres: Duckworth, 1983,

Si le développement de langages quantitatifs et de langages logiques constitue le trait distinctif de la science naturelle du XIV^e siècle, c'est l'interaction de ces langages ou de ces outils qui permet de comprendre le sens du *projet mathématique* spécifique de la scolastique tardive. Cette interaction apparaît à différents niveaux.

Tout d'abord par la prédominance d'une problématique de la mesure et de la mensuration entendue comme problème logique de *dénomination*[14], essentiellement appliquée à des distances spatiales, temporelles ou essentielles; à des continuums statiques dont les éléments présentent une relation d'ordre; aux diverses sortes de changements et de mouvements distingués par Aristote dans les *Catégories* et la *Physique*: changement substantiel instantané, processus accidentels déployés sur un intervalle de temps au triple point de vue de la qualité (altération), de la quantité (croissance, décroissance) et du lieu (mouvement local).

La seconde manifestation de l'interaction entre la problématique de la mesure et l'analyse logique réside dans les croisements répétés qui marquent l'application des règles de mensuration quant aux langages analytiques mêmes qu'elles mettent en oeuvre: c'est ainsi que, tout en étant formulée dans le langage des *proportiones* la "Règle dynamique" de Bradwardine associant la progression arithmétique de la vitesse d'un mobile à la progression géométrique du rapport de ses causes (forces/résistances) est également traduite dans le langage de l'intension et de la rémission des formes.

En outre, et c'est le troisième point, chaque règle de mesure peut être "testée" par rapport à "toutes les variations concevables" *secundum imaginationem* d'une qualité, d'une puissance ou de quelque autre entité "mesurable" que ce soit. Cette "rule-testing activity"[15] n'engage aucune confrontation du calcul avec l'expérience ou l'expérimentation active, son but n'est pas la connaissance du réel commun ni la vérification d'une hypothèse, mais la production de nouvelles règles ou l'engendrement de nouveaux

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p. 403-421; S. Knuuttila, *Remarks on the Background of the Fourteenth Century Limit Decision Controversies*, in: *The Editing of Theological and Philosophical Texts from the Middle Ages, Acts of the Conference Arranged by the Department of Classical Languages, University of Stockholm, 29-31 August 1984*, M. Asztalos (ed.), (Acta Universitatis Stockholmiensis. Studia Latina Stockholmiensia, XXX), Stockholm: Almquist & Wiksell International, 1986, p. 245-266.

14 *Cf.* J. Murdoch, "Philosophy and the Enterprise of Science...", p. 62. Sur l'interaction entre les aspects logiques et les aspects physico-mathématiques de l'analyse médiévale des mesures, *cf.* C. Wilson, *William Heytesbury...*, p. 21-25.

15 *Cf.* J. Murdoch, "Philosophy and the Enterprise of Science...", p. 66.

"puzzles logiques", les *sophismata*: comme le souligne Murdoch, le progrès se fait ici *sur le terrain de l'analyse logique* non sur celui de l'induction à la Duhem. Enfin, il est clair que la mesure envisagée par le philosophe naturel du Moyen Age tardif n'a de valeur qu'à l'intérieur de cet espace de jeu imaginaire du possible logique: lorsqu'un Richard Swineshead se représente ou plutôt se propose un corps doté d'un degré de chaleur égal à 1 sur sa première moitié, à 2 sur le quart suivant, à 3 sur le huitième suivant, à 4 sur le seizième suivant et ainsi de suite jusqu'à l'infini, et qu'il démontre que ce corps, pris comme un tout, est à un degré de chaleur 2, autrement dit un degré de chaleur fini comme tout, même si en lui la chaleur augmente à l'infini, il n'a en vue aucun corps concret donné dans une expérience ou manipulable dans une expérimentation[16]; pour autant, il ne se livre pas à une "expérience de pensée" ou "expérience imaginaire", telles que, après Mach, ont pu les décrire ou les problématiser Koyré, Kuhn ou Popper[17].

Pour comprendre ce point difficile, il nous faut nous interroger sur le statut épistémologique et philosophique de la méthode de raisonnement "imaginaire" des scolastiques tardifs. De prime abord, la dimension de l'*imaginatio* désigne un domaine de spéculation ouvert par le mode de considération spécifique de la *potentia Dei absoluta*. Pour déterminer ce qu'il en est de la *mathesis* ou du "projet mathématique de la nature" au XIV^e^ siècle il nous faut donc analyser les relations qu'entretiennent ces deux notions. La démarche *secundum imaginationem* des médiévaux n'est pas ce que Koyré appelle, à propos des "expériences de pensée" de Galilée, une "réalisation de l'idéal", "opérant avec des objets *théoriquement parfaits*, que l'expérience imaginaire" véritable "intermédiaire entre le mathématique et le réel" vient "mettre en jeu": surfaces planes "véritablement" planes, surfaces sphériques "véritablement" sphériques, corps "parfaitement" rigides ou "parfaitement" élastiques qui n'existent pas et ne peuvent d'ailleurs pas exister *in rerum*

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16 Pour une analyse de ce cas, *cf.* J. Murdoch, "Philosophy and the Enterprise of Science...", p. 67-68, n. 39; "Infinity and continuity", in: *The Cambridge History of Later Medieval Philosophy*, Cambridge, 1982, p. 588-590.

17 *Cf.* K. Popper, *The Logic of Scientific Discovery*, New York, 1959, App. XI, p. 442 *sqq.*; A. Koyré, "Le *De motu gravium* de Galilée. De l'expérience imaginaire et de son abus", *Revue d'histoire des sciences*, 13 (1960), p. 197-245; Th. S. Kuhn, "A Function for Thought Experiments", in: *Mélanges Alexandre Koyré*, Paris, 1964, vol. 2, p. 322 *sqq.* Sur le sens médiéval de l'expérience de pensée et pour une comparaison avec l'âge classique, *cf.* A. Funkenstein, *Theology and the Scientific Imagination from the Middle Ages to the Seventeenth Century*, Princeton: Princeton University Press, 1986. Voir également, du même auteur: "The Dialectical Preparation for Scientific Revolutions", in: *The Copernican Achievement*, R. Westmann (ed.), Berkeley & Los Angeles, 1975, p. 163-203.

natura; l'expérience "imaginaire" des médiévaux *ne va pas de l'idéal au réel*, non plus que la science médiévale ne vise, de son côté, à "expliquer le réel par l'impossible"[18]. On l'a vu, tel que le définit J. Murdoch, le rôle de l'argumentation *secundum imaginationem* consiste à fournir un moyen de pousser l'analyse d'un problème "au-delà des limites des possibilités physiques licites à l'intérieur de la philosophie naturelle d'Aristote" jusqu'à atteindre le domaine plus large de "tout ce qui est logiquement acceptable", autrement dit: ce qui ne comporte pas de contradiction interne. Pour Murdoch cette caractéristique de la méthode *secundum imaginationem* n'est compréhensible qu'à partir de la notion de *potentia Dei absoluta* puisqu'elle ne fait qu'exprimer *au niveau de la pensée humaine* le principe, valable *au niveau de l'agir divin*, selon lequel: "Deus potest facere omne quod fieri non includit contradictionem". Autrement dit: on ne va pas ici de l'impossible au réel, mais du possible réel au possible logique. La thèse de J. Murdoch se ramène donc pour finir à deux affirmations essentielles: (a) l'appel à la *potentia Dei absoluta* rend compte non seulement de la *possibilité* mais du *fait* même de l'existence de procédures *secundum imaginationem* dans la théologie et la philosophie naturelle du XIV^e^ siècle; (b) parallèlement le foisonnement de *casus* et de *rationes* fondés sur l'application des nouveau langages analytiques rend compte du déploiement effectif d'un nombre significatif d'éléments *secundum imaginationem* traités *de potentia Dei absoluta*. L'entre-implication du raisonnement *de potentia Dei absoluta* et de la mise en oeuvre de *casus* et de *rationes secundum imaginationem* est donc le phénomène saillant, présupposé dans tout ce qui suit.

Il va de soi qu'une étude complète des "nouveaux outils conceptuels du XIV^e^ siècle et de leur utilisation dans le domaine de la philosophie naturelle", devrait aborder trois problèmes distincts: (a) l'origine des langages analytiques; (b) la manière dont ils sont appliqués; (c) les conditions qui ont permis ou rendues possibles voire nécessaires leur application: étant entendu que parmi ces conditions certaines tiennent à la pression même des problèmes, par une sorte de nécessité interne, tandis que d'autres tiennent à l'évolution des mentalités concernant les normes de la scientificité en général

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18 Cette belle formule se lit dans A. Koyré à propos de Galilée et de son concept du mouvement, *cf.* "Galilée et la révolution scientifique", in: *Etudes d'histoire de la pensée scientifique*, p. 199. Il va de soi qu'"impossible" a ici le sens d'"idéalement parfait", non celui d'"impossible opinable" que nous alléguons plus bas (sections 2 et 3) avec Burleigh.

et la nature de l'activité philosophique dans sa double dimension intellectuelle, ou conceptuelle, et sociale, c'est-à-dire institutionnelle.

C'est ce dernier point que nous abordons ici.

1. *Topiques et conséquences au début du XIVe siècle*

La modification de la perception des rapports entre le raisonnement démonstratif et le raisonnement dialectique est le premier élément qui favorise la mise en place du complexe formé par les nouveaux langages analytiques, le raisonnement *de potentia Dei absoluta* et la méthode *secundum imaginationem*.

Lorsque nous considérons un *sophisma*, ses stipulations fantaisistes, son architecture apparemment extravagante, nous éprouvons d'emblée le sentiment d'avoir affaire à un mode particulier de démonstration et d'enchaînement propositionnel qui suppose une extraordinaire valorisation des relations topiques dans la représentation générale de ce que peut être la pertinence d'un raisonnement et la nature de l'affect spécifique d'assentiment qui, normalement, l'accompagne.

Prenons un exemple simple. Lorsque nous lisons chez Burleigh des inférences comme *Sortes currit, igitur Deus est*, ou *Homo est asinus, igitur Sortes currit* et que nous voyons qu'il les considère comme parfaitement valables, notre premier mouvement est de nous demander quel sorte de jeu préside à des constructions de toute évidence aussi vaines qu'absurdes. Il y a pourtant là un résultat notable de la pensée logique du Moyen Age, en même temps qu'une condition indispensable au fonctionnement des différents langages ou concepts analytiques caractérisant le projet logico-mathématique de la scolastique tardive. En d'autres termes: l'univers technique mais aussi mental et conceptuel du *sophisma* ne saurait exister sans la perception de la validité de telles inférences.

De quoi s'agit-il, en fait? De l'application de deux règles absolument courantes au XIVe siècle, mais dont les première formulations remontent au XIIe siècle, où la première est désignée sous le titre de *consequentia Adamitorum*, règles qui sont également bien attestées au XIIIe siècle, *i.e.: ex impossibili quidlibet*[19], *necessarium ex quolibet* [20], soit:

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19 Cette règle est décrite comme la *consequentia Adamitorum* dans le *Tractatus Emmeranus de impossibili positione*, éd. De Rijk, in: "Some Thirteenth Century Tracts on the Game of Obligation", *Vivarium*, 12 (1974), p. 118. Elle est également mentionnée - positivement - chez

$\neg\Diamond p \rightarrow (p \rightarrow q)$
$\neg\Diamond\neg q \rightarrow (p \rightarrow q)$

Dans le *De puritate artis logicae, Tractatus brevior*, Burleigh admet ces deux règles qu'il cite sous la forme *ex impossibili sequitur quodlibet, et necessarium sequitur ad quodlibet*. Mais sur quoi fonde-t-il sa décision et son assentiment? Précisément sur une relation topique: le *locus a minori*, les deux inférences argumentant *per locum a minori affirmative*[21]. La même analyse est fournie dans le *Tractatus longior*[22]: *Si impossibile sit verum, sequitur per locum a minori, quod quodcumque aliud erit verum*. Cette relation topique s'inscrit à l'intérieur d'un dispositif plus large consistant dans une distinction entre deux types de "conséquences": les conséquences naturelles et les conséquences accidentelles[23]. Mais, comme on le voit dès la définition de ces deux sortes d'inférences, les relations topiques fonctionnent comme cadre général d'élucidation. Il y a conséquence naturelle quand l'antécédent inclut le conséquent, ce qui veut dire que la validité de la conséquence est déterminée

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Alexandre Neckham, *De naturis rerum*, éd. T. Wright, *Alexandri Neckham De naturis rerum libri duo with the Poem of the Same Author De laudibus divinae sapientiae*, Londres, 1863, p. 288. On peut donc la faire remonter avant les années 1200, les *Adamiti* étant les élèves ou partisans d'Adam du Petit-Pont (Adam de Balsam, *Parvipontanus*). Sur ce point, *Cf.* P.O. Lewry, *O.P.*, "Robert Grosseteste's Question on Subsistence: An Echo of the Adamites", *Mediaeval studies,* 45 (1983), p. 11-12. Sur la signification précise du passage édité et commenté par De Rijk, *cf.* les remarques critiques d'E. Stump, "William of Sherwood's Treatise on Obligations", *Historiographia linguistica*, 7 (1980), p. 263-264, n. 12. On notera aussi que la même règle est attribuée aux *Nominales* dans les *Communes obiectiones et responsiones* (ms. *Vat. lat.* 7678, f. 81rb) partiellement éditées par H. A. G. Braakhuis, in: *De 13de Eeuwse Tractaten over Syncategorematische Termen*, I, *Inleidende Studie*, Diss. Leiden, 1979, p. 63, les *Reales* soutenant au contraire que *ex impossibili nihil sequitur*. Le point de vue "réaliste" est apparemment défendu dans un autre texte du XII[e] siècle: l'*Ars Meliduna* (voir l'extrait publié par De Rijk, in: *Logica Modernorum*, II, 1, p. 389 et les commentaires de Braakhuis, *De 13de Eeuwse Tractaten...*, p. 39).

20 *Cf.* par exemple les *Abstractiones* d'Hervé le Breton, maître ès arts à Paris vers 1230, *sophismata* n° 110, 117 et 133, éd. A. de Libera, "Les *Abstractiones* d'Hervé le Sophiste", *Archives d'histoire doctrinale et littéraire du Moyen Age*, (1986), p. 199, 201, 204. Le recueil d'*Abstractiones* oxonien attribué à Richard de Cornouailles (*Magister Abstractionum*) est un deuxième témoin de *ex impossibili sequitur quidlibet consequentia accidentali*, de même que les *Syncategoremata* d'un autre contemporain d'Hervé, le maître parisien Jean Le Page (*cf.* Braakhuis, *De 13de Eeuwse Tractaten...*, p. 188). Il n'est pas jusqu'à Pierre d'Espagne qui, dans ses *Syncategoremata*, ne connaisse et n'accepte une version "réaliste" de la règle (*cf.* Braakhuis, p. 282).

21 *Cf.* Gauthier Burleigh, *De Puritate Artis Logicae. Tractatus brevior*, éd. Ph. Boehner (Franciscan Institute Publications. Text Series, 9) St. Bonaventure: The Franciscan Institute, 1955, p. 248,24 - 249,3.

22 *Cf.* Gauthier Burleigh, *De Puritate Artis Logicae. Tractatus longior*, éd. Boehner, 1955, p. 61, 10.

23 Cette distinction est attestée dès le XIII[e] siècle, *cf.*, notamment, Guillaume de Sherwood, *Syncategoremata*, éd. J. R. O'Donnell, *Mediaeval Studies*, 3 (1941), p. 78-82.

par un "lieu intrinsèque", il y a conséquence accidentelle, quand l'antécédent n'inclut pas le conséquent, ce qui veut dire que la conséquence tient par l'application d'une "règle extrinsèque". C'est le cas d'une inférence comme *Si homo est asinus, tu sedes.* Cette conséquence est bonne; elle est bonne de par la règle *ex impossibili sequitur quodlibet*, laquelle repose elle-même sur le *locus a minori*, c'est-à-dire, en dernière analyse, sur le fait que l'impossible paraît moins vrai que n'importe quoi d'autre - d'où résulte que *si* ce qui paraît le moins vrai est vrai, ce qui paraît plus vrai que le moins vrai *nécessairement* est vrai. Bref, les règles conséquentielles du type de: *omnis consequentia est bona, in qua consequens est necessarium* ou *omnis consequentia est bona, in qua antecedens est impossibile* reposent en fin de compte sur des principes topiques.

Ce que nous venons de voir sur un exemple aussi éloigné que possible de l'intuition naturelle est un trait universel et caractéristique de la théorie dite "des conséquences" qui connaît son âge d'or au XIV^{e} siècle. Le phénomène général qui le supporte a été décrit par E. Stump comme l'"absorption des topiques dans les conséquences"[24]. Cette formule désigne un changement d'ensemble beaucoup plus complexe dont il faut épeler tous les éléments: tout d'abord, naturellement, le fait que les *arguments topiques* sont désignés en termes de *conséquences* à partir du XIII^{e} siècle; ensuite l'apparition du genre littéraire des *consequentiae* qui se substitue progressivement aux commentaires des *Topiques*; enfin la prise de conscience graduelle qu'il y a une nécessité des inférences topiques et la montée progressive de thèses telles que "tout syllogisme tient par la relation topique du *tout quantitatif*, dont les maximes sont constituées au niveau syllogistique par les principes du *dici de omni, dici de nullo*"[25]. Ce dernier trait, le plus important, est exprimé de différentes manières: dans l'affirmation ockhamiste que les syllogismes tiennent grâce à des "moyens extrinsèques", c'est-à-dire la plupart du temps des maximes topiques[26], ou dans le déploiement de la thèse selon laquelle les syllogismes de la seconde et de la troisième figures

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24 *Cf.* E. Stump, "Topics: Their Development and Absorption into Consequences", in: *The Cambridge History of Later Medieval Philosophy*, Cambrige, 1982, p. 273-299.

25 *Cf.* E. Stump, "Topics...", p. 289; J. Pinborg, "Topik und Syllogistik im Mittelalter", in: *Sapienter ordinare. Festgabe für Erich Kleineidam*, F. Hoffman *et al.* (eds.), (Erfurt Theologische Studien, 24), St Benno Verlag, 1969, p. 166-167; *cf.* également S. Ebbesen (ed.), *Incertorum Auctorum Quaestiones super Sophisticos Elenchos*, (Corpus Philosophorum Danicorum Medii Aevi, 7), Gad, 1977, p. 34-35

26 *Cf.* Guillaume d'Ockham, *Summa logicae*, éd. Boehner-Gál-Brown, The Franciscan Institute, 1974, p. 588, 23-35; E. Stump, "Topics...", p. 295.

dépendent des "conséquences" de la première figure du syllogisme, c'est-à-dire des principes *dici de omni/de nullo* fonctionnant pour elle comme des maximes topiques. Bref, le phénomène d'absorption des topiques dans les conséquences peut-être ultimement décrit par le fait que la théorie des conséquences absorbe finalement et la conversion et le syllogisme[27].

Cette évolution générale qu'il n'est pas question de suivre dans le détail de ses distinctions techniques ne nous intéresse pas en tant que telle, mais dans les modifications qu'elle apporte à la représentation sociale de ce que peut être un raisonnement. La théorie des conséquences n'a de sens que dans la mesure où il y a une pratique concrète du raisonnement conséquentiel, où elle peut fonctionner comme une technologie de l'imaginaire, une méthode de manipulation du non-réalisé, du non-empirique, où elle permet de traiter des relations entre propositions n'ayant plus de lien direct avec le monde de l'intuition immédiate, ni avec les contraintes de l'ontologie.

Le bénéfice le plus immédiat de la théorie des conséquences est qu'elle habitue le savant du XIVe siècle à traiter les séquences d'arguments déconcertants comme des enthymèmes, à découvrir une possibilité permanente de validation du non-empirique dans le recours à des prémisses ou à des règles additionnelles.

Encore faut-il noter le caractère tout à fait particulier de ce type de validation. Le sens commun ne s'en satisferait pas, non plus probablement qu'une mentalité strictement aristotélicienne. Pourtant, il me semble qu'au XIVe siècle, le philosophe de la nature, et pour une large part le théologien, s'en satisfont pleinement et qu'ils ne demandent rien d'autre à l'*outil logique*. C'est donc, je pense, à bon droit que l'on peut considérer le développement de la théorie des conséquences comme un vecteur épistémique, psychologique, en même temps qu'épistémologique au sens strict de la science de la nature. C'est en ce sens que cet épisode hyper-technique de l'histoire de la logique formelle peut être considéré comme un nouveau facteur intellectuel, et qu'il trouve sa place dans une dynamique particulière de la vie sociale, dans un changement typique de mentalités.

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27 *Cf.* Albert de Saxe, *Perutilis logica* 1522, fol. 26ra s. Sur l'interprétation particulière du *dici de omni et de nullo* chez Albert de Saxe, *cf.* A. Maierù, "Logique et théologie trinitaire dans le moyen-âge tardif: deux solutions en présence", in: *The Editing of Theological and Philosophical Texts from the Middle Ages, Acts of the Conference Arranged by the Department of Classical Languages, University of Stockholm, 29-31 August 1984*, M. Asztalos (ed.), (Acta Universitatis Stockholmiensis. Studia Latina Stockholmiensia, XXX), Stockholm: Almquist & Wiksell International, 1986, p. 186 et 194.

2. *Les jeux d'obligations et leur application à des questions scientifiques*

L'histoire des origines du genre littéraire et de la pratique scolaire des *obligationes* est encore mal connue[28]. Une chose est certaine: l'extraordinaire fécondité du XIV^e^ siècle en ce domaine. En témoignent plusieurs éditions de textes, notamment de Richard Lavenham, de Robert Fland et de Roger Swineshead, dues à P. V. Spade[29]. Cependant, il n'y a pas de consensus des historiens sur l'objet et la fonction même des *Obligationes*: certains auteurs, comme A. Perreiah, y voient une méthode scolaire d'examen destinée à tester *in vivo* les aptitudes d'un étudiant à la logique[30]; d'autres, comme Spade, une esquisse médiévale de la logique des contrefactuels[31].

Dans ces conditions, en quoi les *Obligationes* regardent-elles l'historien de la *philosophia naturalis*? En quoi jouent-elles un rôle dans la mise en place du complexe formé par les nouveaux langages analytiques, le raisonnement *de potentia Dei absoluta* et la méthode *secundum imaginationem*?

En ce qu'elles s'inscrivent dans le mouvement général de la valorisation des relations topiques; en ce qu'elles communiquent avec le processus d'absorption des topiques dans les conséquences, puisque, comme l'écrit E. Stump, il s'agit d'y théoriser les difficultés particulières que l'on a pour évaluer certaines conséquences du fait même du contexte disputationnel de

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28 Les premiers témoins connus, qui remontent au XIII^e^ siècle, ont été édités par L. M. De Rijk dans une série d'articles: "Some Thirteenth Century Tracts on the Game of Obligation", *Vivarium*, 12 (1974), p. 94-123; 13 (1975), p. 22-54; 14 (1976), p. 26-49.

29 *Cf.* P.V. Spade, "Richard Lavenham's *Obligationes*: edition and comments", *Rivista critica di storia della filosofia*, 33 (1978), p. 225-242; "Robert Fland's *Obligationes*: an edition", *Mediaeval studies*, 42 (1980), p. 41-60; "Roger Swyneshed's *Obligationes*: edition and comments", *Archives d'histoire doctrinale et littéraire du Moyen Age*, 44 (1977), p. 243-285.

30 *Cf.* A. Perreiah, "*Insolubilia* in the *Logica parva* of Paul of Venice", *Medioevo*, 4 (1978), p. 155.

31 *Cf.* P.V. Spade, "Three Theories of *Obligationes*: Burley, Kilvington and Swyneshed on counterfactual reasoning", *History and Philosophy of Logic*, 3 (1982), p. 1-32. Sur l'interprétation des *Obligationes*, *cf.* M.A. Brown, "The role of the *Tractatus de obligationibus* in mediaeval logic", *Franciscan Studies*, 26 (1966), p. 26-35; E. Stump, "Obligations: from the Beginnings to the Early Fourteenth Century", in: *The Cambridge History of Later Medieval Philosophy*, Cambridge, 1982, p. 315-334; P.V. Spade, "Obligations: developments in the fourteenth Century", in: *The Cambridge History of Later Medieval Philosophy*, p. 335-341; C.H. Kneepkens, "The Mysterious Buser Again: William Buser of Heusden and the *Obligationes* Tract *Ob rogatum*", in: *English Logic in Italy*...., p. 147-166; E. J. Ashworth, "English *Obligationes* Texts after Roger Swyneshed: The Tracts beginning *Obligatio est quaedam ars*", in: *The Rise of British Logic. Acts of the 6th European Symposium on Medieval Logic and Semantics. Oxford 19-24 June 1983*, P.O. Lewry (ed.), (Papers in Mediaeval Studies, 7), Pontifical Institute of Mediaeval Studies, 1985, p. 309-333.

leur occurrence[32]; enfin, en ce qu'elles constituent une tentative de codification de la dispute.

Qu'est-ce qu'une *obligatio*? Pour autant qu'on puisse en juger, un jeu rassemblant deux joueurs ayant chacun un rôle à tenir : le *respondens* qui s'"oblige" à maintenir une certaine vue ou une certaine attitude au cours de la dispute, l'*opponens* qui s'efforce de le contraindre à la *redargutio*[33], en l'occurrence, à maintenir des contradictoires. Il y a différentes sortes d'*obligationes*. Les espèces d'obligations résultent d'une combinaison entre ce à quoi est obligé le répondant (un acte ou une disposition) et ce que couvre son obligation (un complexe ou un non-complexe).

Prenons un exemple, celui de la *positio*, où le répondant est obligé à une disposition et où son obligation couvre un complexe, c'est-à-dire une proposition qu'il doit donc maintenir comme vraie tout au long de la dispute.

On a d'abord un *casus*, c'est-à-dire une stipulation concernant la nature de la réalité extérieure à la dispute obligationnelle, par exemple: Socrate et Platon sont noirs.

Suit le *positum* ou *obligatum*, qui, en général, est en discordance avec le *casus*, par exemple: Socrate est blanc, puis le *propositum*, et la série des *proposita*. Le répondant doit répondre conformément à des règles, étant entendu qu'à un certain moment l'opposant lui fournira un *propositum* auquel il ne pourra pas répondre, car toute réponse qu'il ferait l'enfermerait dans une contradiction.

Quelles sont ces règles? Dans la perspective traditionnelle au début du XIVe siècle, celle de Burleigh, il y a trois règles[34]:

(1) ce qui suit de l'*obligatum* et d'une proposition (ou des propositions) accordée(s) ou de l'opposé (ou des opposés) d'une proposition (ou de propositions) correctement refusée(s), étant connu tel, doit être accordé.

(2) ce qui est incompatible avec l'*obligatum* et une proposition (ou des propositions) accordée(s) ou l'opposé (ou les opposés) d'une proposition (ou de propositions) correctement refusée(s), étant connu tel, doit être refusé.

(3) ce qui est irrelevant (*impertinens*) doit être accordé, refusé ou mis en doute selon sa qualité épistémique : si nous savons que c'est vrai, nous

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32 *Cf.* E. Stump, "Obligations...", p. 328.

33 *Cf.* E. Stump, "Obligations...", p. 316.

34 Nous suivons ici la formulation de E. Stump, "Roger Swyneshed's Theory of Obligations", *Medioevo*, 7 (1981), p. 137.

accordons, si nous savons que c'est faux, nous refusons, si nous ignorons si c'est vrai ou faux, nous mettons en doute.

Est *irrelevante* une proposition à laquelle ne s'applique ni la règle (1) ni la règle (2).

E. Stump a donné une version très convaincante de la fonction des *Obligationes* au XIVe siècle. Selon elle, il faut distinguer deux phases: celle de Burleigh, celle des *Calculatores*. Dans l'étape burleyenne: l'objet des *Obligationes* semble résider dans "les paradoxes logiques ou sémantiques fondés sur une sorte de réflexivité qui ressemble aux paradoxes de la sui-référence ou *insolubilia*, tout en étant plus faibles dans la mesure ou leur caractère paradoxal dépend du contexte disputationnel"[35]; le contexte disputationnel contribuant, le plus souvent, à la génération d'un paradoxe par l'utilisation d'indexicaux, les *Obligationes* portent sur les phénomènes occasionnés par la substitution des indexicaux par leurs référents relativement à la validité générale d'un argument[36]. Chez les *Calculateurs*, en revanche, bien que l'intérêt pour les insolubles et les indexicaux, persiste, l'"insistance est principalement mise sur la logique épistémique".

En quoi cela nous concerne t-il ici? De prime abord, la logique épistémique n'a pas d'intérêt pour la science de la nature.

Pourtant, si nous supposons un savoir "naturel" qui se déploie dans la dimension de la dispute, le *sophisma*, nous voyons qu'une telle forme de production des énoncés scientifiques implique la construction d'une théorie des attitudes propositionnelles dans un contexte disputationnel. Or, il est clair que les *Obligationes* ont non seulement trait à ce problème, mais qu'elles en constituent, pour ainsi dire, la mise en argument. Dans la mesure où la *scientia naturalis* se fait *mediantibus vocibus* et, pour une large part, dans le cadre de *sophismata calculatoria*, on peut donc considérer que les *Obligationes* non seulement constituent une manière de raisonner épistémiquement par rapport à un univers de discours assumé dans une discussion, mais encore ouvrent la voie à une manière de raisonner imaginairement sur des univers définis en termes de *casus* et de *positum*: en cela elles préparent les *sophismata physicalia* et le raisonnement *secundum imaginationem*.

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35 *Cf.* E. Stump, "Roger Swyneshed's...", p. 172-173.

36 *Cf.* E. Stump, "Roger Swyneshed's...", p. 173.

Cette thèse peut être défendue en examinant la manière même dont Burleigh et Ockham ont conçu certains aspects fondamentaux des *Obligationes*.

Nous avons insisté dans la section précédente sur l'importance de la règle décrite comme *consequentia Adamitorum*: *ex impossibili quidlibet*. Cette règle est la septième règle générale des conséquences selon Ockham. Or, comme l'a montré E. Stump, Ockham distingue soigneusement la position d'une proposition impossible et la conséquence formée de propositions impossibles[37]. La conséquence *Dieu n'est pas trine, donc Dieu n'est pas Dieu* est valide, c'est une conséquence matérielle, fondée sur la règle des *Adamiti*. En revanche, si dans une obligation on prend comme *positum* l'antécédent de cette conséquence, le répondant devra refuser le conséquent. Cette thèse est explicitée ou complétée par deux décisions que l'on peut qualifier de limitatives à l'égard de la pratique obligationnelle: (1) on ne peut prendre comme *positum* n'importe quelle proposition impossible, mais seulement celles qui ne contiennent pas une contradiction "manifeste"; (2) on ne peut appliquer toutes les règles des conséquences dans le cas où le *positum* est impossible: notamment on ne peut pas appliquer les conséquences *ut nunc* ou matérielles[38]. On trouve quelque chose de comparable chez Burleigh, lorsqu'il rapporte que certains soutiennent qu'on ne peut prendre comme *positum* qu'une proposition impossible "opinable" (*opinabile*), ou quand il affirme lui-même qu'on ne peut prendre qu'un "impossible n'incluant pas formellement d'opposés"[39]. De même, Burleigh refuse l'utilisation de la règle *ex impossibili quidlibet* et de *necessarium ex quolibet* dans une *positio impossibilis* et soutient qu'on ne peut y utiliser que des conséquences naturelles, c'est-à-dire, on l'a vu, celles où le conséquent est inclus dans l'antécédent (et où l'antécédent ne peut être vrai sans le conséquent)[40].

La raison de la réaction conjointe de Burleigh et Ockham est claire: si l'on dérogeait à ces principes les disputes obligationnelles seraient triviales ou impossibles: le répondant devrait tout accepter comme "séquentiellement relevant" (*pertinens sequens*) ou tout refuser comme "incompatiblement

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37 *Cf.* E. Stump, "Obligations...", p. 332-333.

38 *Cf.* E. Stump, "Obligations...", p. 333.

39 Cité par P.V. Spade & E. Stump, "Walter Burley and the *Obligationes* Attributed to William of Sherwood", *History and Philosophy of Logic*, 4 (1983), p. 17.

40 *Cf.* P.V. Spade & E. Stump, "Walter Burley...", p. 18.

relevant"[41]. Il n'y aurait plus de dispute. Selon Stump[42] la restriction des conséquences manipulables dans une *positio impossibilis* aux seules conséquences formelles est donc destinée ultimement à en préserver l'intérêt philosophique. Reste à s'entendre sur ce qui est "philosophiquement intéressant". C'est ici que nous rejoignons la *scientia naturalis*.

On peut évidemment longuement réfléchir sur ce qu'est en soi "un impossible opinable" par rapport à un "impossible inopinable"[43]. Ockham se contente de dire qu'on peut prendre comme *positum* toute proposition dont on ne peut tirer une contradiction aux moyens de règles évidentes par soi, *per se notae,* et de prémisses dont aucun intellect ne saurait douter[44]. Dans son article de la *Cambridge History of Later Medieval Philosophy*, E. Stump suggère que la réflexion sur l'*impossibilis positio* est une amorce de logique des contrefactuels appliquée à une "classe restreinte de propositions": l'objet des disputes obligationnelles *ex impossibilis positione* serait de voir ce qui est impliqué si l'on prend comme vraie une proposition comme *Dieu n'existe pas*[45]. Nous y voyons, quant à nous, une autre utilité encore, qui regarde précisément la philosophie naturelle.

Se donner un corps doté d'un degré de chaleur égal à un sur sa première moitié, à deux sur le quart suivant, et ainsi de suite, c'est prendre pour *positum* un impossible: la proposition correspondant à une situation où la chaleur d'un corps augmente à l'infini. De quel type est cet impossible? Nous disons qu'il y a là impossibilité physique, mais y-a-t-il impossibilité logique? Poser cette question, c'est faire intervenir la définition du possible logique comme n'entraînant pas de contradiction, mais aussi, du même coup le principe sous-tendant la théologie *de potentia Dei absoluta*, selon lequel Dieu peut faire tout ce qui n'implique pas contradiction, et la définition de la méthode de raisonnement *secundum imaginationem* accordant pour recevable tout cas, distinction ou problème ne contenant pas de contradiction logique

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41 *Cf.* P.V. Spade & E. Stump, "Walter Burley...", p. 18.

42 *Cf.* E. Stump, "Obligations...", p. 333.

43 Dans ses *Obligationes*, Burleigh distingue précisément les deux puisqu'il donne en règle que: "Posito impossibili opinabile, non est concedendum impossibile inopinabile", *cf.* P.V. Spade & E. Stump, "Walter Burley...", p. 18.

44 *Cf.* Guillaume d'Ockham, *Summa logicae* III-3, ch. 42, éd. cit., lignes 24-27, cité par. P.V. Spade & E. Stump, "Walter Burley...", p. 17.

45 *Cf.* E. Stump, "Obligations...", p. 333-334. Dans "Roger Swyneshed's...", p. 169 *sqq.*, en revanche, E. Stump rejette toute interprétation des *Obligationes* en termes de logique des contrefactuels.

formelle. Ce sont là va-t-on dire des choses bien différentes. Demandons-nous, pourtant, si la proposition "la chaleur du corps *A* augmente à l'infini" implique une contradiction au sens d'Ockham, ou si dans les termes de Burleigh elle "inclut formellement des opposés". Notre impression est qu'il y a là le type même de l'"impossible opinable".

On peut refuser ces rapprochements. Niera-t-on, pour autant, qu'une pensée du degré de crédibilité de l'impossible prépare non plus seulement psychologiquement mais bien aussi conceptuellement un raisonnement *secundum imaginationem*? L'intérêt de la théorie des *Obligationes* pour la philosophie naturelle est qu'elle travaille la dimension épistémique du possible et de l'impossible. Certes, ce n'est pas dans le strict cadre de l'*obligatio* que l'on fait la science de la nature, fût-elle, selon la belle formule de J. Murdoch, une "science de la nature sans la nature". Pourtant, il ne peut y avoir de science *secundum imaginationem* sans une logique du possible logique et de l'impossible crédible, et de leur maniement dans la discussion argumentée. De fait, comment appliquer des langages de mesure à ce qui ne fait pas partie du monde actuel, si l'on ne sait pas ce que c'est que travailler conceptuellement avec l'impossible?

La partie porteuse de l'*obligatio*, la réflexion sur la *positio impossibilis* a été esquissée au XIIIe siècle, de même l'appareil formel de la théorie des conséquences, qui permet de l'articuler et d'y légiférer, on peut donc dire que la *mathesis* du XIVe siècle reçoit tout cela en héritage. Notre thèse est qu'elle transforme cet héritage en le faisant communiquer avec d'autres notions. C'est ce que nous allons examiner dans notre troisième partie.

3. *Du possible réel au possible logique: théorie modale, théologie de la puissance absolue et raisonnement imaginaire*

La place prise par les concepts modaux et la théorie logique des modalités dans la constitution de la *scientia naturalis* du XIVe siècle peut être envisagée d'une multitude points de vue. Pour l'historien des sciences, cela veut dire que l'impact de la théorie des modalités sur la philosophie naturelle se situe aux points de convergence ou de divergence de trois ensembles bien définis: la théorie de la *potentia Dei absoluta* et de la *potentia Dei ordinata*; la distinction entre possibilités logiques et possibilités naturelles; la distinction entre nécessités naturelles et nécessités absolues. C'est ce redoutable entrecroisement qui préside à la caractérisation de l'"expérience de pensée"

du physicien médiéval. Dire, avec J. Murdoch, que *de potentia Dei absoluta*, le savant médiéval peut "considérer de manière licite, *secundum imaginationem*, toutes les possibilités logiques", avec pour seule limitation le principe de contradiction[46], c'est s'obliger à traiter d'une manière aussi synthétique que possible ces trois domaines de problèmes, à en scruter les affinités conceptuelles tout en en marquant les continuités et les discontinuités historiques effectives. Ce geste en implique d'autres: prendre, sur ce terrain précis, la mesure de l'effet des condamnations de 1277 - un thème vigoureusement débattu depuis Duhem, notamment chez A. Koyré, et plus près de nous chez E. Grant[47]; faire toute sa place à la discussion de la conception dite "statistique" de la modalité de Boèce à Thomas d'Aquin et, corrélativement, à la nouvelle conception de la modalité défendue par Duns Scot en des termes évoquant la théorie dite des "mondes possibles"[48].

Ne pouvant développer en détail chacune de ces questions, nous nous centrerons sur les corrélations conceptuelles, laissant de côté le problème de la signification historique des condamnations de 1277.

La distinction de la *potentia Dei absoluta* et de la *potentia Dei ordinata* est sans aucun doute la pièce centrale du dispositif conceptuel de la science de la nature. Sa signification n'en est pas moins problématique[49]. C'est que

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46 *Cf.* J. Murdoch, "Philosophy and the Enterprise of Science", p. 68.

47 *Cf.* E. Grant, "The Condemnation of 1277, God's Absolute Power and Physical Thought in the Late Middle Ages", *Viator*, 10 (1979), p. 211-244.

48 Sur la théorie statistique des modalités, *cf.* J. Hintikka, "Gaps in the Great Chain of Being: An Exercise in the Methodology of the History of Ideas", in: *Reforging the Great Chain of Being*. Studies of the History of Modal Theories, (Synthese Historical Library, 21), S. Knuuttila (ed.), Dordrecht: Reidel, 1981, p. 1-17; "Aristotle on the Realization of Possibilities in Time", *ibid.*, p. 57-72; S. Knuuttila, "The Statistical Interpretation of Modality in Averroes and Thomas Aquinas", *Ajatus*, 37 (1978), p. 79-98; "Duns Scotus' Criticism of the "Statistical" Interpretation of Modality", in: *Sprache und Erkenntnis im Mittelalter. Acts of the Sixth International Congress of Medieval Philosophy, Bonn, 29 August-3 September 1977*, (Miscellanea Mediaevalia, 13/1), 1981, Berlin-New York: De Gruyter, 1981, p. 441-450; "Time and Modality in Scholasticism", in: *Reforging the Great Chain...*, p. 163-257;

49 Sur cette distinction, *cf.* P. Vignaux, "Nominalisme", in: *Dictionnaire de Théologie Catholique*, XI-1, Paris: Beauchesne, 1930, col. 763-769; *Nominalisme au XIV^e siècle*, Paris, 1948, p. 22-24; H. A. Oberman, *The Harvest of Medieval Theology: Gabriel Biel and Late Medieval Nominalism*, Grand Rapids (Michigan), ²1967; W. J. Courtenay, "Covenant and Causality in Pierre d'Ailly", *Speculum*, 46 (1971), p. 94-119; "The King and the Leaden Coin: the Economic Background of the "Sine qua Non" Causality", *Traditio*, 28 (1972), p. 185-209; "John of Mirecourt and Gregory of Rimini on Whether God can Undo the Past", *Recherches de Théologie Ancienne et Médiévale*, 39 (1972), p. 224-256; 40 (1973), p. 147-174; "The Dialectic of Omnipotence in the High and Late Middle Ages", in: *Divine Omniscience and Omnipotence in Mediaeval Philosophy*, T. Rudavsky (ed.), Dordrecht: Reidel, 1985, p. 243-270; repris dans *Covenant and Causality in Medieval Thought*, Londres, 1984; J. Marrone, "The Absolute and Ordained Powers of the Pope: A quodlibetal Question of Henry of Ghent", *Mediaeval Studies*,

l'idée même d'un développement continu et linéaire de la notion de puissance absolue est aujourd'hui battue en brèche. Au minimum, on doit dire qu'il y a deux modèles, deux interprétations divergentes de la distinction, dont les figures paradigmatiques sont, au XIVe siècle, Ockham et Scot. Pour E. Randi, qui a clairement mis en évidence le phénomène, ces divergences sont loin d'être mineures, puisqu'elles concernent à la fois: (1) la dynamique interne (pour Scot la *potentia absoluta* excède en pouvoir la *potentia ordinata*, pour Ockham l'une est "antérieure" à l'autre); (2) le sujet (pour Scot tout agent *per voluntatem et intellectum* dispose d'une puissance absolue et d'une puissance ordonnée, pour Ockham la distinction concerne exclusivement Dieu et la Toute-Puissance divine); (3) les manifestations (pour Scot la puissance absolue couvre l'ensemble des choses possibles *de facto* aux agents doués de volonté et d'intellect, pour Ockham "Dieu maintient *de iure* sa propre puissance absolue, mais *de facto* a agi, agit et agira *de potentia ordinata*"); (4) les connotations (pour Scot la distinction est liée "à un vocabulaire et à des concepts éthico-juridiques", pour Ockham, "à l'analyse logico-philosophique")[50].

Etant donnée la divergence de ces modèles, on ne saurait considérer de manière uniforme la signification du recours à la *potentia Dei absoluta* dans la stratégie conceptuelle et argumentative du *philosophus naturalis* du XIVe siècle. Autrement dit: on ne peut, semble-t-il, éviter les questions suivantes: l'argumentation *de potentia Dei absoluta* a-t-elle le même sens ou la même fonction selon qu'on se trouve en milieu ockhamiste ou en milieu scotiste; peut-on déterminer un usage méthodologique ou épistémologique de la distinction qui, étant donnée la possible universalité d'un même modèle argumentatif, permettrait de laisser de côté son interprétation théologique,

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35 (1974), p. 7-27; F. Oakley, "Medieval Theories of Natural Law: Ockham and the Significance of Voluntarist Tradition", *Natural Law Forum*, 6 (1961), p. 65-83; "Christian Theology and the Newtonian Science: The Rise of the Concept of the Laws of Nature", *Church History*, 30 (1961), p. 445 *sqq.*; *Omnipotence, Covenant and Order. An Excursion in the History of Ideals from Abaelard to Leibniz*, Ithaca: Cornell University Press, 1984; E. Randi, "Potentia Dei conditionata. Una questione di Ugo di saint-Cher sulla onnipotenza divina", *Rivista di Storia della Filosofia*, 39 (1984), p. 521-536; "La vergine e il papa. Potentia Dei absoluta e plenitudo potestatis papale nel XIV secolo", *History of Political Thought*, 5 (1984), p. 425-445; L. Bianchi, "Uccelli d'oro e pesci di piombo: Galileo Galilei e la *Potentia Dei absoluta*", in: *Sopra la volta del mondo. Onnipotenza e potenza assoluta di Dio tra medioevo e età moderna*, A. Vettese (ed.), Bergamo: Pierluigi Lubrina Editore, 1986, p. 139-146. Le même volume contient une *Bibliografia essenziale* préparée par E. Randi (p. 175-183).

50 *Cf.* E. Randi, *Il sovrano e l'orologiaio. Due immagini di Dio nel dibattito sulla "potentia absoluta" fra XIII e XIV secolo*, (Pubblicazioni della Facoltà di Lettere et Filosofia dell'Università di Milano, CXXI. Sezione a cura del Dipartimento di Filosofia, 11) Firenze: La Nuova Italia Editrice, 1987, p. 108.

voire métaphysique - plus simplement: la distinction *potentia absoluta/potentia ordinata* peut-elle être considérée comme un "outil méthodologique" universel, fonctionnellement indépendant des significations qui lui échoient en théologie systématique?

Ces questions nous conduisent au problème de la conception "statistique" de la modalité.

Comme l'a récemment rappelé S. Knuuttila, le problème métaphysique de l'inscription d'événements singuliers contingents dans le cadre, apparemment déterministe, des théologies chrétiennes de la Providence et de la "nécessité providentielle", est abordé, depuis Boèce, à partir d'un ensemble bien circonscrit de paradigmes de la modalité[51].

Nous en retiendrons ici deux: (a) la théorie des "propriétés nécessaires des substances" interprétées de manière temporelle, comme "leur appartenant aussi longtemps qu'elles existent" et décrites en termes d' "actualisation de potentialités" qui "ne peuvent rester irréalisées", en vertu du principe aristotélicien selon lequel "la nature ne fait rien en vain"; (b) la définition parallèle des notions modales comme "outils" permettant d'exprimer différentes "fréquences temporelles ou génériques": est "nécessaire", ce qui est toujours le cas (ou est toujours vrai), "impossible", ce qui n'est jamais le cas (ou est toujours faux), "possible", ce qui est quelquefois le cas (ou quelquefois vrai). Ce modèle, dit "statistique", à la suite de Hintikka, permet de distinguer nécessité simple et nécessité conditionnelle: la nécessité simple est l'"actualité uniforme sans limites temporelles", la nécessité conditionnelle, l'"invariabilité sur une période de temps donnée"[52].

Nous ne discuterons pas ici la pertinence générale de cette interprétation[53], comme l'ont fait notamment Jacobi[54], Weidemann[55] et Van

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51 *Cf.* S. Knuuttila, "Possibility and necessity in Gilbert of Poitiers", in: *Gilbert de Poitiers et ses contemporains. Aux origines de la Logica modernorum*. Actes du VII[e] Symposium européen d'histoire de la logique et de la sémantique médiévales, J. Jolivet & A. de Libera (eds.), (History of Logic, 5), Naples: Bibliopolis, 1987, p. 181 et 185.

52 Selon S. Knuuttila, une interprétation statistique de style boécien peut être aussi fondée "sur la manière dont différentes qualifications sont réalisées dans les membres d'un groupe de référence": une propriété "instantiée dans tous les membres" peut être appellée *nécessaire*, tandis qu'une propriété qui n'est "instantiée en aucun membre" est *impossible*, et qu'une propriété "instantiée en quelques membres au moins", est *possible*.

53 *Cf.* à ce sujet A. de Libera, "Bulletin d'histoire de la logique médiévale", *Revue des sciences philosophiques et théologiques*, 69 (1985), p. 281-291.

54 *Cf.* K. Jacobi, "Statements about Events. Modal and Tense Analysis in Medieval Logic", *Vivarium*, 21 (1983), p. 85-108.

Rijen[56], nous n'en retiendrons que la thèse centrale, selon laquelle, au moins dans la tradition boécienne, l'"actualisation dans l'histoire actuelle du monde est plus ou moins explicitement considérée comme le critère d'authenticité d'une possibilité". De fait, cette thèse permet de poser le problème qui oriente une partie essentielle des spéculations théologiques du XIVe siècle. D'une formule: si les notions modales renvoient à des propriétés structurelles ou à des traits caractéristiques du monde actuel et de toutes les entités qui en font effectivement partie, quelle sera la nature du rapport entre les nécessités naturelles exprimant l'ordre d'actualisation des propriétés intrinsèques des substances et la Toute-Puissance divine, supposée illimitée?

Selon Knuuttila, ce problème est clairement formulé dès le XIIe siècle chez Gilbert de Poitiers, quand il rappelle que la *sapientia huius mundi*, autrement dit: la Philosophie, opère avec une notion de la nécessité "dérivée des régularités naturelles considérées comme immuables - *necessitas consuetudini accomodata*" -, et que "certains au nom de cette nécessité veulent restreindre la Toute-Puissance divine".

Dans cette perspective, la réponse apportée par Gilbert est une anticipation des discussions et de certains des choix théoriques du XIVe siècle: la philosophie doit être corrigée par la théologie, tout particulièrement la conception selon laquelle sont nécessaires "les états de choses qui sont toujours actuels", que ce soit *simpliciter* ou seulement "sous certaines conditions". La "prévalence" de tel ou tel invariant dans le monde actuel est conditionnée par la volonté divine. Les "nécessités naturelles", autrement dit les "régularités" inscrites dans le plan divin effectivement actualisé sont et restent en elles-mêmes "théologiquement contingentes", d'une part, "parce qu'il n'est pas nécessaire que quoi que ce soit existe", d'autre part, parce qu'il n'est pas "évident à priori que les choses qui existent soient comprises dans les autres programmes providentiels que Dieu aurait pu réaliser" à la place de celui qu'il a effectivement actualisé[57].

Cette conception de la contingence théologique, ou mieux théonomique, des nécessités naturelles, ne signifie pas pour autant qu'il n'y a pas de "limitation logique à la toute puissance divine". Il y a des *nécessités*

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55 *Cf.* H. Weidemann, "Zur Semantik der Modalbegriffe bei Peter Abelard", *Medioevo*, 7 (1981), p. 1-40.

56 *Cf.* J. Van Rijen, "The Principle of Plenitude, the *de omni-per se* Distinction and the Development of Modal Theory", *Archiv für Geschichte der Philosophie*, 66 (1984), p. 61-88.

57 *Cf.* S. Knuuttila, "Possibility and necessity...", p. 195, d'après Gilbert de Poitiers, *DTrin* I, éd. Häring, p. 164, 34-41; *CEut*, éd. Häring, p. 322, 39-49.

conceptuelles dont la validité n'est pas relative[58]. "La vérité de ces principes nécessaires, fondée sur les lois de l'identité et de la contradiction est indépendante du vouloir divin". Autrement dit, Gilbert de Poitiers formule à sa manière la distinction, supposée typique du XIV^e^ siècle, entre nécessités logiques et nécessités réelles ou physiques[59].

Mieux encore, Gilbert anticipe Duns Scot, en proposant une formulation précoce de la théorie selon laquelle "la signification des notions modales ne peut être épelée qu'en considérant simultanément différents états de choses alternatifs". Les lois de la nature "qui sont choisies pour être en vigueur dans le monde actuel ne sont pas inévitablement comprises dans tous les programmes providentiels alternatifs", elles ne sont donc pas absolument nécessaires; de même, "il y a un nombre illimité de *possibilia* qui ne sont pas compris dans le monde actuel"; en revanche, il y a des "principes absolument nécessaires qui ne sont enfreints dans aucun monde possible".

Sans préjuger de l'exactitude de la reconstruction de la théorie gilbertienne chez Knuuttila, nous pouvons retenir, au moins heuristiquement, un point fondamental pour l'histoire de la *scientia naturalis*: dans les théologies de la Providence fondées sur une conception non-statistique de la modalité faisant appel à un concept plus ou moins inchoatif des "mondes possibles" et de la sémantique particulière qui en procède, nous retrouvons l'opposition entre des nécessités naturelles ou réelles qui ne sont que des formes de régularités radicalement contingentes, suspendues à la Toute-Puissance divine, et des nécessités logiques, dont le principe de contradiction est la figure éminente, et peut-être unique, qui, semble-t-il s'imposent à Dieu lui-même.

Quelles sont les conséquences de cette observation pour l'historien de la *philosophia naturalis*? Il peut se demander si la nouvelle définition intensionnelle du possible est compatible avec la délimitation traditionnelle de la puissance absolue et de la puissance ordonnée. Il peut ensuite tenter de mettre en relation cette définition synchronique avec l'hypothèse, solidement étayée, d'une divergence entre le modèle scotiste et le modèle ockhamiste de la *potentia absoluta* pour voir quelles en sont les conséquences sur la notion même de légalité naturelle. Enfin, il doit probablement se demander (a) si le modèle scotiste de la puissance absolue ne retentit pas sur la conception que

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58 *Cf. CEut.* p. 310, 56-63; 318, 34-36; 337, 95-338, 2; 353, 41-42; cités par S. Knuuttila, "Possibility and necessity...", p. 194.

59 *Cf.* S. Knuuttila, "Possibility and necessity...", p. 194.

l'on peut se faire de l'"impossible opinable", et (b) si la notion d'*imaginatio* est redevable à la notion scotiste de programmes providentiels alternatifs, à sa notion de *potentia absoluta de facto*, aux deux à la fois ou à aucune des deux.

De fait, si l'impossibilité d'une réalisation simultanée d'états contradictoires est une manière légitime d'exprimer le contenu du principe de contradiction au niveau de la nature, il est clair que les notions d'impossible opinable et d'impossible inopinable ne peuvent avoir le même statut épistémologique selon que le possible est ou non défini par rapport à la nécessité d'une actualisation à un moment donné de l'histoire du monde actuel ou bien défini dans le royaume des contrefactuels entendus comme ce qui tout en n'étant pas actuellement le cas dans le monde actuel aurait pu, dans une histoire alternative, y trouver place, et trouve effectivement place dans un nombre indéterminé pour l'homme de programmes providentiels alternatifs.

Si l'on en juge par les travaux récents, il semble que c'est le modèle ockhamiste de la *potentia absoluta*, la notion statistique de la modalité et l'interprétation commune du principe selon lequel *Deus potest facere quidquid non contradictionem includit* qui a servi de cadre prédominant à la mise en place de la méthode de raisonnement naturel *de potentia Dei absoluta*. Je ne puis, sur ce point, que renvoyer aux textes eux-mêmes, par exemple aux questions du scotiste Hugues de Neuchâteau récemment éditées par E. Randi[60], où, à propos de la question traditionnelle *Utrum Deus possit facere multitudinem actu infinitam* je lis cet axiome qui me paraît bloquer toute interprétation non-standard de la puissance absolue en domaine naturel: *Dico quod Deus eodem modo potest res facere quo modo eas intelligit factibiles, non quomodo eas intelligit ex parte sui*[61].

Reste le problème de la démarche *secundum imaginationem* qui est d'autant plus embarrassant que *de potentia Dei absoluta* et *secundum imaginationem* recouvrent ou non le même ensemble: la sphère du non-contradictoire.

Il est évidemment tentant de rapporter l'imaginaire casuel des *Calculatores*, à une perception naissante de l'infinité des possibilités divines, des possibles non actualisés. Le *casus* imaginaire serait en quelque sorte la laïcisation d'une infime partie des programmes providentiels alternatifs de la théologie des "mondes possibles".

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60 *Cf.* E. Randi, *Il sovrano e l'orologiaio*..., p. 133-172.

61 *Cf.* E. Randi, *Il sovrano e l'orologiaio*..., p. 156, 158-160.

L'histoire des *casus* fait partie de l'histoire du genre littéraire et pédagogique des *sophismata*. Cette histoire a commencé au XII^e^ siècle sans rapport structurel à la problématique de la modalité. On peut donc, dans un premier moment, être tenté d'admettre que la marche constante du *casus* vers l'impossible physique a été au XIV^e^ siècle stimulée par le modèle des "mondes possibles" voire même par le modèle scotiste de la *potentia absoluta* comme puissance *de facto*. Cependant, on pourrait aussi bien admettre qu'elle a été non moins stimulée par la conception ockhamiste de la puissance absolue et de la puissance ordinaire, ou encore qu'elle est le fruit normal de ce que J. Murdoch a appelé la "rule-testing activity".

Il nous semble, quant à nous, vraisemblable de soutenir que l'imaginaire casuel est une donnée transversale, qui n'est liée à aucune ontologie, sémantique ou métaphysique particulière, et que la divergence des modèles éthico-juridique ou logico-philosophique de la puissance n'y joue à l'origine aucun rôle fondateur.

Cependant, dans la mesure où l'imaginable scientifique recouvre la classe du possible logique et où le possible logique peut recevoir deux interprétations, l'une extensionnelle et diachronique, l'autre intensionnelle et synchronique, nous concédons que la question reste ouverte de savoir: (a) si cette divergence a une signification pour le philosophe naturel, et (b) quel modèle a joué un rôle effectif dans le développement de la *scientia naturalis*.

Pour l'heure, il semble que ce soit la définition burleyenne du possible comme n'incluant pas de contradiction formelle qui ait joué un rôle significatif.

Ceci, toutefois, ne clôt pas l'enquête. Qu'adviendrait-il, en effet, si nous constations que le champ de l'imaginable identifié à tout ce qui n'implique pas contradiction, autrement dit au domaine du possible *de potentia Dei absoluta*, au sens logico-philosophique du terme, n'épuisait pas le champ du licitement assumable par le philosophe calculateur? Autrement dit: qu'adviendrait-il si le domaine de l'imaginable n'était qu'un sous-ensemble de l'argumentable? On aurait, ce qui nous paraît être une caractéristique notable du *Calcul*, à savoir: l'affirmation d'une possibilité d'argumenter au-delà même de l'imaginable, *gratia disputationis*.

Ceci nous amène à notre dernier point.

4. *Au-delà de l'imaginable: l'univers des* Sophismata *et la conception d'un argumentable* disputationis gratia

Les *sophismata* ne sont pas la seule source disponible pour l'historien de la *scientia naturalis* du XIVe siècle: les matériaux existent, en nombre surabondant, dans des oeuvres théologiques, comme les *Commentaires des Sentences*, dont l'importance philosophique est sans aucun doute plus grande puisque c'est là que se noue le dialogue effectif des disciplines et des doctrines, là que se trouvent les enjeux théoriques, là que se définissent les grandes *positiones* et là surtout que se situent, sous la pression même des objets, les principales innovations de portée réellement générale[62]. De même, au strict point de vue de la théorie logique et de l'analyse propositionnelle comme telle, il existe toute une gamme de genres littéraires assumant à un niveau théorique plus élevé l'ensemble des problèmes traités dans les *sophismata*: c'est le cas des monographies *De incipit et desinit, De primo et ultimo instanti*[63], *De maximo et minimo*, *De intensione et remissione formarum, De proportionibus, De sensu composito et diviso*[64], *De tribus praedicamentis, De motu*; mais c'est aussi le cas de copieuses portions des *Commentaires* de la *Physique* et du *De caelo*, voire des *Sommes de logique* elles-mêmes ou des *Commentaires* issus de l'exposition ou de la lecture de monographies devenues elles-mêmes standard dans tel ou tel milieu, telle ou telle Université.

L'importance des *sophismata* dans le processus que nous avons essayé de décrire est néanmoins décisive[65]. C'est dans les *sophismata* que l'on essaye les positions et que l'on teste les règles ou les propositions générales de mesure, c'est dans les *sophismata* que l'on pousse littéralement à bout le jeu complexe de l'argumentation de *potentia absoluta* et du raisonnement *secundum imaginationem*, mais surtout, c'est dans les *sophismata* que s'est formée concrètement la mentalité scientifique ouverte à une pratique des

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62 Sur ce point, *cf.* S. Knuuttila & A. I. Lehtinen, "Change and Contradiction...", p. 189 *sqq*.

63 Sur les problèmes assumés dans ces traités, *cf.* N. Kretzmann, "Continuity, Contrariety, Contradiction and Change", in: *Infinity and Continuity in Ancient and Medieval Thought*, N. Kretzmann (ed.), Ithaca-Londres: Cornell University Press, 1982, p. 270-284; P. V. Spade, "Quasi-Aristotelianism", *ibid.*, p. 297-307.

64 Sur ce genre, et son contenu, *cf.* N. Kretzmann, "*Sensus compositus, Sensus divisus,* and Propositional Attitudes", *Medioevo*, 7 (1981), p. 195-229.

65 Sur le genre littéraire des *Sophismata*, *cf.* N. Kretzmann,"Syncategoremata, Exponibilia, Sophismata", in: *The Cambridge History of Later Medieval Philosophy*, p. 211-245.

"nouveaux langages" tant dans la *scientia naturalis* que dans la théologie[66]. En outre, c'est dans le format du *sophisma* que se sont manifestés les effets des changements de paradigmes ou de modèles scientifiques que nous avons pu observer avec la résorption des topiques dans les conséquences, le développement des théories de la modalité, et la place croissante prise par les *obligationes* dans la réflexion sur la connaissance.

L'histoire des *sophismata* est encore mal connue et d'une grande complexité dans la mesure où, plus que tout autre, elle joue au double niveau de la forme littéraire et de la pratique scolaire. On peut néanmoins en esquisser les grandes lignes grâce aux travaux ou aux éditions de N. Kretzmann, L.M. De Rijk, J. Pinborg[67], S. Ebbesen[68] et H.A.G. Braakhuis. Originellement, c'est-à-dire dès le XII^{e} siècle, un *sophisma* est une proposition, ou comme l'écrit Kretzmann: "a sentence puzzling in its own right or on the basis of a certain assumption, designed to bring some abstract issue into sharper focus"[69]. L'analyse et la discussion de *sophismata* est une donnée constante de la *logica modernorum*, tous genres littéraires confondus: on en trouve la trace dans toutes les *Sommes de logique* du XIII^{e} siècle et dans tous les traités consacrés aux propriétés des termes syncatégorématiques (*De syncategorematibus*). Parallèlement, tout indique que l'analyse de *sophismata* a été d'emblée considérée comme un exercice scolaire indispensable et, de ce fait, développée comme pratique pédagogique autonome. En témoignent, principalement, les recueils de règles composés aux XII^{e} et XIII^{e} siècles pour aider, semble-t-il, les maîtres et les étudiants à résoudre plus facilement leurs difficultés spécifiques. Ces recueils, initialement modelés sur les *Distinctiones theologicae*, ont pris la forme de *Summae de sophismatibus et distinctionibus* puis d'abrégés tels que les *Abstractiones* de Richard de Cornouailles particulièrement en faveur à

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66 Sur cet aspect de la littérature sophismatique, *cf.* J. Murdoch, "From Social into Intellectual Factors: An Aspect of the Unitary Character of Late Medieval Learning", in: *The Cultural Context of Medieval Learning*, J. E. Murdoch & E. D. Sylla (eds.), Dordrecht: Reidel, 1975, p. 303-307; "*Scientia mediantibus vocibus...*", p. 100-104; "Mathematics and Sophisms in Late Medieval Natural Philosophy", in: *Les genres littéraires dans les sources théologiques et philosophiques médiévales, définition, critique et exploitation*. Actes du Colloque International de Louvain-la-Neuve, 25-27 mai 1981, Louvain-la-Neuve: Publications de l'Institut d'études médiévales (2^{e} série, vol. 5), 1982, p. 85-100.

67 *Cf.* J. Pinborg, "Die Logik der *Modistae*", *Studia Mediewistyczne*, 16 (1975), p. 39-97; "Radulphus Brito's Sophism on Second Intentions", *Vivarium*, 13 (1975), p. 119-152.

68 *Cf.* S. Ebbesen & J. Pinborg, "Studies in the Logical Writings Attributed to Boethius de Dacia", *Cahiers de l'Institut du Moyen Age grec et latin*, 3 (1970), p. 1-54.

69 *Cf.* N. Kretzmann, "Socrates is Whiter...", p. 6.

Oxford dans la première moitié du XIII^e siècle. Les *Regulae solvendi sophismata* de Heytesbury sont les héritières lointaines de ce genre littéraire. A une époque que l'on ne peut encore situer avec précision, la discussion de *sophismata* s'est organisée à la fois formellement et institutionnellement sur le modèle, plus ou moins fidèlement respecté, des *Quaestiones disputatae*. On peut, à partir de là, considérer le *sophisma* comme une unité discursive autonome, possédant sa structure argumentative propre, reflétant une discussion complexe, rassemblant plusieurs intervenants, terminée par la solution d'un Maître. Les *sophismata* de Boèce de Dacie, avec leur architecture compliquée de *probationes*, d'*improbationes*, de *solutiones* et de *responsiones*, qu'il s'agisse de la "réponse du Bachelier" ou de la *responsio propria Magistri*, sont un bon exemple de cette configuration.

On retrouve la même donne au XIV^e siècle: le *sophisma* est une dispute effective organisée autour d'une proposition particulière, déjà riche de toute une histoire argumentative. Il y a cependant, apparemment, une différence fondamentale: les *sophismata* du XIII^e siècle n'utilisent ni cas "imaginaire" ni raisonnement *secundum imaginationem*, ils n'utilisent pas les outils ou les langages mathématiques, et surtout, ils semblent principalement destinés à élucider où à manifester les propriétés des termes syncatégorématiques et les phénomènes syntactico-sémantiques déterminés par les relations entre catégorèmes et syncatégorèmes à l'intérieur de la proposition discutée. C'est ainsi que même lorsque le *sophisma* semble porter sur une question de *scientia naturalis*, comme c'est le cas des nombreux *sophismata de incipit/desinit* contenus tant dans les *Sommes de logique* que dans les traités *De syncategorematibus* du XIII^e siècle, il s'agit toujours de déterminer l'import des propriétés syntactico-sémantiques des syncatégorèmes *incipit* et *desinit* plutôt que d'utiliser le *sophisma* comme prétexte à une analyse métalinguistique des problèmes ou des paradoxes du continu. Ce changement dans la compréhension de la fonction épistémologique du *sophisma* exprime l'évolution d'une conception de la théorie logique centrée sur la sémantique des termes (*de proprietatibus terminorum*) et articulée sur le couple catégorème-syncatégorème, à une utilisation de l'outil logique fondée sur un "passage au niveau propositionnel" pour explorer *secundum imaginationem* toutes les possibilités logiques d'une situation ou d'un problème épistémologique, physique, ou épistémique. J. Murdoch a clairement caractérisé cette évolution en comparant le traitement de *sophismata*

standard dans l'une et l'autre tradition[70]: c'est ainsi, par exemple, que le sophisma *neutrum oculum habendo, tu potes videre* qui servait au XIII^e^ siècle à déterminer la fonction de "*neuter*" comme signe distributif et son effet de composition et de division du sens propositionnel, devient chez Heytesbury un instrument d'analyse de la *virtus visus* et des *minima* visibles, ou que *Omne animal fuit in archa Noe*, naguère consacré aux propriétés syntactico-sémantiques de *quodlibet* est appliqué au problème de *maximo/minimo*, sous une forme qui aurait, sans doute, ravi un humaniste italien: y a-t-il une quantité minimum d'eau "capable" de faire flotter l'arche ou une quantité maximum incapable d'en assurer la flottaison?

Cela posé, nous voulons souligner un point qui nous paraît essentiel: le *sophisma* est l'unité de discours où s'organise l'application des nouveaux langages et où se déploie l'analyse métalinguistique, le *sophisma* est une méthode, mais c'est aussi, et sans doute d'abord, un genre particulier de dispute.

Les *sophismata* du XIV^e^ siècle se présentent, pour la plupart, comme des "limit-decision sophisms". Ce changement n'est pas un simple changement de contenu, c'est surtout un changement de perspective, ce qui fait que même lorsqu'on utilise des matériaux traditionnels, on les utilise différemment. Bref, il y a une manière "moderne" de traiter les questions les plus classiques.

Albert de Saxe peut nous servir ici de guide et de témoin. Dans ses *Sophismata*, du moins tels que les transmet le ms. *Lat.* 16134 de la Bibliothèque Nationale de Paris[71], Albert examine 31 sophismes portant sur le problème *de incipit/desinit*. Sur ces 31 sophismes, 12 au moins relèvent du genre dit des *Sophismata physicalia*. Selon Albert, ces *Sophismata* sont "traités par certains modernes"[72], mais de manière peu satisfaisante. Il convient donc, nous dit-il, "de les traiter de manière plus pénétrante", *magis lucide*, "pour l'usage des écoliers, afin qu'ils exercent leur propre intelligence", *propter utilitatem scolarium ad exercitum proprii intellectus*[73]. La finalité

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70 *Cf.* J. Murdoch, "*Scientia mediantibus vocibus...*", p. 100-101.

71 Cette version manuscrite est sensiblement différente de la version imprimée à Paris en 1502 (reproduite par Olms, Hildesheim, 1975). Notamment, les *sophismata* 123 à 133 compris ne figurent pas dans le ms. 16134, qui, à la place, porte (fol. 45ra-vb): *Sortes incipit esse albior quam ipsemet incipit esse, Sortes incipiet esse ita albus sicut ipsemet erit, Sortes incipiet esse ita albus sicut Plato erit albus, Sortes erit albior quam Plato erit albus.*

72 On notera que le ms. *Nat. lat.* 16134 contient les *Sophismata* de Richard Kilvington (fol. 56 *sqq.*) et de Guillaume de Heytesbury (fol. 81 *sqq.*).

73 *Cf.* ms. *Nat. lat.* 16134, fol. 46va.

pédagogique du *sophisma* détermine, semble-t-il, les choix théoriques d'Albert. Comme dans sa grande Somme de logique, la *Perutilis logica*, il mentionne diverses solutions[74]. Ici, toutefois, il abandonne la thèse "particulariste" de style "ockhamiste" qu'il y avait défendue, et tranche au profit d'une démarche *secundum imaginationem*, fortement apparentée dans ses résultats à une interprétation caractéristique de Burleigh[75]. A en croire Albert, l'analyse de type "ockhamiste" a le double inconvénient d'être inusitée dans la littérature sophismatique et, ceci expliquant cela, d'être incapable d'assumer avec la "précision" souhaitée ces "instants indivisibles que l'on imagine dans le temps, même s'ils n'existent pas dans la réalité"; au contraire, l'analyse de type "burleyen" est à la fois utilisée dans la littérature sophismatique et compatible avec la démarche "imaginaire": "[...] ista usitata est et secundum illam precisius loqui possumus ymaginando instantia indivisibilia in tempore licet talia in rei veritate non sint[76]."

Dans sa brièveté même, ce texte nous permet, je pense, de "fixer" le rapport existant entre la pratique du *sophisma* et la méthode de raisonnement "imaginaire"[77] comme caractéristique d'un point de vue "moderne".

La méthode *secundum imaginationem* a pour lieu naturel le *sophisma*; elle ne consiste pas uniquement à mettre en scène des situations empiriquement non attestées, voire bizarres, elle permet aussi et surtout d'introduire dans la discussion philosophique un ensemble d'entités qui ne font pas partie du monde réel, un ensemble d'entités fictives ou abstraites. En cela, ajoute Albert, le logicien s'égale à l'astrologue qui "imagine une

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74 Sur l'évolution d'Albert *cf.* A. de Libera, "*Expositio* et *probatio per causas veritatis* chez Albert de Saxe et Marsile d'Inghen", in: *Preuves et raisons à l'Université de Paris. Logique, ontologie et théologie au XIVe siècle*, Z. Kaluza & P. Vignaux (eds.), (Etudes de Philosophie médiévale), Paris, 1984, p. 127-147.

75 Albert avait déjà soutenu cette interprétation dans son *Expositio* des *Consequentiae* de Guillaume de Sutton (ou plutôt d'un commentaire de ces *Consequentiae*), ms. *Nat. lat.* 14715, fol. 77rb-77va.

76 *Cf.* ms. *Nat. lat.* 16134, fol. 43va.

77 Il va de soi que nous n'acceptons pas l'interprétation qu'en donne C. Wilson, *William Heytesbury...*, p. 41, pour qui l'analyse à laquelle "revient" Albert est "celle du *De exponibilibus* des *Summulae logicales* de Pierre d'Espagne", parce qu'elle est "en accord avec l'usage commun", *presumably among Schoolmen*. En effet, le *De exponibilibus* n'est pas une oeuvre de Pierre d'Espagne (Wilson a, sans doute suivi, sur ce point une indication fautive de Petrus Sanitus, dans l'édition de Venise, 1522, fol. 22B de la *Perutilis logica*); d'autre part, l'"usage" dont il s'agit ici n'est précisément pas l'usage commun des "Maîtres" en tant que tels, mais bien uniquement l'usage hautement technique prédominant dans le genre pédagogique et littéraire des *Sophismata*.

multitude de cercles dans les cieux" et au géomètre qui "imagine des points indivisibles", alors que ni les uns ni les autres n'existent dans la réalité.

Reste à indiquer ce qui justifie et finalise cette procédure. A lire Albert, on n'y trouve qu'une raison: l'utilité pédagogique, *propter meliorem et faciliorem traditionem scientiarum*. Autrement dit: le but de la méthode n'est pas de découvrir de nouvelles vérités ni même de tester la validité de règles anciennes, mais purement et simplement de transmettre plus efficacement un savoir constitué en intégrant l'exercice actif de l'intelligence au processus même de sa transmission. Hors du *sophisma* pédagogique, la méthode n'est plus licite du moins par rapport aux prescriptions de l'ontologie.

Cette caractérisation de la fonction épistémologique du *sophisma* par la pédagogie demande, toutefois, une confirmation. De fait, Albert ne souscrit pas lui-même à la pratique des *moderni*; or, ce qui intéresse l'historien des sciences, ce sont précisément les *sophismata* tels que les traite le groupe de philosophes d'Oxford que l'on a longtemps appelés les *Mertoniens*, et que l'on désigne maintenant du titre moins spécifique de *Calculatores d'Oxford.*

La question est donc la suivante: la pratique oxonienne du *sophisma* vise-t-elle comme chez Albert de Saxe le seul niveau de l'exercice de l'intelligence?

L'historiographie des *sophismata calculatoria* d'Oxford présente en général deux caractéristiques: (a) elle distingue différentes sortes de *sophismata* en fonction de répartitions disciplinaires: les *sophismata grammaticalia*, les *sophismata logicalia*, les *sophismata physicalia*, (b) elle considère que les *sophismata physicalia* sont la manière typiquement "mertonienne" de faire de la physique.

Cette vue traditionnelle a été récemment réfutée par E. Sylla, avec des arguments tirés de l'étude des statuts universitaires d'Oxford[78].

On peut résumer ainsi sa thèse: "Si les savants ultérieurs ont remarqué et apprécié l'oeuvre des calculateurs d'Oxford pour son contenu physique et mathématique, néanmoins dans le contexte académique même de l'Oxford du XIV^e^ siècle, l'oeuvre des Calculateurs n'est pas apparue sous la forme de mathématiques ou de philosophie naturelle reconnues comme telles, mais à l'intérieur de la pratique standard de la dispute logique[79]."

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78 *Cf.* E. Sylla, "The Oxford Calculators", in: *The Cambridge History of Later Medieval Philosophy*, p. 540-563.

79 *Cf.* E. Sylla, "The Oxford Calculators", p. 542.

Sans entrer dans le détail compliqué des obligations statutaires de l'étudiant d'Oxford, on peut tirer des analyses de Sylla un ensemble d'informations qui semblent aller assez dans le sens de l'hypothèse "pédagogique" que nous avons tirée d'Albert de Saxe, et donc, par là-même, singulièrement relativiser la portée *scientifique* du *sophisma*.

Tout d'abord, le *sophisma* concerne exclusivement les étudiants avancés: après deux années d'audition de cours magistraux (*lecturae*), les aspirants au Baccalauréat ès arts, doivent, pendant un an, servir d'*opponens* puis de *respondens* dans des disputes *de sophismatibus* (statut de 1268) ou *de parviso* (aux alentours de 1350 et en 1409); après quoi, ils sont admis à répondre *de questione* puis, ensuite seulement, à "déterminer" dans leur école ou dans celle d'un autre maître (durant le Carême). Ils sont alors bacheliers. Le fait fondamental est ici la distinction entre les *disputes ordinaires* des maîtres ou disputes *in scolis*, complétant leurs lectures ordinaires, et déterminées par eux, et les disputes destinées aux étudiants non bacheliers, *de sophismatibus* ou *in parviso*, c'est-à-dire: à l'extérieur de l'école[80]. Ces disputes "sur le parvis" ont pour seule fonction l'apprentissage de la logique, comme en témoigne entre autres le fait que les participants sont appelés *sophistae*. Les recueils de *Sophismata* des *Calculatores* sont composés par les maîtres pour les étudiants, ils ne retracent pas des débats directs comme les disputes *in scolis*, ils sont conçus comme des "munitions pour les étudiants, sans détermination magistrale particulière"[81]. Par là même, le sens de la distinction traditionnelle entre *sophismata logicalia et sophismata physicalia*, perd toute pertinence institutionnelle, donc conceptuelle.

Pour E. Sylla, les *sophismata physicalia* ne font pas partie de l'éducation des étudiants dans le domaine de la philosophie de la nature. Ceci ne veut pas dire qu'il n'y a pas de philosophie naturelle ou de mathématique dans l'oeuvre des *Calculatores*: ceci veut dire, plus simplement, que le contexte social de leurs productions intellectuelles est la dispute logique et l'apprentissage de la logique. Autrement dit: on ne peut sainement évaluer la

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80 E. Sylla tend à considérer comme synonymes les expressions "disputes *de questione*" et "disputes *in scolis*", d'une part, "disputes *de sophismatibus*" et "disputes *in parviso*". Noter, toutefois cette précision, p. 545, n. 12: "One cannot claim an absolute identity between disputations *de sophismatibus* and disputations *in parviso*. There were certainly disputations *de sophismatibus* not *in parviso* - for instance in the "determinations" of new bachelors in Lent and probably also in disputations connected with the ordinary lectures on logic. Later there may have been disputations *in parviso* not on logic. I am arguing that in the period of the Oxford Calculators most disputations *in parviso* would have been *de sophismatibus* and vice versa."

81 *Cf.* E. Sylla, "The Oxford Calculators", p. 546.

portée et la signification du *sophisma* comme instrument de savoir sans distinguer au préalable disputes ordinaires et disputes *in parviso*. C'est parce que les disputes *de sophismatibus* sont, contrairement aux disputes ordinaires, détachées du contexte immédiat de la lecture d'un manuel scolaire de logique qu'elles peuvent être le théâtre d'injections massives de matériaux non-logiques d'origine physique ou mathématique.

Le résultat des travaux de Sylla est, il faut l'avouer, un peu décourageant. Ainsi la partie porteuse de l'analyse propositionnelle et de l'utilisation des nouveaux langages conceptuels que nous voulions considérer comme la plus novatrice dans la *scientia naturalis* du XIVe siècle serait un simple exercice scolaire destiné aux non-bacheliers pour parfaire leur culture logique... On peut se consoler en songeant aux extraordinaires aptitudes intellectuelles dont devaient faire preuve les étudiants d'Oxford. Mais on peut aussi dépasser cette première réaction.

Tout d'abord, si les recueils de *Sophismata* composés par les maîtres ont une destination principalement pédagogique, ils servent éventuellement de matériaux pour la confection de traités scientifiques de niveau supérieur; d'autre part, on ne peut détacher la science médiévale de son contexte culturel: la dispute n'est pas un trait extérieur, secondaire, du mode de production des énoncés scientifiques, elle en est l'un des organes essentiels; enfin, c'est peut-être parce que son point d'application dans l'institution universitaire se trouve, comme on dit, *in parviso*, que la pratique de la *disputatio* oxonienne *de sophismatibus* permet une autonomisation de la *scientia naturalis* par rapport aux données contraignantes de la physique et de la cosmologie aristotélicienne - détachement assurément plus difficile à obtenir *in scolis* à fleur de commentaire. De ce point de vue, on peut sans doute tirer argument de la situation parisienne où les *sophismata*, apparemment disputés *dans l'école*, semblent moins perméables aux innovations des *calculationes*.

En d'autres termes, la référence aux statuts universitaires et à la pratique pédagogique effective de l'Université d'Oxford est sans doute le moyen le plus économique d'aborder le phénomène même de la logicisation du savoir naturel. Nous avons essayé de dégager un certain nombre de facteurs conceptuels appelant une transformation des représentations collectives de la scientificité, de ses critères, de ses méthodes; cette tentative serait sans objet si l'on ne pouvait la situer dans un cadre social défini. Il n'y a pas d'histoire des mentalités, fussent-elles scientifiques, sans une histoire des facteurs sociaux et institutionnels où elles prennent corps. Les débats sur ce

que J. Murdoch et E. Sylla ont appelé *The cultural context of medieval learning* ne peuvent pas ne pas intégrer le phénomène même de l'Université, de son identité ou de sa physionomie propres. L'histoire des statuts universitaires fait partie de l'histoire de la science médiévale: c'est une expression centrale du "caractère unitaire" de la science des scolastiques tardifs.

Cela posé, il est clair que l'histoire de la science ne saurait non plus négliger l'histoire des genres ou des formes littéraires. Si les innovations du XIVe siècle sont, avant tout, anglaises, si, de ce point de vue, elles peuvent être reconduites à l'organisation oxonienne de la *disputatio* logique, lesdites innovations ont largement essaimé en dehors d'Oxford, et l'on on retrouve de multiples traces sur le Continent, quelles qu'y soient les formes particulières d'existence formelle et institutionnelle du genre sophismatique. Les *Subtilitates anglicanae* sont connues dans le Paris du XIVe siècle, où elles pénètrent largement l'univers des *Commentaires de Sentences*[82]. Elles sont omniprésentes dans les XIVe et XVe siècles italiens.

La situation italienne peut servir de révélateur de la manière dont s'est généralisée l'approche métalinguistique.

On peut décrire cette généralisation comme l'intégration de l'univers théorique et instrumental du *sophisma* aux autres formes discursives: ce que J. Murdoch appelle "*sophismata*-based reasoning" ou "*sophismata* without announcement"[83]. Cette évolution est sans doute présupposée par la manière dont un Oresme critique Aristote, en s'appuyant sur une ingénieuse combinaison de la théorie des *consequentiae* et de la théorie des possibilités logiques, qu'un récent article d'H. Hugonnard-Roche a bien mise en valeur[84]. Il me semble qu'elle est aussi particulièrement apparente dans la *Wirkungsgeschichte* des *Regulae solvendi sophismata* de Heytesbury en Italie. Là en effet, la distinction entre l'approche *de re* liée à une certaine interprétation du cadre et du langage aristotéliciens, d'une part, et l'approche métalinguistique ou *de intentionibus*, d'autre part, tend à se résorber par l'universalisation des instruments d'analyse et des principes argumentatifs du *sophisma* de style anglais. C'est ainsi, pour prendre un seul exemple, que les

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82 *Cf.* J. Murdoch, "*Subtilitates Anglicanae* in Fourteenth Century Paris: John of Mirecourt and Peter Ceffons", in: *Machaut's World*. Science and Art in the Fourteenth Century, M. P. Cosman & B. Chandler (eds.), (Annals of the New York Academy of Sciences, 314), 1978.

83 *Cf.* J. Murdoch, "From social into intellectual factors...", p. 306.

84 *Cf.* H. Hugonnard-Roche, "Logique et philosophie naturelle au XIVe siècle: la critique d'Aristote par Nicole Oresme", *s.p.*

traités *de primo et ultimo instanti* d'un Pierre de Mantoue ou d'un Apollinaire Offredi intègrent systématiquement les cas, les règles et les arguments sophismatiques dans une stratégie métalinguistique d'ensemble, dont la visée n'est plus pédagogique, au sens où elle serait liée à un mode particulier d'institution de la dispute, mais scientifique, au sens où le *sophisma* est un cadre conceptuel pour la discussion de règles générales d'analyse propositionnelle de problèmes classés et ordonnés selon l'ordre des matières ou l'ordre des raisons[85]. Les règles pour résoudre les *sophismata de maximo et minimo* sont désormais, avant tout, des règles pour traiter le problème métalinguistique du *maximum* et du *minimum*. Le format pédagogique du *sophisma* devient le format même de la science comme activité discursive. On peut décrire cette universalisation du format sophismatique en notant quelques-uns de ses traits structurels:

- le *casus*, univers de référence indispensable à l'analyse vériconditionnelle d'une proposition, désigne désormais un modèle "expérimental" de l'univers explicitement centré sur un petit nombre de variables détachées sur le fond d'un univers total supposé invariant, grâce à la clause: *ceteris paribus* (toutes choses égales par ailleurs). Cette limitation de l'univers casuel fonctionne comme un principe méthodologique. Son application concrète peut, cependant, être mise en cause au nom de principes scientifiques généraux. Il s'agit, par exemple, de montrer que la clause n'est pas effectivement appliquée ou n'est pas réellement applicable dans le *casus* délimité par un auteur. C'est ainsi qu'Hugues de Sienne objecte au cas (utilisé par Pierre de Mantoue) d'un patient soumis uniformément à l'action d'un principe actif que "toutes choses ne sont pas égales par ailleurs", puisqu'il ne peut y avoir action uniforme d'un agent sur un patient si celui-ci n'est pas aussi uniformément disposé, ce qu'interdit la différence même de ses parties prochaines et de ses parties éloignées[86].

- L'argumentation *ex suppositione* n'est plus limitée aux seuls *cas* définissant l'univers de référence, elle s'étend aussi bien aux propositions théoriques elles-mêmes. C'est ainsi qu'on peut accepter ou refuser: (a) la validité de certaines thèses d'ontologie présupposées dans un *corpus*, comme "l'identité du composé suffit à l'identité de la forme" ou "la grandeur d'une

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85 Pour tout cela, *cf.* A. de Libera, "Apollinaire Offredi critique de Pierre de Mantoue...", p. 266 *sqq.*

86 Sur ce point, *cf.* A. de Libera, "Apollinaire Offredi critique de Pierre de Mantoue...", p. 267-268, note 26. La *Quaestio de augmentatione* de Hugues de Sienne (Ugo Benzi) est mentionnée par C. Wilson, *Medieval Logic...*, p. 200, note 58.

même forme étendue peut varier selon la plus ou moins grande extension de la matière"; (b) celle de certaines *suppositiones* physiques telle que "tous les mouvements uniformes, à égalité de temps et de vitesse, produiront des effets égaux, en quelque catégorie que ce soit"; (c) celle des *conclusiones* qui leur sont associées dans telle ou telle *opinio*, comme: *aliquid successive producendum erit, quod in nullo instanti erit*.

- Enfin: la clause *ceteris paribus* peut être légitimement appliquée à une *suppositio* afin de réduire la portée de l'argument qu'elle supporte.

Ces remarques sur l'universalisation du format sophismatique nous amènent à notre conclusion.

Le moment de critique interne et d'auto-limitation de l'imaginaire que comporte l'universalisation du "*sophismata*-based reasoning" que nous venons de décrire et de souligner n'est pas destiné à lever l'imputation d'"irréalisme" ou de "non-réalisme" pesant sur la logicisation de la *philosophia naturalis* du XIVe siècle. Dans l'extension de ce type de raisonnement, la toute-puissance de l'imaginaire ne se heurte pas - enfin! diraient certains - au réel; au contraire, elle vient s'auto-limiter dans le fait même de son universalisation. La méthode "imaginaire" obtient son triomphe véritable au moment où elle revient sur elle-même, *reditione completa*. Toute analyse peut, en principe, être rectifiée, parce qu'à tous les niveaux elle procède *ex suppositione*: dans l'univers-test qu'elle se donne, dans les principes et les règles qu'elle applique, dans les conclusions qu'elle tire de ses hypothèses les plus générales.

On comprend pourquoi le problème de la découverte des lois de la nature n'est pas ici premier ni même ultime: c'est que les procédures d'évaluation, les réalités à évaluer et le niveau de pertinence des tests de validation sont compris comme essentiellement conventionnels. Les seules lois qui restent sont celles de la pensée, non pas celles de la pensée en général, mais bien celles de la pensée aux prises avec elle-même, de la pensée disputante plutôt que ratiocinante.

C'est ce mode de pensée *agonistique* qu'ont forgé les réflexions sur le possible logique et le possible naturel, sur le statut de la *positio impossibilis* dans les jeux d'obligations, sur l'impossible opinable et ses différents niveaux de crédibilité, sur le fondement topique des raisonnements formels; c'est lui qui se profile dans l'émergence des formes nouvelles qui encadrent et accompagnent la montée de l'imaginaire - *obligationes* et *consequentiae* -, c'est lui qui se cherche dans la redéfinition des notions traditionnelles de la

puissance absolue et de la puissance ordinaire. A terme, la pensée agonistique finit par résorber jusqu'à l'imaginaire lui-même. C'est ce que nous dit Heytesbury dans ses *Sophismata*: par la grâce de la dispute, on peut admettre ce qui n'est pas possible mais imaginable, autrement dit ce qui ne contient pas formellement de contradiction, mais on peut aussi admettre jusqu'à l'impossible que l'on ne "saurait bien imaginer": *Et ideo gratia disputationis potest admitti totus casus tamquam imaginabilis, et non tamquam possibilis [...] Unde breviter quilibet casus qui non claudit contradictionem formaliter seu tale impossibile quod non bene potest imaginari [...], satis potest admitti gratia disputationis*[87].

C'est ce mode de raisonnement *disputationis gratia* qui constitue le centre perspective des nouveaux langages et des nouveaux outils conceptuels du XIV^e^ siècle, un mode de pensée que, nous espérons l'avoir montré, l'on ne saurait ni trouver ni comprendre à l'état isolé.

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ABSTRACT:

The Development of New Conceptual Tools and Their Use in the Philosophy of Nature in the 14th Century

The paper deals with the major conceptual tools that have been used in what could be termed the dialectical preparation for the XIV^th^ century natural science and/or natural philosophy. *Conceptual tools* are not considered as mere *logical tools*; one assumes that they also include the methods of teaching as well as the literary genres. Thus, the paper builds on the recent work that has been done in the following fields: (1) the development of the topical tradition in the late XIII^th^ and early XIV^th^ centuries and the conceptual, scientifical import of the so-called "absorption of the *Topics* into *Consequences*"; (2) the games of *Obligations* and the application of ideas related to them to questions of natural science; (3) the development of different models or interpretations for possibility and necessity, both real and logical, the theology of *potentia Dei absoluta* and the *secundum imaginationem* reasoning; (4) the social and cultural context of the *sophismata*-based teaching and scientifical inquiring at Oxford, the main stages in the evolution of the genre and its final achievement: the admission as a conceptual tool (*disputationis gratia*) of counterfactuals that cannot be fully "imagined" (*impossibile quod non bene potest imaginari*).

87 *Sophismata*, fol. 161vb-162va, cité par C. Wilson, p. 174, note 65.

ARTHUR STEPHEN MCGRADE

Ethics and Politics as Practical Sciences

The proper place to begin a discussion of medieval Latin ethics and political philosophy in the context of the sciences is with the progressive recovery and development of Aristotelian moral philosophy starting in the 13th century, and that indeed is where I will begin; but if you will permit me a moment of philosophical patriotism beforehand, I should first like to chart the chronologically circuitous course of this talk by reference to the Constitution of the United States. As the bicentennial of the Constitution approaches, we may do well to ponder a remark of Alexander Hamilton's, in one of a series of essays urging his fellow citizens to ratify the new constitution. According to Hamilton, the central question in the post-Revolutionary American political debate was whether mankind are really capable or not of establishing good government "from reflection and choice" or are forever destined to depend for their political institutions on "accident and force".[1] As I understand it, the constitution devised by Hamilton and his associates was intended to be not only a product but a continuing embodiment of reflection and choice. Reflection and choice, rather than the implementation of momentary popular impulse, or the preservation of a given social order, or the enforcement of given scientific or religious views, were to be, so to speak, the essence of the American political process. It is this autonomy of reflection and choice and the autonomy of the practical science which reflects on reflection and choice that I want to use to give some focus to an inevitably partial examination of a vast and challenging literature. In the first section of the paper I shall consider briefly the development of an implicitly autonomous *scientia practica* which began in the 13th century. My thesis here will be that this development continued well into the 14th century - that Ockham's nominalism in particular represents an intensification of the pursuit of

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[1] Alexander Hamilton, James Madison, and John Jay, *The Federalist Papers*, introd. and commentary by Garry Wills (Toronto and New York: Bantam Books, 1982), numbers 1 (p. 2) and 9 (pp. 37-38).

rationality in morality and moral philosophy, not an authoritarian or positivist rejection of that project. In the remaining sections of the paper I shall be concerned with two sorts of doubts or difficulties regarding this project, two challenges to the autonomy of *scientia practica*. There are, first, the claims to priority that can be made on behalf of such speculative sciences as natural theology or philosophical anthropology. In my attempt to assess these claims, I shall come back in time to Thomas Aquinas. The autonomy of practical science can be challenged, however, not only by other sciences, but also, and more profoundly, it seems to me, by a wisdom transcending all science. In the final section of the paper I will take up this challenge as it is presented by St. Augustine.

1. *The Autonomy and Continuity of* Scientia Practica *in the 13th and 14th Centuries*

The 13th-century beginnings of Latin Aristotelian moral philosophy and the maturation of that enterprise in Thomas Aquinas have been well studied. The work of such scholars as Lottin and Gauthier continues to serve as a basis for research in this rich field, and recent German scholarship is exceptionally illuminating on the very nature of *scientia practica*. Georg Wieland's *Ethica - Scientia practica*[2] is a guiding light for further investigation of the early Latin commentaries on the *Nicomachean Ethics*, and Wolfgang Kluxen has admirably abstracted the principles of a genuinely philosophical ethics from the theological synthesis of St. Thomas.[3]

It is a special merit of Professor Kluxen's work, if I may say so, that it distinguishes Thomas's philosophical ethics from his moral theology in somewhat the same fashion as Aristotle marks off the objects of mathematics from the objects of natural science - in thought, that is, not in being. There is no suggestion, in other words, that St. Thomas actually *did* ethics in a purely philosophical way. The idea is, rather, that

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[2] Georg Wieland, *Ethica - Scientia practica: Die Anfänge der philosophischen Ethik im 13. Jahrhundert*, Beiträge zur Geschichte der Philosophie und Theologie des Mittelalters, Neue Folge, Band 21 (Münster: Aschendorff, 1981). And see now Anthony J. Celano, "Peter of Auvergne's Questions on Books I and II of the *Ethica Nicomachea*: A Study and Critical Edition," *Mediaeval Studies*, 48 (1986):1-110.

[3] Wolfgang Kluxen, *Philosophische Ethik bei Thomas von Aquin*, Zweite, erweiterte Auflage (Hamburg: Felix Meiner Verlag, 1980).

his use of philosophy as a servant of theology required that the servant have some genuine abilities in order to be of use. It is thus not possible to assemble 'the moral science of Thomas Aquinas' by copying out passages here and there from Thomas's writings. Yet by a method of disciplined reflection on Thomas's *Ethics* commentary and his theological works it is possible to arrive at some definite results as to the character a properly Thomistic and properly philosophical moral science would have.

On this reading of St. Thomas, it is theology which provides the systematic whole in which a philosophical ethics may be embedded. A purely philosophical Thomistic ethics would have access to objectively correct practical first principles. It would be able to develop a coherent account of the moral and intellectual virtues. It would be the scientific counterpart to - although not identical with - a true and truly moral prudence with regard to particular choices in the circumstances in which we find ourselves. It would thus, in the terms of this paper, articulate the essential characteristics of a life of reflection and choice. Yet such an ethics, apart from the theological context of creation and providence and without reference to the ultimate human good of supernatural beatitude, would necessarily have a certain incompleteness or openness to it. Far from being a defect, this openness would be a mark of scientific adequacy. From Thomas's standpoint, Aristotle is a more scientific ethicist in lacking a doctrine of beatitude than were the Averroists in positing a fulfilling union with the Intelligences in the conditions of the present life.

I want to pursue the relationship of Thomistic moral science to theology and other disciplines further in the next section of this paper, but first I would like to persuade you, if I can, that the history of medieval *scientia practica* is on the whole a continuous one from the 13th well into the 14th century - a continuous history, not in the sense that universally agreed on moral facts were gradually accumulated and added to the conclusions already reached by Aristotle and St. Thomas, but continuous in the sense that philosophically trained thinkers continued to reflect upon the problems of personal and social morality on the assumption that rational analysis and reflection were *relevant* to such problems. A chief objection to this thesis of a continuous history is that the leading movement in 14th-century philosophy, Ockhamism or nominalism, was opposed to the program of an autonomous rational *scientia practica* and instead regarded morality as irrational, willful, or

authoritarian. If this objection is correct, then such discussions of moral science as we find in this period, including Ockham's own quodlibetal affirmation that there indeed is a science of morals, would be contrary to the main intellectual trend of the time, and we should perhaps have to wait for the Thomistic revival of the 16th century for a legitimate continuation of the medieval Aristotelian project.

I will not attempt to depict William of Ockham as a Thomist. I would like to suggest, however, that the effect of Ockham's thought is to maintain - if not, indeed, to clarify and strengthen - the role of rational reflection and choice in human action.

Ockham's persistent emphasis on reason in ethics would be impossible to overlook, I think, were it not for our fascination with his occasional discussions of God's moral omnipotence, God's authority to command us to do things which apart from His command would be utterly irrational. This is not the place to assess the rational status of Ockham's version of divine-command morality.[4] For present purposes two points must suffice. First, Ockham himself held that loving God above all else and making God the end of all one's actions did in fact accord with right reason. Second, Ockham was by no means alone in holding that what would otherwise be murder, adultery, or theft - hence irrational and a violation of natural law - is not murder, adultery, or theft if done in obedience to a divine command. As is well known, the same position is taken by St. Thomas.[5] Ockham, like Thomas, believed that it was rational to obey divine commands. But he was like St. Thomas also in having much to say about morality apart from such commands.

If we are prepared to recognize it, we find that the demand for, and the analysis of, reflection and choice are recurrent themes in Ockham. Thus, for example,in a substantial question on the connection of the virtues Ockham argues strenuously that an actual exercise of right reason is required for virtuous action and that right reason in some degree must indeed be included in the object willed in a virtuous act.[6] To

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[4] For this and for much further illumination see Marilyn McCord Adams, "The Structure of Ockham's Moral Theory," *Franciscan Studies*, forthcoming. Also see Lucan Freppert, *The Basis of Morality According to William Ockham*, (Chigaco: Franciscan Herald Press, 1988).

[5] *Summa Theologiae*, IaIIae, qu. 94, art. 5, obj. 2 and ad 2.

[6] Ockham, *Principium Bibliae sive Quaestio de Connexione Virtutum*, *Opera Theologica*, cura Instituti Franciscani Universitatis S. Bonaventurae (St. Bonaventure, N.Y.: St. Bonaventure University, 1967-1984), 8:393-402.

act virtuously, it is not enough if I willingly do something which happens to be reasonable and which I remember thinking was reasonable yesterday. I must be actually aware that what I am doing is reasonable, and further, I must do it *because* it is reasonable. Yet more precisely, the 'right reason' because of which I act may be more or less a matter of principle, hence more or less rational, and this will affect both the grade or level of my virtue in a particular action and also the strength of the connection between my acting well on one occasion, or one sort of occasion, and my acting well on completely different occasions.[7] Thus, for example, peace may be the specific right reason for acting courageously on certain occasions, and if I am brave for the sake of peace in those cases I will be acting virtuously, but on Ockham's analysis I will be operating at a higher level of virtue if I practice courage precisely because *right reason dictates that* in those cases peace is to be sought by being courageous, and my habitual commitment to right reason as a principle will incline me to act as right reason dictates even on occasions when considerations of peace and courage are not directly relevant.

Such passages display both technical precision and moral sensitivity. The same can be said for Ockham's discussions of *praxis* and of the distinction between practical and speculative science, although here I must restrict myself to the technical aspect alone. Duns Scotus had extended the notion of *praxis* or behaviour to include volitions as well as overt action. Ockham characteristically tries to go Scotus one better by arguing that operations of the speculative intellect also count as *praxes* insofar as they are voluntary. This has the consequence, which Ockham is pleased to accept, that logic, grammar, and rhetoric become practical sciences, since these disciplines show us how to construct valid arguments, grammatical expressions, and persuasive speeches - and all of these constructions are *praxes*.[8] It does not follow, however, that every argument or expression is *practical*. Every science is a *praxis*, but not every science is practical. That is, every instance of scientific knowing is a *praxis* in the sense that it comes about because someone, with some more or less reasonable end in view, pursues it or engages in it. But what one knows *in* an act of scientific knowing determines whether the knowing is practical. This is to say that practical and speculative sciences

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7 Ibid., pp. 335-337 and 347-350.

8 Ockham, *Scriptum in Librum Primum Sententiarum Ordinatio*, *Prologus*, qu. 10, *OTh*, 1:280-285 and qu. 11, p. 316.

are distinguished in accordance with their 'objects', the propositions known in those sciences. If what we are engaged in knowing is a proposition directive of some operation within our power, then our knowledge is practical. If what we are engaged in knowing is not a proposition that either shows us how to perform an operation or directly or indirectly dictates some operation, then, although our knowledge is a *praxis*, it is not practical.[9]

Time does not permit discussion of the moral import of these distinctions, but in our day perhaps no argument is needed to show that insight into the fact that we are *doing* something when we engage in science must indeed have moral import. I might add here that the microscopic approach to human action exhibited in these passages is also characteristic of Ockham's political writings. In these, too, I would argue, the result is not irrational authoritarianism but a rather sober reasonableness.[10] All I would urge for present purposes is that at least in Ockham's case the equation of nominalism with divine or human moral positivism overlooks a great deal of *scientia practica*.

But if this is so - if Ockham does not provide an irrationalist foil to his great 13th-century predecessors - how are we then to describe the moral philosophy produced in the period when he was a leading influence in logic and metaphysics? Ockham is, of course, not the only legitimate orientation point if we would trace the shape of 14th-century moral philosophy, but he is a useful one. In my opinion, there is no simple answer to questions about his influence, as the example of John Buridan will attest.

If what I have said about Ockham is right, then the fact that a metaphysical and logical nominalist like Buridan does not espouse an ethic of unreflective obedience to arbitrary divine commands no longer shows that he was *not* influenced by Ockham in moral philosophy, but, of

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[9] Ibid., qu. 11, pp. 311-312 and 315. Besides qq. 10-12 of the prologue to the *Ordinatio* and the question *De Connexione Virtutum*, other Ockham texts on the nature of moral science include *Opera Theologica*, 4:507-522; 6:419-426; 8:143-149 and 281-284; and 9:176-178; on the grades of virtue also see *Dialogus*, part 1, bk. 6, chap. 77 in J. Trechsel, ed., *Opera Plurima* (Lyons: 1494-1496; reprint Farnborough, Hants., England: Gregg Press, 1962), 1, fol. 90^{rb}-90^{va}. Ockham's reduction of final causes to objects loved and willed by conscious agents (*Opera Theologica*, 8:98-155) must be read with the distinction between reasonable and unreasonable volition (as in the first passage cited in this note) clearly in mind.

[10] Arthur Stephen McGrade, *The Political Thought of William of Ockham* (Cambridge: Cambridge University Press, 1974).

course, neither does this show that he was influenced by him. The problem is further complicated by Buridan's intimation at the beginning of his questions on the *Ethics* that he will in effect suppress some 'new reasons', 'however plausible they may appear', in favour of older opinions, which have never led him astray.[11] Whose reasons and opinions does he mean? Buridan cites St. Thomas frequently and explicitly in this work, always, by my reckoning, in order to agree with him. On some questions, however, he takes positions which Ockham would have found more congenial than St. Thomas, and he concludes his defense of St. Thomas's position on the unity of speculative and practical intellect by invoking Ockham's razor. I have found no sign of Buridan's having read Ockham on the connection of the virtues, even when it would have been helpful for him to have done so. On the other hand, his extensive discussion of the beatific enjoyment of God, which has been cited as a good example of nominalist linguistic analysis, also shows an awareness of the central issues in Ockham's discussion of the same topic - yet Buridan does not resolve the question as Ockham does. He seems rather to back away from Ockham's solution. Could this be a case of following older views even where a later position appears more plausible?

With one striking exception, Buridan's questions on Aristotle's *Politics* are similarly mixed in relation to Ockham. Buridan is generally clear and analytic, and here and there he takes positions which Ockham would have found especially congenial, but for the most part his political thought is neither markedly pro- nor anti-Ockhamist. The one exception is his fifth question on Book VIII of the *Politics*, where he asks whether

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11 *Iohannis Buridani ...Quaestiones in Decem Libros Ethicorum Aristotelis ad Nicomachum* (Oxford: Excudebat I.I., Impensis Hen. Cripps, Ed. Forrest, Hen. Curtayne, and Ioh. Wilmot, 1637), pp. 1-2: "...sententiis & auctoritatibus doctorum antiquorum, magis quam novis rationibus, etiam quantumcunque mihi apparentibus, adhaerebo. Pluries enim me inveni deceptum rationibus noviter emergentibus, antiquorum autem sententiis nunquam, specialiter in moralibus." Discussed by Edmond Faral, *Jean Buridan, Maître ès Arts de l'Université de Paris*, Extrait de l'Histoire Littéraire de la France, Tome 28, 2e Partie (Paris: Imprimerie Nationale, 1950), pp. 122-123. See also James J. Walsh, "Nominalism and the *Ethics*: Some Remarks on Buridan's *Commentary*," *Journal of the History of Philosophy*, 4 (1966):1-13. I regret that the following came to my attention too late for consideration in this paper: James J. Walsh, "Buridan on the Connection of the Virtues," *Journal of the History of Philosophy*, 24 (1986): 453-482; Gerhard Krieger, *Der Begriff der praktischen Vernunft nach Johannes Buridanus*, Beiträge zur Geschichte der Philosophie und Theologie des Mittelalters, Neue Folge, Band 28 (Münster: Aschendorff, 1986).

it is expedient for the whole world to be subject to one secular ruler.[12] Here his arguments for and against world monarchy are taken wholesale from Ockham's treatment of the same question, and his resolution of the question substantially overlaps Ockham's. Seven of the eight arguments Buridan advances on the affirmative side are virtually verbatim excerpts from the rather down to earth reasoning deployed by Ockham for this position in the Third Part of his *Dialogus*,[13] and all four of Buridan's negative arguments are similarly drawn from Ockham. On neither side of the question, however, does Buridan use all of Ockham's arguments, and he does not develop any of them as fully as Ockham does. Furthermore, although he agrees with Ockham that the expediency of secular world monarchy varies with times and circumstances, he is less willing than Ockham to endorse the legitimacy of Christians and non-Christians participating in the same political community - his position on this matter is drawn from St. Thomas.[14]

Ockham and Buridan are not the 14th century. I have focussed on them in order to underline the continuity and the variety of philosophical reflection about reflection and choice in this period. Ockham was no Thomist, but neither was he a moral positivist. Hence Buridan's rational approach to philosophical ethics was by no means inconsistent with his nominalism on speculative questions - but neither were his positions in moral philosophy simple derivations from Ockham. Question by question comparisons suggest a common commitment to the analysis of a wide range of positions and arguments and a basic consensus with regard to moral values, but little in the way of ideological allegiance to a single philosophical analysis or justification of those values. I believe that a wider survey would confirm this account. Vigorous activity is to be found in moral philosophy in the mid-14th-century, and this activity can properly be described as *scientia practica*. It is not the case that a single abstract *system* of rational morality was built up, and this may be disappointing if our model for moral science is the second part of the *Summa Theologiae*. As we have seen, however, it can be argued that the systematic character of St. Thomas's moral doctrine owes more to

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12 Johannes Buridan, *Quaestiones super Octo Libros Politicorum Aristotelis* (Paris: 1513; repr. Frankfurt: Minerva G.M.B.H., 1969).

13 Ockham, *Dialogus*, Part 3, Tract 2, bk. 1, chaps. 1 and 2, *Opera Plurima*, 1, fols. 230^{rb}-232^{rb}.

14 *Summa Theologiae*, IIaIIae, qu. 10, art. 9.

theological context than philosophical method. At any rate, if we think of science as the rational investigation of inherently problematic questions, then lack of consensus on a single moral-philosophical system may not seem troublesome, and the free pursuit of alternative lines of inquiry will appear as an expression of autonomous scientific reason, not a collapse into relativism. Mid- and late 14th-century anti-Pelagianism can certainly be seen as a reaction against the self-confidence of human *recta ratio*, yet an appreciation of Aristotelian *scientia practica* and an analytical approach to the understanding of human action is to be found even in such *doctores gratiae* as Gregory of Rimini, Thomas Bradwardine, and John Wyclif, while the unparalleled involvement of philosophically trained thinkers in the political controversies of the day indicates a common assumption that a rational approach to such matters was logically possible and could be practically effective.[15] I conclude, therefore, to draw this section of my argument to a close, that the 13th and 14th centuries *together* constitute a significant unit in the development of an implicitly autonomous *scientia practica*.

This conclusion occasions a doubt, however, the first of the two doubts or difficulties I want to consider regarding the autonomy of rational morality. St. Thomas discussed the virtues in the context of a natural theology and philosophical anthropology in which the existence and many of the attributes of God, as well as the subsistent immateriality, immortality, and metaphysical unity of the human soul, could be scientifically demonstrated. While the conclusions of these demonstrations continued to be held by faith in the 14th century, the demonstrations themselves came under heavy criticism. Does this not suggest that there

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[15] Alan Gewirth's exposition of the *Defensor Pacis* as containing a substantially coherent political philosophy (*Marsilius of Padua and Medieval Political Philosophy*, New York Columbia University Press, 1951) was greeted with some incredulity by scholars used to thinking of Marsilius's ferocious anti-papalism as an amalgam of any notions that might serve a ruling laicist passion, but it has subsequently been argued that Marsilius actualized the true secularist potentialities of Aristotle's *Politics* (Walter Ullmann, *Principles of Government and Politics in the Middle Ages*, London: Methuen and Co., 1961). Marsilius's opposition to hierocratic political ideas need not be taken as anti-Christian, but whether medieval peace was defended or in fact attacked by Marsilius, the use of Aristotelian ideas by such thinkers as Ockham and Oresme represents a noteworthy attempt to understand contemporary problems by the application of *scientia practica*. Maistre Nicole Oresme, *Le Livre de Politiques d'Aristote*, ed. Albert Douglas Menut, Transactions of the American Philosophical Society, New Series, Vol. 60, Part 6 (Philadelphia: The American Philosophical Society, 1970). Susan M. Babbitt, *Oresme's "Livre de Politiques" and the France of Charles V.* Transactions of the American Philosophical Society, New Series, Vol. 75, Part 1 (Philadelphia: The American Philosophical Society, 1985).

was, after all, a radical interruption in the history of *scientia practica*? If nominalist criticism did not involve a direct attack on the rationality of morality, may it not still be the case that nominalism deprived morality of a necessary metaphysical basis for its rationality by sapping its speculative foundations?

2. *Practical Science and Speculative Science*

This suggestion fits well with a traditional view of Thomistic natural law as a system of obligations deriving its content from our God-given human nature and having imperative force because of God's will that we live up to the nature He has given us. On this view, which has been found in such leaders of the 16th-century Thomistic revival as Vitoria, Vazquez, and, most influentially, Suarez, we might expect that in a period critical of natural theology and philosophical anthropology, there should also be an ultimately corrosive lack of systematic order in moral philosophy, stemming from a lack of metaphysical foundations.

One of the most interesting recent developments in Anglo-American philosophical ethics is the challenge to this view of Thomistic moral philosophy posed by Germain Grisez and John Finnis in their presentation of Thomistic natural law as an ethics of practical reason not resting on speculative principles concerning God or on facts about human nature.[16] Like Professor Kluxen, Grisez and Finnis place great emphasis on Thomas's appropriation of Aristotle's distinction between practical and speculative reason, but their concern with the Anglo-American Humean philosophical *topos* of 'is' and 'ought' produces such sharp formulations of this distinction as to make some critics imagine that they have turned St. Thomas into a mere Kantian. What are we make of this debate, which is so directly relevant to the theme of an autonomous *scientia practica*?

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16 Germain G. Grisez, "The First Principle of Practical Reason," *Natural Law Forum*, 10 (1965):168-196. Reprinted in an abridged version in Anthony Kenny, ed., *Aquinas: A Collection of Critical Essays* (Notre Dame, Indiana: University of Notre Dame Press, 1976; 1st ed. Doubleday Anchor Books, 1969). John Finnis, *Natural Law and Natural Rights*, Clarendon Law Series (Oxford: Clarendon Press 1980, repr. with corrections 1982); criticism of 16th century theories, pp. 42-48 and 54-55. Ralph McInerny, "The Principles of Natural Law," *American Journal of Jurisprudence*, 25 (1980):1-15. John Finnis and Germain Grisez, "The Basic Principles of Natural Law: A Reply to Ralph McInerny," *American Journal of Jurisprudence*, 26 (1981):21-31.

Enucleating Thomas's conception of practical reason from the theological and anthropological context in which he actually presented it is a delicate operation. Thomistic moral philosophy as St. Thomas presented it is a part not only of a theological synthesis in which every human action is ordered to the attainment of eternal beatitude but also of a metaphysical and natural-scientific synthesis which seems to make a teleologically construed, divinely ordered human nature the inevitable presupposition even for an ethics of this present life. By the time we have reached the second part of the *Summa Theologiae* the conception of the good as fulfillment of inherent potentialities is well entrenched in an overall vision of creation and providence which suggests quite readily that a rational, moral human life consists of satisfactorily performing a naturally and divinely preordained task. Furthermore, in virtue of being promulgated in the Decalogue natural law *does* in fact have the status of a set of divine commands for St. Thomas. It would seem, then, that there is a more than ample basis for the Suarezian interpretation.

And yet the texts appealed to by the revisionists are also there before us in the same *Summas*. The first precept of natural law - 'good is to be done and pursued and evil to be avoided' - really is presented as the first, underived, *self-evident* principle of practical reason, a governing principle for practical reasoning on a par with the principle of non-contradiction in speculative reasoning. To my knowledge, St. Thomas never formally pronounced upon the validity of natural law if, *per impossibile*, there were no God.[17] Yet since he held that the existence of God was not self-evident but must either be demonstrated (and that with difficulty) or else held on faith, it seems clear that - notwithstanding the theological order of his presentation and notwithstanding the 'positive' confirmation of natural law in the Decalogue - Thomas would grant that natural law does in principle have a standing independent of theistic assumptions.

The possibility of a Thomistic *scientia practica* independent of a determinate view of human nature is considerably less obvious. St. Thomas

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17 Gregory of Rimini towards the middle of the 14th century addressed the matter briefly in explaining why he defined actual sin as voluntarily doing or omitting something 'contra rectam rationem' instead of 'contra rationem divinam': "Nam, si per impossibile ratio divina sive deus ipse non esset aut ratio illa esset errans ... adhuc, si quis ageret contra rectam rationem angelicam vel humanam aut aliam aliquam, si qua esset, peccaret." *Gregorii Ariminensis OESA Lectura super Primum et Secundum Sententiarum*, 6, ed. A. Damasus Trapp OSA and Venicio Marcolino (Berlin and New York: Walter de Gruyter, 1980), p. 235, commenting on Bk. 2, dists. 34-37, qu. 1, art. 2.

argues at several places that certain ends are naturally *conveniens* or *connaturalis* to us and that we have a natural capacity for apprehending those ends. In acquiring the various moral virtues we develop and refine this natural grasp of what is truly agreeable or suitable to us, and it is in this way that practical reason gains a clearer view of the particular goods it is to do and pursue. It seems, then, that a determinate view of human nature is an integral part of Thomistic moral philosophy, not only a background for the historical presentation of that philosophy but an essential foundation for it.

Alan Gewirth, no stranger to medieval philosophy, has recently objected to Thomistic natural law on precisely this ground.[18] Gewirth distinguishes here between St. Thomas and Aristotle. Aristotle, unlike St. Thomas, recognized how very difficult it is to reach an adequate definition of a thing's essential nature. Accordingly, Aristotle located the human good in actions and habits approved of by *reason*, rather than in the fulfillment of natural tendencies and the curbing of unnatural or perverse ones. St. Thomas, on the other hand, reasoned from a view of ideal human nature which is debatable in itself and arbitrarily leaves aside, as unnatural, human tendencies which are morally dubious but arguably innate.

I am not the ideal *respondens* for St. Thomas to reply to Alan Gewirth as *opponens*, but I am reluctant to concede that St. Thomas's moral philosophy essentially depends on a problematic view of human nature. To be sure, as a theologian and philosophical anthropologist Thomas holds views about the ontological status and ultimate possibilities of human action which greatly affect his treatment of morality. He does indeed think he knows what human beings at bottom are and what they may finally attain to, and he seeks to determine the significance of what we do in the context of those views. Yet there are passages which show a recognition on St. Thomas's part that from the viewpoint of a moral agent human nature is not a directly given norm for human action. These passages suggest that in the practice of morality and in the philosophical reflection on that practice with which we are concerned this morning, the discovery of our nature might come at a relatively late stage.

In article 1 of question 63 of the *Prima Secundae* St. Thomas asks whether we have any virtuous habits by nature. Following Aristotle, he

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[18] Alan Gewirth, "The Ontological Basis of Natural Law: A Critique and an Alternative," *American Journal of Jurisprudence*, 29 (1984):95-121.

holds that, strictly speaking, we do not, but - here, too, following Aristotle - he observes that individuals vary considerably in temperament from birth in ways facilitating or impeding the acquisition of various virtues. It seems evident from this discussion (and from *IaIIae*, q. 94, a. 4, obj. 3 and ad 3) that we cannot simply read off what is 'natural' in the normative sense from our own *individual* inclinations, however basic.

More broadly relevant is Thomas's discussion of sensuality in question 91 of the *Prima Secundae* (art. 6). His problem as a theologian at this point is to understand how a human propensity to behave like irrational animals fits into an overall rational order of things. In this passage he takes it as given that we do in fact have an innate propensity for being strongly attracted by objects or goals which do not accord with our best reflective judgments. While Thomas's description of the radical evil in our empirically encountered human nature does not accord in detail with the nihilism of a Callicles or a Nietzsche, this passage leaves room in principle for as much congenital irrationality in human beings as any opponent of natural law could desire. To be sure, as a Christian theologian St. Thomas has a doctrine of original sin, and thus he can distinguish between a pristine human nature and the condition to which we all find ourselves born, but such a distinction is surely no part of moral philosophy. In any case, just as an individual may come to realize that he or she has irrational innate impulses, so we as a species in history may come to a similar recognition.

Such passages suggest an understanding of connaturality which differs from the understanding of the concept implicit both in the traditional interpretation of natural law and in Gewirth's criticism. St. Thomas does not assume, it seems to me, that we begin our moral deliberations with a direct intuition of our underlying or ideal essential nature, on the basis of which we can assess actions as agreeing or disagreeing with that nature. We do not start out by intuiting what our potentialities and their fulfillments are and then conclude that we ought to do and pursue the latter and avoid 'unfulfilling' results. In order to act rationally, we do indeed need to know what is possible for us, but the judgment that a given possibility is a fulfillment rather than a frustration of our human nature, comes *after* the judgment that the action is a good one for us to perform. In other words, instead of reading St. Thomas as holding that we apprehend an action or an end as connatural and *therefore* to-be-pursued, connaturality is better understood

as a metaethical concept useful for describing after the fact what goes on when we grasp something as a good, as an end suitable to serve as a starting point for practical reasoning.

St. Thomas is indeed committed to the view that judgments about goods and evils are objectively true or false, and he carries this commitment through even to judgments about those ideal goods which, as Gewirth observes, are highly debatable. But while Thomas might well concede that the debatability of a good is a reason for not prescribing it in our legal codes or demanding it as a categorical moral obligation, he would not see this as a basis for dropping it from ethics.[19] In summary, then, the doing and pursuing of good is for St. Thomas an inherently valid and rational human project, but one which need not set out from a given speculative framework (*contra* a traditional view of Thomism) and need not be limited in its rationality to ends which are so closely tied to the necessary conditions for human action itself as to be logically undeniable by any agent at any time.

I conclude, therefore, that the philosophical ethics contained as a potential part within the Thomistic synthesis is separable in principle not only from the supernatural context of Christian revelation but from the contexts of the speculative-scientific disciplines of natural theology and philosophical anthropology. In thus suggesting that the first difficulty about the autonomy of moral science can be met from a Thomistic standpoint, I do not at all mean to advocate indifference to the questions about human nature and ultimate reality discussed in those other disciplines. On the contrary, I would suggest that those questions are more fruitfully posed when the openness or incompleteness of our common moral experience is respected. The truth about God, freedom, and immortality is best pursued when affirmative views on these subjects are neither required as a precondition for moral discourse nor spun out as postulates of a supposedly purely rational morality.

But this brings us to the second and more fundamental difficulty about the autonomy of practical science - a difficulty, indeed, about the autonomy of science in general. If there is not a sufficient basis in Thomas himself for the Suarezian perception of natural law as *essentially* a matter of comparing possible actions with our known nature and paying heed to the commands of a divine superior, is there some other basis for

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[19] As Grisez and Finnis emphasize, the scope of Thomistic practical reason is broader than the domain of strict legal or moral obligation.

such a perception? To answer this question we must, I think, go beyond the bounds of *scientia practica* to consider a philosophical tradition oriented not around science but towards wisdom.

3. *Science and Wisdom*

The tradition I refer to is that of St. Augustine. It is clear enough on the level of broad generalities that we have here an alternative to the autonomous *scientia practica* we have so far considered. Instead of an implicitly autonomous science of practical reason, Augustine champions a wisdom grounded in humility before the eternal source of a rational human nature which is lost to itself just because of its autonomy. Only the contemplation of eternal things is wisdom in this account, and only in the light of such wisdom can we have a science of rightly using temporal things instead of a vain curiosity that inflates and degrades us. The alternatives of pride and humility in relation to God our creator dominate virtually every page of the *City of God*. Equally important, however, is the alienation from self following the Fall, a derangement of our very nature. The just punishment of rejecting free servitude to God is that we are no longer masters of ourselves.

I should say at once that I am not primarily concerned to argue for a direct, conscious acceptance of this Augustinian framework by Suarez and others as a basis for their version of natural law. The situation here is complicated. Although Suarez, for example, refers to Augustine dozens of times in his discussion of natural law, he does not cite him on the question before us, and he was indeed opposed to *sola gratia* and predestinarian theological positions which the protestant reformers derived in part from their reading of Augustine. One could also argue that a readiness to take it as axiomatic that all obligation must be grounded in some sort of relation of superior to inferior has a wholly unphilosophical basis in this period. The disintegration of the western church in the 16th century, combined with the strengthening of national political units, posed the question of political obedience in an especially acute form. In these circumstances, the transformation of Thomistic moral philosophy into a theory of sovereignty and obedience should be no more surprising than the emergence of such secular sovereignty theories as those of Bodin and Hobbes.

On the other hand, Augustine was increasingly in the air from the mid-14th century onwards, not only residually, as a source of authoritative citations to support positions arrived at by other means, but as a resurgent inspiration for personal spiritual quests and, more surprisingly, as W.J. Bouwsma has argued for the Renaissance,[20] as an inspiration for positive, constructive efforts in politics. But whatever the situation may be with regard to conscious influence, I would urge that Augustine is our own best way of understanding how these thinkers (or anyone else for that matter) could take so completely for granted a hierarchical ordering of the moral universe which would not have seemed self-evident to St. Thomas and would seem quite problematic to most philosophers today.

As I have argued above, I do not think that this is an appropriate starting point for an Aristotelian practical science. But what does follow for moral science if one begins with Augustine instead of simply reflecting on reflection and choice? What would an Augustinian political science or ethics look like, and how would such a *derived* political science or ethics comport with the autonomous moral philosophy of Aristotle and his medieval appropriators?

Augustine himself provides us with a formula for answering these questions in the distinction between wisdom and science in the *De Trinitate* to which I have already alluded. Wisdom, *contra* Cicero, is not the science of things divine and human but only the contemplation of things divine. Temporal matters are to be dealt with by science - by science instrumentally conceived as knowledge of how to *use* temporal things in the light of wisdom.[21] If we attempt to use this formula to derive Augustinian scientific prescriptions for the use of temporal things, however, the result is at first quite baffling. It would take far longer than the vanishing space of time remaining in this paper to sketch even in outline the major interpretations of Augustine's views on the matters that concern us, but it will be useful to give a brief indication of the

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20 William J. Bouwsma, "The Two Faces of Humanism: Stoicism and Augustinianism in Renaissance Thought" in Heiko A. Oberman, ed., with Thomas A. Brady, Jr., *Itinerarium Italicum: The Profile of the Italian Renaissance in the Mirror of its European Transformation* (Leiden: E.J. Brill, 1975), pp. 3-60; pp. 12 and 51-52. While Stoicism theoretically called for dutiful involvement in a public order which, theoretically, mirrored a rational cosmic order, it in fact encouraged contemplative withdrawal. By contrast, while Augustinianism recognized the patent unintelligibility (to us) and the pervasive sinfulness of human affairs, its profoundly social orientation demanded caring yet pragmatic attention to secular needs and institutions.

21 *De Trinitate*, 12.14.22, *PL* 42:1009; 12.15.25, *PL* 42:1012; 14.1.3, *PL* 42:1037.

range of interpretations. I hope you will forgive the kaleidoscopic character of the following recital. It does not do justice either to Augustine or to his interpreters, but it is important, I think, that we have clearly in mind the diversity of implications for practice which Augustine has seemed to offer.

The thirteen relatively recent assessments which follow may serve as a sample of that diversity. I present these interpretations in the order of constructive practical import which they find in Augustine, beginning with readings in which he is found to have had quite considerable *negative* effects on practice and concluding with interpretations in which he provides inspiration for more or less radical efforts to transform the world for the better. In the middle are studies which propose in essence that Augustine correctly perceived the practical hopelessness of morally legitimate constructive action in the conditions of this life.

To begin at the negative end of the range, then, Augustine's contribution to the disgraceful history of Christian anti-semitism, while not as flagrant as that of John Chrysostom, is nonetheless substantial in Rosemary Ruether's account,[22] and Elaine Pagels finds Augustine's doctrine of original sin to be in sharp and unfortunate contrast with earlier patristic tradition (including especially John Chrysostom), in which human autonomy is affirmed rather than diminished.[23] For Hans Blumenberg this same doctrine of original sin is a mistaken solution to the problem of evil, a solution from which humanity has freed itself only in the modern age through the assertion of theoretical curiosity.[24] For Pagels the Augustinian move from autonomy to obedience as a spiritual ideal is part of an accommodation of the Church to its newfound legal domicile in the Roman Empire. The break with an earlier anti-statist tradition of the north African church which this accommodation involved is signalled by Augustine's rejection and eventual persecution of the

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22 Rosemary Radford Ruether, *Faith and Fratricide: The Theological Roots of Anti-Semitism* (New York: The Seabury Press, 1974), pp. 173-174.

23 Elaine Pagels, "The Politics of Paradise: Augustine's Exegesis of Genesis 1-3 versus that of John Chrysostom," *Harvard Theological Review*, 78 (1985):67-99.

24 Hans Blumenberg, *The Legitimacy of the Modern Age*, trans. Robert M. Wallace (Cambridge, Massachusetts and London: MIT Press, 1983), pp. 127-136.

Donatist church, an episode on which W.H.C. Frend has focussed attention.[25]

Instead of being negative about Augustine, however, others are inclined to accept Augustine's own negativity about the present life, this life, if one can call it that, which testifies with its evils that we mortals have been damned from our origin.[26] Augustine takes for granted as an ordinary part of such a life the necessity of judicial torture.[27] His bleak view of what is demanded of those who would maintain some degree of order in public life suits him to be a mediator between Christ and Machiavelli, as in Giuseppe Prezzolini's *Cristo e/o Machiavelli*.[28] Or if the *City of God* provides no positive support for the darker side of earthly politics, it will still offer but little encouragement for practical reason in this life if its vision of human and angelic community in the enjoyment of God is interpreted purely eschatologically, as by Wilhelm Kamlah.[29]

For such scholars as Joseph Ratzinger and R.A. Markus, the concepts of the sacramental or of the Augustinian *signum* offer a way of recognizing the holiness of the Church and its mission in this world, while avoiding the ideological delusion of secular utopianism.[30] A less ecclesial but similarly positive inspiration is found by Étienne Gilson in *Les métamorphoses de la Cité de Dieu*, a work in which Augustine appears as the most relevant of all political thinkers for a world inevitably

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25 For a survey of research following Frend's *The Donatist Church* (Oxford, 1952), see R.A. Markus, "Christianity and Dissent in Roman North Africa: Changing Perspectives in Recent Work" in Derek Baker, ed., *Studies in Church History*, 9, *Schnism, Heresy and Religious Protest* (Cambridge, 1972), pp. 21-36, repr. as selection 8 in R.A. Markus, *From Augustine to Gregory the Great: History and Christianity in Late Antiquity* (London: Variorum Reprints, 1983).

26 *De Civitate Dei*, Bk. 22, chap. 22.

27 *De Civitate Dei*, Bk. 19, chap. 6.

28 Giuseppe Prezzolini, *Cristo e/o Machiavelli* (Milan: Rusconi Editore, 1971).

29 Wilhelm Kamlah, *Christentum u. Selbstbehauptung, historische u. philosophische Untersuchungen zur Entstehung des Christentums u. zu Augustins 'Bürgerschaft Gottes'*, Zweite, neubearbeitete und ergänzte Auflage (Stuttgart and Cologne: W. Kohlhammer, 1951), p. 339.

30 Joseph Ratzinger, *Die Einheit der Nationen: Eine Vision der Kirchenväter* (Salzburg-München: Anton Pustet, 1971). Ratzinger distinguishes his sacramental view from Kamlah's eschatological interpretation in "Herkunft und Sinn der Civitas-Lehre Augustins," *Augustinus Magister* (Paris: Études Augustiniennes, [1954?]), 2:965-979. R.A. Markus, *Saeculum: History and Society in the Theology of St. Augustine* (Cambridge: Cambridge University Press, 1970), pp. 154-186.

destined to become a global community.[31] The discovery in Augustine of concrete positive implications for culture or civilization in the present life sometimes emerges from a study of his radical break with classical culture, as in the work of Henri-Irénée Marrou, who found that Augustine was the first among the church fathers to recognize the full meaning of the decadence of his time. Accordingly, he devoted himself to the total reconstruction of culture on a new plane.[32] A more politically oriented yet philosophically and theologically acute presentation of the same combination of clear perception of morbidity in the classical empire and the projection of a new order of human relationships based on adherence to God is to be found in C.N. Cochrane's *Christianity and Classical Culture*.[33] But one need not immerse oneself in the decline of Rome to find positive significance for our time in St. Augustine. Francesco Cavalla has argued persuasively that the hollowness and inauthenticity of modern life call directly for the recovery of an interiority, dialogue, and genuine intersubjectivity of truth and value to which Augustine preeminently points the way.[34] Finally, Augustine has been pressed into the service of liberation theology by those who take his account of what human life might be like at its best as directly relevant to their revolutionary struggle against the imperialism of our time.[35]

It seems that, hermeneutically speaking, Augustine brings not peace but a sword. Given this range of interpretations, how shall we understand him, and what shall we say about the challenge posed by Augustinian wisdom to the autonomy of *scientia practica*? In the climate of modern philosophy, there is some temptation to reject any whole-hearted and single-minded orientation to the transcendent, a temptation to argue that Augustinian contemplation of eternal things leads not to a consistent

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31 Étienne Gilson, *Les métamorphoses de la Cité de Dieu* (Louvain: Publications universitaires de Louvain/ Paris: Libraire Philosophique J. Vrin, 1952).

32 Henri-Irénée Marrou, *Saint Augustin et la fin de la culture antique* (Paris: E. De Boccard, 1937), p. 356.

33 Charles Norris Cochrane, *Christianity and Classical Culture: A Study of Thought and Action from Augustus to Augustine*, rev. ed. (London-New York-Toronto: Oxford University Press, 1944), pp. 500-501.

34 Francesco Cavalla, *Scientia, Sapientia ed Esperienza Sociale*, 1:*La ricerca della Verità come fondamento del pensiero giuridico-politico di S. Agostino*, 2:*Le due città di S. Agostino: società, diritto e giustizia* (Padua: Cedam, 1974).

35 Richard Shaull, *Heralds of a New Reformation: the Poor of North and South America* (Maryknoll, New York: Orbis Books, 1985), p. 66.

moral science but to an unlimited clash of moral and in some cases immoral opinions. That is not the conclusion I would draw.[36]

Although it will not provide an easy solution to our problem about the autonomy of practical reason, I believe that it will help us to live with that problem and come to grips better with Augustine, if we take seriously both parts of the philosophical identifying label most frequently applied to him: Christian Platonist. The contrasting depictions of the human condition, which are a major source of the divergences in interpreting his writings, stem from a Platonic vision of pure Forms, relative to which historical reality is itself a mass of contradictions. In writing *de finibus bonorum et malorum* - on the limits of goods and evils - Augustine confronts a range of ideal human possibilities for good or evil which goes beyond the bounds of ordinary experience. At the same time his faith in the Incarnation makes him see these eternal possibilities with a vividness and a sense of direct relevance to present experience which sharply separates him from his Platonic and Neoplatonic predecessors. Above all, God's personal call for total devotion gives every action and every human relationship a potentially infinite weight in relation to eternity.

If this brief reflection on Augustine's character as a Christian Platonist helps us to understand somewhat better the range of plausible interpretations of his writings, it does not provide an easily negotiable relationship between Augustinian wisdom and a single, objective, reasonable moral science. Augustine has been the inspiration for a whole host of more or less fully developed ethical and political theories, but no one specific interpretation of his thought can reasonably claim to be the uniquely derivable moral-scientific consequence of Augustinian contemplation, for each such claimant is subject to objections from all the others. Yet neither can we put all the interpretations together: any 'balanced' or 'moderate' interpretation of St. Augustine is false on the face of it, for Augustine is nothing if not radical. He is thus even more challenging than Plato, for he is like Plato in eluding specific interpretation but more

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36 The extraordinary overall unity of the *De Civitate Dei* is shown in Jean-Claude Guy's lucid study, *Unité et structure logique de la "Cité de Dieu" de saint Augustin* (Paris: Études Augustiniennes, 1961). For the interlocking of Augustine's terminology in the crucial discussion of peace in Book 19 with that of his more technical works, see Joachim Laufs, *Der Friedensgedanke bei Augustinus: Untersuchungen zum XIX. Buch des Werkes De Civitate Dei*, Hermes, Zeitschrift für klassische Philologie, Einzelschriften-Heft 27 (Wiesbaden: Franz Steiner Verlag, 1973).

insistent than Plato that we make the attempt to interpret him nonetheless.

So far as the attempt to state a *systematic* relation of Augustinian wisdom to *scientia practica* is concerned, we are, I think, at an impasse. The contemplation of eternal things and the love of God do not relieve us of the responsibility of thinking for ourselves and acting accordingly. In this sense, practical reason, whatever the personal inspiration of those who engage in it, must proceed on its own principles. There is no rational alternative. Hence, to the extent 16th-century Thomism did indeed regard natural law itself as something received from above in the manner of a command from a superior, I believe it was in error. Yet this does not at all invalidate Augustine's account of the circumstances or basic conditions in which we do in fact exist, live, and think. Augustine holds that we cannot in fact think for ourselves or rule ourselves except by the grace of God. Acknowledgement of this situation is the beginning of wisdom. Rejection of whatever awareness we may have of this situation is incapacitating. So far as I can see, nothing in the principles or legitimate conclusions of practical reason counts against this position.

Conclusion

My own conclusion, therefore, is that the relationship of wisdom to moral science is both extraordinarily important and extraordinarily difficult to get right. This conclusion will no doubt strike the present audience as a pretty obvious one, yet it is not so obvious to the world at large, and hence it may deserve some closing emphasis with a suggestion of contemporary relevance. Let us observe, then, that late medieval thinkers were most definitely able to think for themselves - but they were able to think for themselves in large part because of the culture in which they lived, a culture built up on liberating as well as repressive Augustinian principles. More recently, when Alexander Hamilton and his associates proposed as an alternative to accident and force a government the essence of which was reflection and choice, they recognized an underlying religious consensus as an important factor favoring the success of their proposal, a factor no less important for not being formally

incorporated in the processes of secular politics.[37] More recently still - and more philosophically - Wittgenstein held that Augustine was not in error when he invoked God on every page of the *Confessions*, "except where he formulated a theory."[38] We may do well to substitute 'science' for 'theory' in this dictum and to say accordingly that Augustine was not in error when he exploited the *topos* of pride and humility before God on every page of the *City of God*, except when he attempted to derive from this relationship a science of living. Perhaps Augustine himself, despite many appearances to the contrary, was not committed to such derivations. Perhaps the whole tradition of *augustinisme politique*, in which it is especially important for this congress to include the great 13th-century Augustinian technocrat, Roger Bacon, rests on a misunderstanding of Augustinian principles.[39] In any case, it is surely a perilous undertaking to apply the *City of God* directly to the problems of personal or social morality, and it is especially perilous - perilous to the point of fanaticism - to make such applications under the impression that one is being scientific in doing so. Yet it is also perilous - and perilous also to the point of fanaticism - to suppose in the name of science that there is no point to the quest for wisdom. To bring back the Middle Ages, in the sense of making our morality and our legal institutions unfold as directly as possible from an officially endorsed code of spiritual values, is not, I think, a project most medievalists would endorse. On the other hand, to relegate the alternately imperceptible and overwhelming eternal things contemplated in Augustinian wisdom to the realms of historical curiosity or personal fantasy, as most intellectuals do today, makes no sense at all.

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37 The importance of both material conditions and a common religious tradition was recognized by John Jay in Federalist Paper no. 2 (*The Federalist Papers*, ed. cit. in n. 1, p.7).

38 From Wittgenstein's "Bemerkungen über Frazer's 'The Golden Bough'", as quoted by Herbert Spiegelberg, "Augustine in Wittgenstein," *Journal of the History of Philosophy*, 17 (1979):319-327; p. 323.

39 R.A. Markus has argued (*Saeculum*, pp. 152-153) that the sort of political Augustinianism implied in the notion of constraining public law and morality to unfold from theology shows a misunderstanding of the fundamental theological structures of Augustine's thought and (pp. 174-176 and 211-230) that it is rather the Christianized Aristotelianism of St. Thomas which provides a rationale for the deliberate religious shaping of society. Professor Markus concedes, however, that his interpretation of Augustine involves not remaining content with what Augustine actually said about the duties of Christian rulers and subjects.

Augustine, in part just because he is so disturbing, remains a vital resource for us all.[40]

It may be that one or another 13th- or 14th-century thinker offers us a correct and systematic statement of the relationship between science and wisdom, but until that is demonstrated I would propose that the distinctive and great value of medieval moral philosophy lies not so much in any achieved system as in the *uneasiness* of its combination of immanent *scientia practica* with an authentic response to the transcendent. Even if the two approaches in moral philosophy should remain forever incommensurable in theory, the medieval period at its best exhibits an exceptional vitality in practice - and especially in the practice of disciplined reflection and argument. In their own struggle against accident and force, medieval thinkers may show us, even if they cannot fully explain to us, how reflection and choice may live with providence and grace.

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[40] Some recent studies which come to grips with difficult aspects of Augustine's thought: Margaret Ruth Miles, *Augustine on the Body*, American Academy of Religion Dissertation Series, ed. H. Ganse Little, Jr., No. 31 (Missoula, Montana: Scholars Press, 1979) and Peter Brown, *Augustine and Sexuality* (Berkeley, California: The Center for Hermeneutical Studies in Hellenistic and Modern Culture, 1983).

SYMPOSIUM
ON THE THEORETICAL AND PRACTICAL AUTONOMY OF PHILOSOPHY AS A DISCIPLINE IN THE MIDDLE AGES

LINOS G. BENAKIS

Die theoretische und praktische Autonomie der Philosophie als Fachdisziplin in Byzanz

Im Referat werden folgende Grundeinsichten zur Thematik vertreten, gestützt auf die Ergebnisse der neueren Forschung im Bereich der Byzantinistik.[1]

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[1] Literatur zum Thema: Λ.Γ. Μπενάκης, "Ἡ σπουδή τῆς Βυζαντινῆς Φιλοσοφίας. Κριτική ἐπισκόπηση 1949-1971": Φιλοσοφία (Athen) 1 (1971) 390-433 (Deutsche Zusammenfassung: Byzantinische Philosophie. Forschungsbericht 1949-1971). - P. Lemerle, *Le premier humanisme byzantin*. Notes et remarques sur enseignement et culture à Byzance des origines au X^{e} siècle, Paris 1971, 327 S. - G. Weiss, Die sogenannte Universitätsgründung 1043 und die Ausbildung der Beamtenschaft: *Oströmische Beamte im Spiegel der Schriften des Michael Psellos*, München 1973, 65-76, 186-192. - P. Speck, *Die kaiserliche Universität von Konstantinopel*, München 1974, 120 S.- R. Browning, "Enlightenment and Repression in Byzantium in the Eleventh and Twelfth Centuries": *Past and Present* No 69 (1975) 3-23. - W. Wolska-Conus, "Les écoles de Psellos et de Xiphilin sous Constantin IX Monomaque": *Travaux et Mémoires* 6 (1976) 223-243. - J. Gouillard, "La religion des philosophes": *ibid.* 305-324. - G. Podskalsky, "Zur Bedeutung des Methodenproblems für die byzantinische Theologie": *Zeitschrift für kathol. Theologie* 98 (1976) 385-399. - G. Podskalsky, *Theologie und Philosophie in Byzanz*. Der Streit um die theologische Methodik in der spätbyzantinischen Geistesgeschichte (14./15. Jh.), seine systematischen Grundlagen und seine historische Entwicklung, München 1977, 268 S. - P. Lemerle, "Le gouvernement des philosophes. Notes et remarques sur l'enseignement, les écoles, la culture": *Cinq études sur le XI^{e} s. byzantin*, Paris 1977, 195-248. - H. Hunger, Philosophie, § 3 Philosophie und Theologie: *Die profane hochsprachliche Literatur der Byzantiner*, München 1978, Bd. I, 42-53 (Neugriechische durchgesehene Übersetzung, Athen 1987, Bd. A, 92-107). - I. Medvedev, "Neue philosophische Ansätze im späten Byzanz": *Jahrbuch Österreichischen Byzantinistik* 31/2 (1981) 529-548. - G. Podskalsky, "Orthodoxe und westliche Theologie": *ibid.* 513-527.- L. Clucas, *The Trial of John Italos and the Crisis of Intellectual Values in Byzantium in the Eleventh Century*, München 1981, 266 S. - A. Kazhdan-G. Constable, *People and Power in Byzantium*. An Introduction to Modern Byzantine Studies, Washington 1982, 218 S. - G. Podskalsky, "Die griechisch-byzantinische Theologie und ihre Methode": *Theologie und Philosophie* 58 (1983) 71-87. - Λ. Σιάσος, "Φιλοσοφική ἀποδεικτική καί βιβλική πίστη στήν ἀντιπρόκλεια πραγματεία τοῦ Νικολάου Μεθώνης": Ἐπιστ. Ἐπετ. Θεολογ. Σχολῆς Πανεπ. Θεσσαλονίκης 28 (1985) 387-415. - P. Schreiner, *Byzanz* (§ 2. Grundprobleme und Tendenzen der Forschung), München 1986, 97-154. - G. Weiss, *Byzanz. Kritischer Forschungs- und Literaturbericht 1968-1985* (272-301: Geistesgeschichte): Sonderheft 14 der *Historischen Zeitschrift*, 1986. - L.G. Benakis, "Neues zur Proklos-Tradition in Byzanz": *Proclus et son influence*. Actes du Colloque intern. du Neuchâtel 1985, Neuchâtel 1987, 241-253. - L.G. Benakis, "Commentaries and Commentators on the Logical Works of Aristotle in Byzantium": *Gedankenzeichen. Festschrift für Klaus Oehler*, Tübingen 1988, 3-12.

1. Trotz der radikalen Inbesitznahme des Begriffs φιλοσοφία durch den Siegeszug des Christentums für christliche, asketische und mönchische Weisheit, blieb Philosophie während der ganzen byzantinischen Zeit (9.-15. Jahrhundert) die Wissenschaft von der Erkenntnis aller für Mensch und Welt grundlegenden Dinge. In der Regel wurde diese "Hellenische Philosophie" als ἡ ἔξωθεν oder ἡ θύραθεν φιλοσοφία bezeichnet, die man der καθ'ἡμᾶς φιλοσοφία, der Theologie, gegenüberstellte.[2]

2. Die aus der Tradition der Theologenschule von Alexandreia (Klemens, Origenes, Didymos) stammende, auf Philon zurückgehende und in der lateinischen Formel *philosophia theologiae ancilla* geprägte Ansicht von der unterlegenen und dienenden Stellung der Philosophie gegenüber der Theologie wurde zwar von der griechischen Vätern (die sich der antiken Philosophie hinfort für die Exegese zu bedienen wußten) begierig aufgenommen, repräsentiert aber nicht die herrschende Position in Byzanz, wo es niemals zu einer Integration der Philosophie (insbes. der philosophischen Logik) in die Theologie, wie im Westen, gekommen ist.

In der Tat, wegen einer tief verwurzelten und nie aufgelösten Unentschlossenheit hinsichtlich des Wertes der philosophischen Dialektik als Mittel zur Untersuchung und Präzisierung theologischer Fragen - ja sogar wegen eines gewissen Horrors vor einem erkenntnistheoretischen Eindringen mit zwangläufig heidnischen intellektuellen Mitteln in das heilige Mysterium - und trotz der eigentlich traditionellen Verehrung der griechischen Philosophie blieb in Byzanz eine systematische theologische Methode unter freier Anwendung der Dialektik zum größten Teil immer in den Ansätzen stecken. Weil also der Philosophie und Logik bestenfalls ein der Theologie vor- oder untergeordneter Stellenwert eingeräumt wird, muß man für Byzanz von einer traditionellen Trennung von Philosophie und Theologie sprechen.[3]

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[2] So H. Hunger, *Die profane hochsprachliche Literatur der Byzantiner*, I 42. Vgl. den Ausdruck οἱ ἔξω τῆς ἡμετέρας αὐλῆς in einem unedierten Traktat des "Fürsten der Philosophen", Theodoros von Smyrna (12. Jh.), "Über die Natur und die Prinzipien der Natur nach den antiken Philosophen".

[3] Zum besseren Verständnis dieser These könnte sicherlich eine Analyse des wahren Charakters der byzantinischen Philosophie beitragen. In diesem Zusammenhang werden meine eigenen Forschungsbeiträge (kommentierte Texteditionen und Studien, s. "Beiträge zur Erforschung der Byzantinischen Philosophie in Griechenland 1972-1985": *Bulletin de Philosophie Médiévale* 27 (1985) 197-201) der letzten 15 Jahre (in Übereinstimmung mit Thesen von Kl. Oehler und Th. Nikolaou im selben Zeitraum) den Ausgleich der byzant. Philosophie zwischen Antike und Christentum, zu dem ein Universalismus tritt, in dem diese Philosophie eingebettet ist, herausarbeiten. So G. Weiss in seinem jüngsten Forschungsbericht (1986). - Hier wäre auch zu beachten, daß die Verehrung der

3. Zur Frage der praktischen Autonomie der Philosophie als Fachdisziplin ist zunächst die Situation der Höheren Schulen in Byzanz zu untersuchen. Nach neueren Erkenntnissen waren die byzantinischen "Universitäten" in erster Linie Funktionärsschulen allgemein weltlicher Bildung mit vorwiegendem Privatcharakter, stehen aber unter kaiserlicher Protektion und werden gelegentlich auch vom Patriarchen und der Synode unterstützt (solche Schulen werden oft im Bereich eines Klosters untergebracht, ohne "geistliche" Schulen zu sein. Theologieschulen für Theologen und Kleriker gab es in Byzanz nicht).

Wie aus konkreten Fällen hervorgeht (Verurteilung von bedeutenden Philosophieprofessoren "wegen Verstöße gegen die Orthodoxie"), spielen vor allem politische Motive die Hauptrolle bei Prozessen, welche einen Eingriff der staatlichen und kirchlichen Behörden in das Schulwesen bedeuten. Dabei aber ist als Langzeitfaktor die gesellschaftlich schwache Stellung des Intellektuellen und Lehrers, der immer nur als Privatmann, nicht im Rahmen eines von Kirche oder Staat organisierten Bildungssystems das philosophische Bildungsgut vermittelte, in Rechnung zu stellen. Und wo immer ein Aufschwung des Bildungswesens und der philosophischen Studien zu vermerken ist, liegt der eigentliche Grund dafür im außerordentlichen Charakter der Persönlichkeiten selbst, die gerade in dieser Zeit wirken.

Schließlich aber gab es in Byzanz keine korporative Autonomie der Philosophielehrer gegenüber kirchlichen und staatlichen (kaiserlichen) Gewalten, im Gegensatz zum westlichen Mittelalter, wo die Entwicklung sehr viel anders verlief, unter anderem als Folge des Konkurrenzkampfes zwischen staatlichen und kirchlichen Machtträgern, der fortschreitenden Urbanisierung, d.h. der politischen und sozialen Dezentralisierung. Eine zunehmend eigenständige Position konnte sich die Philosophie in Byzanz nicht erringen, denn oft wurden die Versuche, die Stellung der Philosophie aufzuwerten und ihr aus der Antike ererbtes Instrumentarium auch auf theologische Fragen anzuwenden, von der der christlich-

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griechischen Philosophie eine nie geendete Tradition in Byzanz gehabt hat. Dabei muß man insbesondere von der Beschäftigung mit der Logik sprechen (selbstverständlich ist hier die aristotelische Logik gemeint), und zwar sowohl auf didaktischer Ebene (s. L.G. Benakis, "Grundbibliographie zum Aristoteles-Studium in Byzanz": *Aristoteles. Werk und Wirkung. Paul Moraux gewidmet*, Bd. II, Berlin 1987, 352-379) wie auch auf der Ebene der Kommentierung und der Interpretation (s. jetzt L.G. Benakis, "Commentators and Commentaries ...", 1988), aber auch, was die systematische Behandlung von erkenntnistheoretischen Problemen angeht, so zum vieldiskutierten Problem der allgemeinen Begriffe (s. meine Studie von 1978/79 über den Begriffsrealismus der Byzantiner).

orthodoxen Tradition verpflichteten Führungsschicht als Bedrohung verstanden und zum Scheitern gebracht.[4]

4. Die Abgrenzung der Philosophie von den wissenschaftlichen Disziplinen, vor allem des *Quadriviums*, ist nicht sehr ausgeprägt. Es sind nämlich weitgehend die Lehrer der Philosophie, die diese Disziplinen lehren, was zugleich zu einer philosophischen Einfärbung jener Disziplinen, vor allem der Harmonielehre, der Astronomie u.a. führte. In der Harmonielehre z.B. ist es interessant, die theoretischen Strömungen zwischen Pythagoreismus und der Aristoxenos-Schule zu verfolgen, wobei in Byzanz sich die Lehre von den Tonabständen auf pythagoreische Grundgedanken stützt (arithmetisches Verhältnis), aber in der Harmonielehre die aristoxenische Methode zu Anwendung kommt. Für eine Verbindung der Philosophie mit den wissenschaftlichen Disziplinen spricht auch die Tatsache, daß in Byzanz die große Mehrheit der als Philosophielehrer hervorgetretenen Männer den Typus des Polyhistors repräsentiert, d.h. des vielseitigen und in mehreren Disziplinen schriftstellerisch und didaktisch tätigen Gelehrten.[5]

Akadimia Athinōn,
Athinai

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[4] Diese Ansicht ist ebenfalls der modernen Forschung zu verdanken. Daß man bei der Erforschung geistesgeschichtlicher Phänomene auch die soziale, wirtschaftliche und politische Faktoren berücksichtigen soll, gehört eben der modernen historischen Betrachtungsmethode an (s. z.B. A. Kazhdan-G. Constable, *People and Power in Byzantium*, 1982). - Was die Konfrontation der byzantinischen Philosophielehrer mit der Führungsschicht der christlich-orthodoxen Tradition betrifft, sollte man - so gerechtfertigt die hier vertretene Ansicht auch sein mag - nicht glauben, daß sie sich auf öfter vorgekommene Fälle stützen kann. Inquisitionsähnliche Geschehnisse gab es in Byzanz nie.

[5] Zur Beurteilung der Verwandtschaft bzw. Abgrenzung der Philosophie hinsichtlich der wissenschaftlichen Disziplinen des *Triviums* und des *Quadriviums* sind hauptsächlich die Inhalte des Studiums nach den reichlich vorhandenen Quellen, die überlieferten didaktische Werke und das umfangreiche Schrifttum der bedeutendsten Vertreter der byzantinischen Gelehrsamkeit auszuwerten.

ABSTRACT:

The Theoretical and Practical Autonomy of Philosophy as a Discipline in Byzantium

The findings of recent research in Byzantine studies regarding the theoretical and practical autonomy of philosophy as a discipline in Byzantium support the following theses:

(a) Although the early Christian writers dealing with the ascetic theory of life had adopted the term *philosophia*, the record shows that philosophy as a discipline remained throughout the period from the ninth to the fifteenth century in Byzantium the science of the cognition of fundamental truths concerning man and the world. This science "from without" (ἔξωθεν or θύραθεν) was contrasted as a matter of rule with the "philosophy from within", namely theology.

(b) Theoretical autonomy: The view that philosophy is *ancilla theologiae*, one that the Greek Church fathers derived from Philo and the Alexandrian school of theology, does not represent the dominant position of Byzantium as is the case in the West. Philosophy, and logic in particular, never came under theology either as background or as a basic instrument. By the same token, theology in Byzantium did not become a systematic method for the dialectical elaboration of Christian truths, that is, a science. As a result, the initial distinction between philosophy and theology remained intact.

(c) Practical autonomy: At the level of autonomy in institutional practice it should be noted that while theological schools and studies did not exist in Byzantium, the fact is that the purpose of higher studies was mainly to train state functionaries. On the whole, this instruction, based on philosophy and the *Quadrivium*, had a private character despite the support it received from the Emperor and the Church. We hear of occasional interference on the part of either secular or ecclesiastic authorities, which was possible due to the lack of professional organization of teachers of philosophy. Furthermore, Byzantium did not have independent universities in cities or ones that were instituted by monastic orders, as was the case in the West due to different social and political developments. Finally, philosophy protected itself from possible involvement in theological controversies arising from time to time. In general, philosophy has a different development from that of Western Scholasticism.

(d) Autonomy vis-à-vis the other sciences: Regarding the autonomy of philosophy in relationship to the other sciences, it should be noted that the prevalent model of thinker in Byzantium was a type of encyclopaedic teacher of philosophy, a *polyhistor*, i.e. a erudite master of scholarship who maintained close touch with the other sciences that comprised the *Quadrivium* etc. as well as one who set the philosophical tone of the scientific subject-matters and of the problems under investigation.

HANS DAIBER

Die Autonomie der Philosophie im Islam

"Philosophie" ist niemals Bestandteil des islamischen Unterrichtsbetriebes gewesen. Sie ist ein Erbe der Griechen. Wer sich damit beschäftigte, tat dies neben seinem Broterwerb oder konnte sich der Förderung durch den Kalifen erfreuen. Die Abbasiden förderten zunächst die Übersetzung griechischer wissenschaftlicher Texte, wobei häufig praktische Interessen (z.B. Medizin, Astronomie, Mathematik) eine Rolle spielten.[1] Gleichzeitig und keineswegs ausschließlich "im Schlepptau der ärztlichen Kunst"[2] entwickelte sich ein tiefes Interesse an "Philosophie", *par excellence* griechischer Philosophie, wobei vor allem Logik und Beweisführung für islamische Theologen und Juristen wegweisend geworden ist.[3] Philosophie ist hier primär der Weg zur Erkenntnis und Teil der Wissenschaften, die dem Muslim letzten Endes dem Nachweis von Gottes Wundertätigkeit in der Schöpfung dienten.[4] Von theoretischer und praktischer Autonomie scheint hier keine Rede sein zu können. Doch betrachten wir zunächst den Begriff "Autonomie" näher.

Der Begriff Autonomie gewinnt erst in der Neuzeit an Bedeutung, zunächst in den Rechtswissenschaften und dann - seit Kant - in der Philosophie.[5] Darüber hinaus entspringt das Interesse an der Eigengesetzlichkeit und Eigenständigkeit der Philosophie wie anderer Wissenschaften moderner Wissenschaftstheorie, die sich mit Strukturen und Methoden beschäftigt.

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1 Vgl. H. Daiber, "Anfänge und Entstehung der Wissenschaften im Islam", in: *Saeculum* 29, Freiburg/München 1978 (S.356-366), S.363 unten.

2 Diese These hatte Rudi Paret, *Der Islam und das griechische Bildungsgut* (Tübingen 1950 = Philosophie und Geschichte 70), S.18ff. aufgestellt; vgl. dazu Daiber in: *Gnomon* 42, 1970, S.540f.

3 Vgl. George Makdisi, *The Rise of Colleges* (Edinburgh 1981), S.107.

4 Vgl. Reuben Levy, *The Social Structure of Islam* (Cambridge 1957; repr. 1979), S.458ff.

5 Vgl. Art. "Autonomie" in: *Historisches Wörterbuch der Philosophie*. Hrsg.v. Joachim Ritter. I. Darmstadt 1971.

Die Übertragung moderner Fragestellungen auf das Gebiet der klassischen islamischen Philosophie ist durchaus legitim. Denn sie ermöglicht uns, Zusammenhänge besser zu erkennen und zu verstehen. Gleichzeitig knüpft sie an die im Mittelalter[6] vor allem seit Thomas von Aquin gestellte Frage nach der Wissenschaftlichkeit der Theologie an.

Die Wissenschaftlichkeit der Theologie ist von ihren islamischen Vertretern nicht bezweifelt worden; *ʿilm al-kalām* in seiner klassischen Ausprägung bedient sich formal und inhaltlich der Philosophie, der Logik und der Ontologie bzw. der Dialektik und Metaphysik. Philosophie erscheint wie in patristischer und mittelalterlicher Tradition als *ancilla theologiae*. Doch längst vor den Diskussionen in Mittelalter und Neuzeit war das *ancilla-theologiae*-Bild im Islam Änderungen unterworfen. Man hat im Rahmen des islamischen, von Koran und religiöser Überlieferung bestimmten Weltbildes und unter dem Eindruck griechischer Philosophien und Wissenschaften der Philosophie einen eigenen Stellenwert verliehen. Gleichzeitig ist der Tenor unübersehbar, in Übereinstimmung mit dem damaligen religiösen Weltbild nicht von der Symbiose von Religionen und Wissenschaften abzuweichen. Autonomie und Gebundenheit der Wissenschaften einschließlich der Philosophie stehen so in ständigem Duell; dies macht die islamische Szene zu einem interessanten Schauplatz für die Entwicklung eines Philosophiebegriffes, der sich ständig mit den Glaubensforderungen islamischer Orthodoxie arrangieren mußte.[7]

Bevor wir den islamischen Philosophiebegriff im Einzelnen erörtern, sollten wir beachten, wie die den Arabern ja wohlbekannte griechisch-pythagoräische Etymologie von Philosophie als "Liebe zur Weisheit"[8] mit

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[6] Vgl. Martin Grabmann, *Die Geschichte der scholastischen Methode*.I.II. Darmstadt 1956; Charles Lohr, "Theologie und/als Wissenschaft im frühen 13. Jahrhundert", in: *Internationale katholische Zeitschrift: Communio* 10, 1981, S.316-330.

[7] Vgl. A.J. Arberry, *Revelation and Reason in Islam*, London ^{3}1971; George F. Hourani, *Averroes on the Harmony of Religion and Philosophy* (London 1976), S.2ff. - Umgekehrt haben auch im *kalām* - wenn man von Parallelentwicklungen absieht - philosophische Gedanken Eingang gefunden: vgl. R.M. Frank, "Reason and Revealed Law: a sample of parallels and divergences in kalām and falsafa", in: *Recherches d'Islamologie. Récueil d'articles offert à Georges C. Anawati et Louis Gardet par leurs collègues et amis*. Louvain 1977 (= Bibliothèque philosophique de Louvain 26), S.123-138.

[8] Vgl. Ammonius, *In Porphyrii Isagogen* ed. A. Busse (Commentaria in Aristotelem Graeca 4, Berolini 1891), S.9,7ff.; übernommen z.B. im 9. Jh. von Kindī, *Risāla fī ḥudūd al-ašyāʾ wa-rusūmihā* ed. Abū Rīda (*Rasāʾil al-Kindī l-falsafiya*, Kairo 1950), S.172 (Neuedition mit Übersetzung und Kommentar: F. Klein-Franke, "Al-Kindī's 'On Definitions and Descriptions of Things'", in: *Le Muséon* 95, 1982, S.191-216) oder im 10. Jh. von Qosṭā Ibn Lūqā in einer titellosen Abhandlung über die Einteilung der Wissenschaft, Hs. Aya Sofya 4855, fol.80r8f.

dem in der islamischen Traditionsliteratur bereits früh den Gläubigen empfohlenen Streben nach Wissen[9] parallelisiert werden kann: Wissen und Handeln gehören im islamischen Glaubensbegriff zusammen.[10] Das Wissen umfaßt zunächst das religiös-juristische Wissen von Koran und Überlieferung. Im Zuge der Expansion des islamischen Imperiums seit dem 7. Jh. sieht sich der Muslim zunehmend mit zahlreichen Kulturen konfrontiert; Wissen umfaßt mehr und mehr auch die fremden Wissenschaften, vor allem die Philosophie und die Naturwissenschaften der Griechen. Die Philosophie, nämlich Logik und Metaphysik, lieferte das Rüstzeug für die Formulierung und Abgrenzung des islamischen Dogmas gegenüber nichtislamischen Religionen und gnostisch-dualistischen Bewegungen.[11] Philosophie erscheint hier als Wissen um die Hilfsmittel der Theologie, als *ancilla theologiae*. Ein typisches Beispiel ist die Muᶜtazila, eine scholastische Bewegung, die sich im 8. Jh. im Irak zu entwickeln begann und in der Formulierung und Begründung der überlieferten Glaubenslehren *traditio* durch *ratio* zu ersetzen suchte. Ihre Begründung der Religion mit Argumenten des Verstandes führte - teilweise unter griechisch-hellenistischem Einfluß - zu verfeinerten Techniken in der islamischen theologischen Disputation (*kalām*)[12] und diente gleichzeitig als Rechtfertigung für die Beschäftigung mit den Wissenschaften.[13]

Allerdings ist man schnell an die Grenzen menschlichen Wissens und Erkennens gelangt. Bereits für Wāṣil Ibn ᶜAṭā' (gest. 748 oder 749), der als Begründer der Muᶜtazila gilt, können "die mit Wissen ausgestatteten Menschen" (*al-ᶜālimūn*) bzw. "die mit Sprache (oder: Vernunft) Begabten" (*an-nāṭiqūn*) Gott nur sehr unvollkommen beschreiben, nämlich soweit Gott

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9 Vgl. Franz Rosenthal, *Knowledge Triumphant* (Leiden 1970), S.70ff.; Daiber, "Anfänge" (wie Anm. 1) S.358.

10 Vgl. Daiber, *Das theologisch-philosophische System des Muᶜammar Ibn ᶜAbbād as-Sulamī (gest.830 n.Chr.)* (Beirut 1975 = Beiruter Texte und Studien 19), S.143f., Anm. 7.

11 Vgl. Daiber (s.vor.Anm.) S.16ff.; 123ff.

12 Vgl. Josef Van Ess, "The Logical Structure of Islamic Theology", in: *Logic in Classical Islamic Culture*, Wiesbaden 1970, S.21-50; id., "Disputationspraxis in der islamischen Theologie", in: *Revue des Etudes Islamiques* 44, Paris 1976, S.23-60.

13 So findet man in der Tat bei den Muᶜtaziliten schon früh interessante Erörterungen naturwissenschaftlicher Fragen; vgl. Daiber (s.Anm. 10) S.283ff. und id., "Anfänge" (s.Anm. 1). - In gleichem Sinne schreibt im 10. Jh. Abū l-Ḥasan al-ᶜĀmirī sein Buch über die Vorzüge des Islam (*Kitāb al-Iᶜlām bi-manāqib al-Islām*); vgl. G. Endress, "Grammatik und Logik" (in: *Bochumer Studien zur Philosophie* 3, Amsterdam 1986, S.163-299), S.216.

im Koran "sich selbst für Seine Schöpfung ... beschrieb".[14] Schon hier bahnt sich das Problem der späteren islamischen Attributenlehre an. Für Wāṣils Schüler Ḍirār Ibn ᶜAmr (gest. 796) sind Gottes Attribute nur in Negationen ihres Gegenteils beschreibbar;[15] oder für den Muᶜtaziliten ᶜAbbād Ibn Sulaimān (gest. 864) sind göttliche Attribute lediglich sprachliche Zeichen, "Benennungen", die nicht mit dem Bezeichneten identisch sind.[16] Hier klingt das Prinzip der negativen Theologie an; die bereits koranische[17] Unendlichkeit Gottes ist für Sprache und Denken des Menschen nur unvollkommen erfaßbar.

Diese rigorose Einstellung formt den Nährboden für die spätere islamische Adaption neuplatonischer Gedanken über die Unendlichkeit Gottes. Man interessiert sich nicht nur für die Logik der Griechen, sondern auch für die *Enneaden* Plotins, die in einer "Theologie des Aristoteles" genannten Paraphrase den Arabern bereits im 9. Jh. vorliegen.[18] Ungefähr um dieselbe Zeit erhielt man Kenntnis von Proclus' *Institutio theologica* in der Bearbeitung des *Liber de causis*.[19] Diese neuplatonischen Werke haben den Philosophiebegriff der islamischen Philosophen von Beginn an geprägt.

Der erste islamische Philosoph, Abū Yūsuf Yaᶜqūb Ibn Isḥāq al-Kindī (gest. nach 866) definiert unter anderem[20] die Philosophie in Anlehnung an Aristoteles[21] und Platon[22] als "Wissen um die wahre Natur

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14 *Ḫuṭbat Waṣil* ed. Daiber (*Waṣil Ibn ᶜAṭā' als Prediger und Theologe*, Leiden 1988 = Islamic Philosophy and Theology. Texts and Studies 2), fol.87v22ff.; vgl. Kommentar S.42.

15 Vgl. Daiber, *Muᶜammar* (s.Anm. 10) S.136.

16 Vgl. Daiber, *Muᶜammar* (s.Anm. 10) S.211f. - Solche theologischen Diskussionen über die göttlichen Attribute formen den Nährboden für spätere, unter dem Einfluß der griechischen Logik weiterentwickelte Erörterungen über das Verhältnis von Sprache und Denken; vgl. Endress (s.Anm. 13); Wilfried Kühn, "Die Rehabilitierung der Sprache durch den arabischen Philologen As-Sīrāfī", in: *Bochumer Studien zur Philosophie* 3, 1986, S.301-402.

17 Vgl. z.B. Sure 3,174; Art. "Ghayb" in: *Encyclopaedia of Islam* II^2 (Leiden, London 1965); Daiber, *Muᶜammar* (s.Anm. 10) S.117ff.

18 Vgl. den Sammelband *Pseudo-Aristotle in the Middle Ages*. Ed. by Jill Kraye, W.F. Ryan and C.B. Schmitt. London 1986. Dazu die Besprechung v. Daiber in: *Der Islam* 65, 1988, S.130-134.

19 Jetzt neu herausgegeben von Charles Taylor, *Liber de causis (Kalām fī maḥḍ al-khair)*. Diss. Toronto 1981.

20 Vgl. G.N. Atiyeh, *Al-Kindi, the Philosopher of the Arabs* (Rawalpindi 1966; repr. 1984), S.18ff.

21 *Metaph.* II 1.993b20 (ἐπιστήμη τῆς ἀλήθειας).

der Dinge, soweit es für den Menschen möglich ist"[23] sowie die Metaphysik, "die erste Philosophie", als "Wissen um die Erste Wahrheit, die die Ursache jeglicher Wahrheit ist". Hier wird der aristotelischen Erklärung, daß "dasjenige, was abgeleitete Wahrheiten als wahr erweist, am wahrsten ist"[24] in Anlehnung an Plotin und Proclus[25] sowie an den koranischen Begriff *ḥaqq* "Wahrheit" = "Gott"[26] eine neuplatonische Pointierung mit islamischer Komponente gegeben. "Denn das Wissen um die Ursache ist vortrefflicher als das Wissen um die Wirkung".[27] Diese Aussage ist entscheidend geworden für die Entwicklung des islamischen Philosophiebegriffes; Philosophie beschäftigt sich in erster Linie mit der göttlichen Ursache allen Seins und strebt nach der Erkenntnis dieser "ersten Wahrheit" (*al-ḥaqq al-awwal*). Hierbei soll sie Kindī zufolge auf den Erkenntnissen früherer Generationen und anderer Völker aufbauen.[28] Diesem Grundsatz getreu und unter Berücksichtigung koranisch-islamischer Theologie von der *creatio ex nihilo* entwickelt Kindī die These, daß Universum, Körper, Bewegung, Zeit und Anfang nicht ohne einander existieren und eine Ursache außerhalb haben, die absolute Einheit, das wahre Eine.[29] Hieraus entsteht in Emanationen (*faiḍ*) das Sein (*tahawwī*) jedes Wahrnehmbaren (*al-maḥsūs*).[30] In der Emanation werden die rationalen und metaphysischen Dinge zu etwas Wahrnehmbarem, zu etwas,

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22 *Theaet.* 176 A.B; darnach Ammonius (s.Anm. 8) 3,8f.; vgl. Alfred L. Ivry, *Al-Kindī's Metaphysics* (Albany 1974), S.117f.

23 Ed. Abū Rīda (s.Anm. 8) I 97,9/Übers. Ivry (s.vor.Anm.) S.55.

24 *Metaph.* 993b27.

25 Vgl. G. Endress, *Proclus Arabus* (Beirut 1973 = Beiruter Texte und Studien 10), S.152; 286[1].

26 Sure 10,32(33).

27 Vgl. ed. Abū Rīda (s.Anm. 8) I 101,1/Übers. Ivry (s.Anm. 22) S.56.

28 Vgl. ed. Abū Rīda (s.Anm. 8) I 102/Übers. Ivry (s.Anm. 22) S.57, Kommentar S.126 (zur aristotelischen Inspirationsquelle) und A. Cortabarria, "El metodo de Al-Kindī visto a travers de sus Risālas" (in: *Orientalia Hispanica* I, Leiden 1974, S.209-225), S.210-212. - So tragen nicht nur die Vorläufer aus der Antike, sondern alle Zeiten in gleicher Weise zum wissenschaftlichen Fortschritt bei, wie im 12. Jh. der Astronom al-Aṣṭurlābī und der Mathematiker as-Samau'al folgerten; vgl. Franz Rosenthal, "Al-Aṣṭurlābī and as-Samaw'al on Scientific Progress", in: *Osiris* 9, 1950, S.553-564. - Zum Fortschrittsgedanken im Islam vgl. Tarif Khalidi, "The Idea of Progress in Classical Islam", in: *Journal of Near Eastern Studies* 40, 1981, S.277-289.

29 Vgl. zur Beweisführung Kindīs Michael Marmura, "Die islamische Philosophie des Mittelalters" (in: W.M. Watt/M. Marmura, *Der Islam,* II Stuttgart, Berlin, Köln, Mainz 1985 = Die Religionen der Menschheit 25,2), S.332ff.

30 Vgl. ed. Abū Rīda (s.Anm. 8) I 162,2ff./Übers. Ivry (s.Anm. 22) S.113.

wovon in der menschlichen Seele sich ein Abbild (*mital*) formen kann; im Unterschied hierzu existieren die Universalien, die Gattungen und Arten nur im Geiste.[31] Hierbei ist die erste Wahrheit weder Genus noch Spezies,[32] sondern formt die essentielle Einheit, was wir akzidentell in den Dingen finden.

Philosophie ist hier zum Wissen um die göttliche Ursache sowie um die nur im menschlichen Geiste existierenden Universalien und die in der Seele in Form von Abbildern vorhandenen wahrnehmbaren Partikularien geworden. Dieses Wissen ist "Wissen um die wahre Natur der Dinge" (*ʿilm al-aš̌yāʾ bi-ḥaqāʾiqihā*).[33] Das Streben des Philosophen nach diesem Wissen ist für Kindī im Anschluß an die aristotelische Einteilung der Philosophie in theoretisches und praktisches Wissen mit den Zielen Wahrheit und Handeln[34] auf die "erste Wahrheit, die Ursache jeder Wahrheit"[35] und "das wahrheitsgetreue Handeln" (*al-ʿamal bi-l-ḥaqq*)[36] gerichtet.[37]

Diese praktisch-ethische Komponente der Philosophie erscheint hier bei Kindī nicht näher ausgeführt und beschränkt sich auf das aktive Streben des Menschen nach Wissen um die wahre Natur der Dinge; diese emanieren aus dem wahren Einen und sind eine *creatio ex nihilo*. Getreu koranischer Vorstellung (Sure 55,6) ist das Universum geschaffen, um Gott zu dienen und ihn zu verehren.[38] Hier, aber auch in weiteren spezifischen

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31 Ed. Abū Rīda (s.Anm. 8) I 107f./Übers. Ivry (s.Anm. 22) S.61ff.; vgl. auch Kindīs noch nicht herausgegebene *Risāla fī šarḥ mā li-n-nafs dikruhū mimmā kāna lahā fī ʿālam al-ʿaql iḏ ṣārat fī ʿālam al-ḥiss wa-mā lahā dikruhū mimmā lahā fī ʿālam al-ḥiss in ṣārat fī ʿālam al-ʿaql* und dazu G. Endress, "Al-Kindī's Theory of Anamnesis", in: *Islao e Arabismo na peninsula iberica. Actas do XI congresso du uniao europeia de Arabista e islamologas (Evora-Faro-Silves, 29 set.-6 out. 1982)*. Ed. por Adel Sidarus. Evora 1986, S.393-402.

32 Vgl. ed. Abū Rīda (s.Anm. 8) I 113ff.; 123ff./Übers. Ivry (s.Anm. 22) S.67ff., 76ff.; dazu Marmura (s.Anm. 29) S.334ff.

33 S. oben zu Anm. 23.

34 Vgl. Aristoteles, *Metaph.* II 1.993b20.

35 S. oben zu Anm. 20.

36 Vgl. ed. Abū Rīda (s.Anm. 8) I 97,10/Übers. Ivry (s.Anm. 22) S.55.

37 Vgl. hierzu Ivry (s.Anm. 22) S.117f.; Kindīs Philosophiedefinition hat bei Ibn Sīnā, *aš̌-Šifāʾ, al-Manṭiq, al-Mudḫal* ed. G.C. Anawati, Maḥmūd al-Ḫudairī u. Ahmad Fuʾād al-Ahwānī (Kairo 1952) S.12 nachgewirkt; vgl. dazu M. Marmura, "Avicenna on the Division of the Sciences in the Isagoge of His Shifāʾ", in: *Journal for the History of Arabic Sciences* 4, Aleppo 1980, S.239-251.

38 Das zeigt Kindīs Schrift *Fī l-Ibāna ʿan sūd al-ǧirm al-aqṣā wa-ṭāʿatihī li-llāh* ed. Abū Rīda (s.Anm. 8) I S.238-261.

Lehren[39] zeigt sich der religiös-islamische Rahmen; Philosophie steht nicht im Widerspruch zur Offenbarung.

Sie ist aber nicht *ancilla theologiae*: philosophische Interpretationen religiöser Sprache, wie sie Kindīs Schrift über die Verehrung Gottes durch das Universum bietet (s.o.), weisen lediglich auf die Übereinstimmung von Philosophie und Offenbarung. Philosophie ist autonom und weist den Weg zum Wissen und zu aktivem Streben nach diesem Wissen. Hierbei unterscheidet Kindī erkenntnistheoretisch zwischen Wahrnehmung und Abstraktionen im Geiste (s.o.). Die religiöse Offenbarung tritt in den Hintergrund: sie ist zwar nicht im Widerspruch zur Philosophie, aber es wird ihr keine bestimmte Rolle im philosophischen Erkenntnisprozeß zugewiesen. Sie steht nicht im Widerspruch zu dem, was Philosophen durch eigene geistige Anstrengung beweisen können - auch wenn deren Erkenntnisse letzten Endes nicht an die Offenbarung des Propheten heranreichen.[40]

Kindī hat sich nicht viel über die spezifische Rolle der religiösen Offenbarung gegenüber der Philosophie geäußert. Vielleicht hat dies nachfolgende Philosophen zu einer eindeutigeren Stellungnahme herausgefordert. Der Arzt und Philosoph Abū Bakr Muḥammad Ibn Zakariyā' ar-Rāzī (Rhazes im lat. Mittelalter; starb 925 oder 932) hat mit Kindīs These von der Autonomie der Philosophie Ernst gemacht. Seine Ablehnung der Notwendigkeit von Propheten und geoffenbarten Religionen begründet er mit der Unabhängigkeit des Denkens, mit der Philosophie. Alle Menschen sind zu Philosophie fähig, es gibt keine Bevorzugung - ebensowenig wie ein gerechter, barmherziger Gott seine Offenbarung nur einem Einzelnen oder einem bestimmten Volk zukommen läßt. Philosophie befähigt den Menschen zur Kontrolle seiner Leidenschaften durch die *ratio*, zur Erlösung der Seele von den körperlichen Trieben und zu ihrer Aufwärtsbewegung (Seelenwanderung) zu höheren Lebensformen nach dem Tode des

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39 Vgl. Marmura (s.Anm. 29) S.337; Emilio Tornero, "Religion y filosofia en al-Kindi, Averroes y Kant", in: *al-Qanṭara* 2, Madrid 1981, S.89-128.

40 Vgl. *Risālat al-Kindī fī kamīyat kutub Arisṭūṭālīs* ed. Abū Rīda (s.Anm. 8) I 372f.; dazu M. Marmura, "The Islamic Philosophers Conception of Islam", in: *Islam's Understanding of itself.* Ed. by R.G. Hovannisian and Speros Vryonis. Malibu/Cal. 1983 (= Giorgio Levi della Vida Biennial Conference 8), S.87-102, hier S.91; R.Walzer, *Greek into Arabic* (Oxford 1962, ²1963) S.181ff. - Im 11. Jh. folgt Kindīs Anschauung der spanische Philosoph Ibn Ḥazm, vgl. A.G. Chejne, *Ibn Ḥazm* (Chicago 1982) S.72ff., bes. 80. Ibn Ḥazm erweist sich auch sonst als nicht unkritischer Kenner von Kindīs Philosophie: vgl. Daiber, "Die Kritik des Ibn Ḥazm an Kindīs Metaphysik", in: *Der Islam* 63, 1986, S.284-302.

Menschen.[41] Die von Gott in seiner Gnade den Menschen verliehene Vernunft, eine Emanation aus Seinem Wesen, befähigt den Menschen, seine Seele aus dem körperlichen Schlummer zu wecken und in ihren ursprünglichen Zustand zurückkehren zu lassen. Die universelle Seele bildet eins der fünf ewigen Prinzipien, neben Materie, Raum, Zeit und Schöpfer.[42] Diese erscheinen in einem demokritischen atomistischen Entwurf platonischer Prägung, worin die koranische *creatio ex nihilo* keinen Platz hat, sondern die Schöpfung in der (Neu-)Anordnung der bereits aktuell präexistenten ewigen Atomen besteht.[43]

Philosophie erscheint hier als autonomes, allen Menschen und Völkern gemeinsames Denken mit ethischer Komponente. Die "philosophische Lebensweise" (*as-sīra l-falsafīya*)[44] ist Vorbild, nicht mehr das Leben des Propheten. Philosophische Erkenntnis befähigt den Einzelnen zu rationaler Kontrolle der Leidenschaften, zur Befreiung der Seele von diesen - oder, wie es nach ihm Miskawaih (gest. 1030) unter Einfluß von platonisch-aristotelischer Ethik und mit etwas abweichender, farabianischer Akzentuierung im Titel eines Buches formulierte - zur *Verbesserung des Charakters* (*Tahḏīb al-aḫlāq*).[45] Sie bedarf dazu nicht der religiösen Offenbarung.[46]

Hierin ist dem Abū Bakn ar-Rāzī ein zeitgenössischer Kontrahent, der Ismailite Abū Ḥātim ar-Rāzī (gest. um 933 oder 934) nicht gefolgt. In seinem Buch über *Die Beweise des Prophetentums* (*Aʿlām an-nubūwa*)[47]

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41 Vgl. Marmura (s.Anm. 29) S.344f.

42 Vgl. Marmura (s.Anm. 29) S.339ff.; --, "Islamic Philosophers Conception" (s.Anm. 40) S.92f.

43 Vgl. im Einzelnen Shlomo Pines, *Beiträge zur islamischen Atomenlehre* (Berlin 1936) S.34ff.

44 Vgl. die gleichnamige Schrift ed. Paul Kraus in: ar-Rāzī, *Rasāʾil falsafīya* (Kairo 1939), S.99-111.

45 Miskawaihs *Tahḏīb al-aḫlāq* wurde von C. Zurayk 1966 in Beirut herausgegeben und 1968 übersetzt (*The Refinement of Character*); vgl. dazu Rez. v. Daiber, *Orientalistische Literaturzeitung* 67, 1972, Eine franz. Übers. veröffentlichte Mohammed Arkoun (*Miskawayh: Traité d'éthique*. Damas 1969).

46 Hierin ist ihm offenbar der Dichter Abū l-ʿAlāʾ al-Maʿarrī (973-1057) gefolgt: vgl. R. Kevin Lacey, *Man and Society in the Luzūmiyyāt of al-Maʿarrī* (thesis Harvard 1984) S.146ff. u. 160f., wo auf Rāzī als mögliches Vorbild verwiesen wird (zu einer weitern Parallele s. S.273ff.).

47 Hrsg. v. Salah al-Sawy, Teheran 1977. Teilübersetzung v. F. Brion, *Kitāb Aʿlām al-nubuwwat. Traduction et commentaire des pages rélatives à la philosophie de la religion*. Université Catholique de Louvain, mémoire de licence dactylograph. 1985 (vgl. nachfolg.Anm.). Vgl. dazu meine Analyse "Abū Ḥātim ar-Rāzī (10th century A.D.) on

versucht er nachzuweisen, daß auch die Vielzahl der Religionen nicht deren transzendente Einheit zerstören könne. Ihre Unterschiedlichkeit rühre von der Verschiedenheit der Völker her. - Philosophie ist wie religiöse Offenbarung göttlich und bedarf des Vermittlers, ebenso wie in der Vergangenheit Astronomie, Astrologie und Alchemie durch Idrīs bzw. bei den Griechen durch Hermes vermittelt werden mußte. Die göttliche Offenbarung des Korans spreche in Form von Bildern (*amṯāl*) und man müsse nach der universellen Bedeutung (*maᶜnā*) dieser Bilder und ihrer äußeren Erscheinungsformen (*ẓāhir al-alfaẓ*) fragen und forschen.[48]

Abū Ḥātim ar-Rāzī hat eine Ehrenrettung der These von der religiösen Offenbarung durch einen Propheten gesucht, indem er auf die universelle Wahrheit der Religionen verwies; diese universelle, transzendente Wahrheit sei mit der Philosophie identisch und wie diese göttlichen Ursprungs. Sie bedarf eines Vermittlers, eines Propheten. Die übermittelte Botschaft, die Bilder ihrerseits bedürfen der Interpretation (*ta'wīl*), um zu deren universellen Bedeutung gelangen zu können. Die universelle Wahrheit (*kullu maᶜrifatin*) habe ihren Ursprung in Gott, und werde durch den Propheten vermittelt, "dem ersten Weisen" (*al-ḥakīm al-auwal*). Das Wissen der Menschen hierum baue auf vorheriges Wissen auf. Auch diese Tatsache beweise die Existenz eines vorherigen prophetischen Vermittlers.[49]

Abū Ḥātim ar-Rāzīs Symbiose von Philosophie und religiöser Offenbarung durch die Annahme einer gemeinsamen transzendenten Wahrheit entpuppt sich als Weiterentwicklung von Gedanken seines Vorgängers Kindī; das Wissen des Philosophen hat letztlich seinen Ursprung in Gott und stimmt mit der religiösen, durch den Propheten übermittelten Offenbarung überein; ihr Inhalt liegt den Menschen in Form von Bildern vor, deren Bedeutung durch Interpretation verständlich wird.

Gleichzeitig erscheint hier Kindīs erkenntnistheoretische Unterscheidung zwischen Bildern des Wahrnehmbaren in der Seele und Abstraktionen des Geistes aufgegeben; das Bild der religiösen Sprache ist

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the Unity and Diversity of Religions", in: *Dialogue and Syncretism. An Interdisciplinary Approach.* Currents of Encounter 1. Amsterdam 1989.

48 Vgl. *Aᶜlām an-nubūwa* ed. al-Sawy (s.Anm. 47) S.104ff./franz. Übers. F. Brion, "Philosophie et révélation: traduction annotée de six extraits du Kitāb Aᶜlām Al-Nubuwwa d'Abū Ḥātim Al-Rāzī", in: *Bulletin de philosophie médievale* 28, 1986 (S.134-162), S.152ff.

49 Vgl. ed. al-Sawy (s.Anm. 47) S.314ff.

konform mit dem Gedanken. Religion hat eine symbolische Bedeutung, zu deren Verständnis man durch Interpretation kommen kann.

Wir erkennen hier im Ansatz einen Gedanken, den Abū Ḥātim ar-Rāzīs jüngerer Zeitgenosse Fārābī (gest. 950) zur Hauptthese seiner politischen Philosophie gemacht hat.[50] Für Fārābī sind Religionen - sie unterscheiden sich in einer an Abū Ḥātim erinnernden Weise lediglich in der Symbolik und nicht im Symbolisierten[51] - die symbolische Wiedergabe philosophischer Wahrheit, "Nachahmung" der Philosophie. Dies begründet Fārābī mit der aristotelischen These von der Wechselbeziehung zwischen Denken und Wahrnehmung; die Seele denkt in Wahrnehmungsbildern, indem ihre Vorstellungskraft Wahrnehmbares "nachahmt". Im Gegensatz zu Kindī, der zwischen Wahrnehmungsbildern der Seele und gedanklichen Abstraktionen unterschieden hatte, haben bei Fārābī die Universalien der Philosophie ein bildliches Pendant in den Partikularien, in der Religion. In origineller Weise hat nun Fārābī diese Konstellation parallelisiert mit der aristotelischen und von Kindī nur gestreiften Zweiteilung der Philosophie von Theorie und Praxis, Wissen und ethischem Handeln; die ethische Komponente, die bereits Abū Bakr Muḥammad Ibn Zakariyā' ar-Rāzī als Mittel zur Läuterung der Seele durch die *ratio* miteinbezogen hatte, dient dazu, um in platonischem Kontext mit aristotelischem Vorzeichen die Verwirklichung der wahren Philosophie in der ethischen Vervollkommnung des Einzelnen im Idealstaat möglich zu machen. Hierzu leitet die Religion mit ihren Vorschriften an. Da diese gleichzeitig die einzig mögliche, dem Erkennen aller Menschen zugängliche Wiedergabe philosophischer Wahrheit, der Universalien in Form von Symbolen, Bildern und die einzig mögliche Verwirklichung der Philosophie durch das ethisch vollkommene Handeln des Einzelnen im Musterstaat ist, schränkt hier Religion die Autonomie der Philosophie in einer besonderen Weise ein. Religion ist nicht nur ein erkenntnistheoretischer und ethischer Faktor, sondern zum unentbehrlichen "Instrument" der Philosophie geworden.[52] Darüber hinaus erweist sich religiöse Offenbarung als unentbehrlich für das philosophische Erkennen und für den logischen Nachweis der spezifischen Natur der

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50 Vgl. zum Nachfolgenden Daiber, "Prophetie und Ethik bei Fārābī (gest. 339/950)", in: *L'homme et son univers au moyen âge*. Louvain-la-Neuve 1986 (= Philosophes médiévaux 26-27), S.729-753; --, *The Ruler as Philosopher*, Amsterdam/Oxford/New York 1986 = Mededelingen der Koninklijke Nederlandse Akademie van Wetenschappen, afd. Letterkunde, n.r. d.49, no.4 (= S.129-149).

51 Vgl. Fārābī, *as-Siyāsa l-madanīya* ed. F.M. Naǧǧār (Beirut 1964) S.85f.

52 Vgl. Näheres bei Daiber, *Ruler* (s.Anm. 50) S.14f.

Dinge bzw. der im Musterstaat nachzuahmenden Struktur des Universums durch die Menschen, den Prophet-Philosophen *par excellence*. Menschliches Erkennen ist unvollkommen und bedarf der Inspirationen des göttlichen aktiven Intellektes. Alexander von Aphrodisias' und Aristoteles' psychologische Lehren dienen hier dazu, um islamische Prophetie und religiöse Offenbarung in der Philosophie zu verankern. Religion ist nicht nur bildliche, symbolische Wiedergabe philosophischer Wahrheit für den Nichtphilosophen, für die Masse, sondern auch Verwirklichung der wahren Philosophie, indem sie das ethische Verhalten des Einzelnen im Musterstaat bestimmt sowie prophetische Inspirationsquelle dieser Philosophie ist. Der Regent des Musterstaates ist daher Philosoph und Prophet.

Mit seinen Lehren hat Fārābī den Philosophiebegriff der nachfolgenden Zeit maßgebend beeinflußt, scheint es ihm doch gelungen zu sein, Philosophie und religiöse Offenbarung in philosophisch überzeugender und für den muslimischen Gläubigen akzeptabler und verständlicher Weise miteinander zu verbinden. Religion erscheint einerseits als *ancilla filosofiae* und andererseits verwirklicht sich die Philosophie in der Religion. Diese geniale Lösung hat auf spätere Philosophen großen Eindruck gemacht, wobei es Modifikationen und Kritik gegeben hat.

Der berühmte Arzt und Philosoph Ibn Sīnā (gest. 1037) hat Fārābīs Auffassung der Religion als Nachahmung der Philosophie in Form von Symbolen mit einigen Änderungen übernommen.[53] Philosophie ist nicht der ungebildeten Masse zugänglich; daher muß der Prophet diese in Symbolen ansprechen, ohne den Eindruck zu wecken, daß gewisse Kenntnisse ihr vorenthalten werden. Diese Ermahnung Ibn Sīnās impliziert die Annahme philosophischen Wissens, das nicht für die Masse bestimmt ist.[54] Denn Religion ist nicht mehr die notwendige Verwirklichung wahrer Philosophie, wie Fārābī mit epistemologischer Argumentation erklärt hatte; sie ist ausschließlich Symbol- und Bildersprache geworden, die über Gottes

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53 Vgl. Marmura, "Islamic Philosophers Conception" (s.Anm. 40) S.98f.

54 Vgl. hierzu z.B. Ibn Sīnā, *Aḥwāl an-nafs* ed. Aḥmad Fu'ād al-Ahwānī (Kairo 1952) S.141f.; --, *Risālat al-qadar*, wozu man G.F. Hourani, *Reason and Tradition in Islamic Ethics* (Cambridge 1985) S.227-248, bes. 240ff. vergleiche (dazu Rez. Daiber in: *Der Islam*). - Ibn Sīnā ist hier von Fārābīs Beschreibung der Methode des Aristoteles angeregt: vgl. Fārābī, *Mā yanbaġī an yuqaddam qabl taʿallum falsafat Arisṭū* ed. F. Dieterici (*Alfārābīs philosophische Abhandlungen*, Leiden 1892, S.53f.)/Übers. Dieterici (Leiden 1892) S.89; Fārābī seinerseits folgt hier alexandrinischer Tradition: vgl. Elias, *In Porphyrii Isagogen et Aristotelis Categorias commentaria* ed. A. Busse (Berlin 1900 = Commentaria in Aristotelem Graeca 18/1) S.124.25ff. und dazu E.K. Rowson, *Al-ʿĀmirī on the Afterlife* (thesis Yale University 1892) S.341 (zu S.99f.).

Majestät und Unvergleichlichkeit, über Auferstehung, ewige Glückseligkeit und Verdammung spricht.[55] Folglich kann man bei Avicenna zwei Arten des Prophetentums finden:[56] 1) das imaginative Prophetentum, worin der Prophet von den himmlischen Seelen, "den wirkenden Engeln" sein Wissen in Form von Bildern und Symbolen des universellen Wissens empfängt; 2) das intellektuelle Prophetentum, worin der Prophet ohne Mithilfe der Seele durch Intuition (*ḥads*) die intelligiblen vom wirkenden Intellekt empfängt. Diese höhere Form der Erkenntnis läßt sich den Nichtphilosophen in der Sprache von Bildern und Symbolen übermitteln, wobei - wie gesagt - ihnen einiges vorenthalten werden muß.

Diese esoterische Einstellung, die Fārābī kritisiert hatte,[57] rechtfertigt Avicenna mit dem Eingeständnis, daß es neben den primären, von allen Menschen direkt rezipierbaren Intelligiblen auch solche gibt, die nur Propheten aufnehmen können, Menschen, die des demonstrativen und abstrakten Denkens fähig und zu logischen Schlußfolgerungen imstande sind.[58] Diese Intelligiblen können den Nichtphilosophen nur in beschränktem Maße sowie nur in Symbolen weitergegeben werden; die menschlische Vernunftseele soll mit diesem Wissen - *par excellence* das geoffenbarte Gesetz, eine symbolische Widerspiegelung philosophischer Wahrheit - lernen, die animalischen Leidenschaften zu beherrschen, um nach dem Tode, vom Körper befreit, in ewiger Seligkeit, in der Schau der himmlischen Wesen und von Gott zu verweilen. - Dieser Auffassung von der Symbolsprache gegenüber stehen Avicennas Beweise für seine von Fārābī beeinflußte Auffassung von Gott als dem in seiner eigenen Wesenheit notwendig Seienden, worin die Kette essentieller Ursachen und ihrer koexistierender Wirkungen endet, welcher sich selbst erkennt und

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55 Vgl. Ibn Sīnā, *aš-Šifā', Ilāhiyāt* X ed. Muḥammad Yūsuf Mūsā, Sulaimān Dunyā, Saʿīd Zāyid (Kairo 1960) S.443/engl. Übers. Marmura in: *Medieval Political Philosophy: A sourcebook.* Toronto, Ontario 1963, S.100f.; franz. Übers. G.C. Anawati, *Avicenne, la métaphysique du Shifa', livres de VI à X*, Paris 1985 (= Etudes musulmanes 27), S.177.

56 Vgl. Ibn Sīnā, *Aḥwāl an-nafs* ed. Ahwānī (s.Anm. 54) S.114ff.; *Avicenna's De anima (Arabic Text) being the psychological part of Kitāb Al-Shifā'* ed. F. Rahman (London 1959) S.173ff.; -- , *Iṯbāt an-nubūwāt* ed. M. Marmura (Beirut 1968) S.45ff./engl. Übersetzung Marmura in *Medieval Political Philosophy* (s.Anm. 55) S.114ff. - Dazu Marmura (s.Anm. 29) S.363; Abdelali Elamrani-Jamal, "De la Multiplicité des modes de la prophétie chez Ibn Sīnā", in: *Etudes sur Avicenna. Dirigées par Jean Jolivet et Roshdi Rashed.* Paris 1984, S.125-142; J.R. Michot, *La destinée de l'homme selon Avicenne* (Louvain 1986 = Académie Royale de Belgique - Fonds René Draguet. Classe des lettres V) S.104ff., bes. 120ff.

57 Vgl. Daiber, *Ruler* (s.Anm. 50) S.17f.

58 Vgl. Marmura (s.Anm. 29) S.361f.

wie die durch ihn notwendige himmlische Intelligenz die Einzeldinge nur "auf eine allgemeine Weise" kennt.[59]

Religiöse Symbolik und philosophische Wahrheit formen bei Ibn Sīnā nicht mehr die innige Verbindung, wie wir sie bei Fārābī gefunden hatten. Dies hängt mit einer wichtigen Neuerung zusammen, die Ibn Sīnā - vielleicht unter dem Eindruck der Enzyklopädie der *Iḫwān aṣ-Ṣafa'*, eine vor 959/960 verfaßte philosophisch-naturwissenschaftliche Begründung des Sufitums zur Läuterung der Seele[60] - eingeführt hatte, nämlich die nachdrückliche Einbeziehung der Mystik in die Philosophie. Für Ibn Sīnā ist daher der Prophet ein Mystiker, der die Menschen durch seine Verkündung des göttlichen Gesetzes auf den mystischen Pfad führen will.[61] Der mystische Pfad ist der einzige Weg, der die Vernunftseele vom Körper und seinen Leidenschaften befreien und zur vollständigen Schau (*mušāhada*) Gottes führen kann.[62] Mit dieser mystischen Komponente steht Ibn Sīnās Philosophiebegriff in krassem Gegensatz zu Fārābīs Auffassung von der Philosophie als Weg zur Glückseligkeit im ethisch vollkommenen Verhalten des Einzelnen im Musterstaat. Er berührt sich mit dem neuplatonischen ἀπράγμων-βίος-Ideal des Philosophen, der sich besser aus der Gesellschaft zurückzieht; vor Ibn Sīnā hatte der 1017 verstorbene nestorianische Christ Ibn al-Hammār diesem Thema eine Abhandlung gewidmet.[63] Er hat eine poetische Wiedergabe erfahren in Ibn Sīnās Allegorie *Ḥayy Ibn Yaqẓān*[64] und in seinem Gedicht über die Seele,[65]

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59 Vgl. Marmura (s.Anm. 29) S.359-361.

60 Auf die Bekanntschaft Ibn Sīnās mit den *Iḫwān aṣ-Ṣafa'* weist Susanne Diwald, "Die Bedeutung des Kitāb Iḫwān aṣ-Ṣafā' für das islamische Denken", in: *Convegno sugli Ikhwān aṣ-Ṣafa' (Roma 25-26 ottobre 1979)*, Roma 1981 (= Accademia Nazionale dei Lincei, Fondazione Leone Caetani), S.5-25, bes. 23f. - Zum Philosophiebegriff der *Iḫwān* vgl. ed. Ḥairaddīn az-Zirirklī III (Kairo 1928) S.325ff./Übers. S. Diwald, *Arabische Philosophie und Wissenschaft in der Enzyklopädie* (Wiesbaden 1975) S.427ff.

61 Vgl. im Einzelnen Marmura, "Avicenna's Theory of Prophecy in the Light of Ash^{c}arite Theology", in: *The Seed of Wisdom. Essays in honour of T.J. Meek*. Ed. by W.S. McCullough (Toronto 1964) S.159-178; --, "Avicenna's Psychological Proof of Prophecy", in: *Journal of Near Eastern Studies* 22, 1963, S.49-56.

62 Vgl. Louis Gardet, *La pensée religieuse d'Avicenne (Ibn Sina)*, Paris 1951, Kp.5; Marmura (s.Anm. 29) S.363.

63 al-Ḥasan Ibn Suwār Ibn al-Ḥammār, *Maqāla fī ṣifat ar-raǧul al-failasūf* hrsg.u.übers. v. B. Lewin, "L'idéal antique du philosophe dans la tradition arabe", in: *Lychnos* 1954-5 (Uppsala 1955), S.267-284; vgl. dazu Joel L. Kraemer, *Humanism in the Renaissance of Islam* (Leiden 1986) S.128.

64 Arab. Text ed. Aḥmad Amīn, *Ḥayy Ibn Yaqẓān li-bn Sīnā wa-bn Ṭufail wa-s-Suhrawardī* (Kairo 1966) S.40-49/Übers. mit Kommentar in A.M. Goichon, *Le récit de Ḥayy Ibn Yaqẓān*, Paris 1959. - Vgl. den Art. "Ḥayy B. Yaḳẓān" in: *Encyclopaedia of*

beides symbolische Beschreibungen der Wege der Seele weg von den Fesseln des Körpers, von der Dunkelheit der Materie und hin zum himmlischen Licht des reinen Intellekts, zur Einswerdung mit Gott.

Ibn Sīnās mystische Orientierung des Philosophiebegriffes im Sinne eines intellektuellen Aufstieges zu höheren Formen der Erkenntnis hat sich nicht sofort durchgesetzt und hat erst ein Jahrhundert später, bei Ibn Bāǧǧa ein Echo gefunden. In der Zwischenzeit hat Ibn Sīnās Philosophie einen Bewunderer, aber auch Kritiker in Abū Ḥāmid al-Ġazzālī (gest. 1111) gefunden. Ġazzālī reduziert die Bedeutung der Philosophie auf ihre Funktion als *ancilla theologiae*; in seinem *Tahāfut al-falāsifa* (*Destructio philosophorum*)[66] weist er auf Unstimmigkeiten der Philosophen und auf Aussagen, die im Widerspruch zu Theologen seiner Zeit, den Aš'ariten stehen; zu nennen ist hier vor allem der Widerspruch der Philosophen zur Lehre von Gottes ewigem Willen und schöpferischem, in der Zeit stattfindenden Handeln. Ġazzālī lehnt die philosophischen Theorien von der Vorewigkeit der Welt,[67] von Gottes Kenntnis der Einzeldinge in universeller Weise und von der individuellen Unsterblichkeit der Seele mit Ausschluß des Leibes ab. Doch die Logik bleibt uneingeschränkt Instrument der Erkenntnis auch für Theologie und Rechtwissenschaft. Diese hat ihn am meisten an Ibn Sīnā fasziniert und diese benutzt er, um die Philosophen, nämlich Ibn Sīnā und Fārābī, zu kritisieren.[68] Ġazzālīs aš'aritisches und von seinem Lehrer Ǧuwainī[69] inspiriertes Konzept von Gottes allmächtigem Wissen, Willen und Handeln führte nicht nur zur Leugnung der philosophischen Vorstellung, daß alles, was verursacht ist, eine Ursache haben müsse; Gott habe die Dinge zunächst nebeneinander erschaffen und bestimme mit seinem Willen und

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Islam[2] III (Leiden-London 1971) u. dort gegebene Literaturverweise.

65 Arab. T. mit Studie in: Fatḥallah Ḫulaif, *Ibn Sīnā wa-madḫabuhū fī n-nafs* (Beirut 1974) S.129-131; franz. Übers. H. Jahier, A. Noureddine, *Anthologie de textes poétiques attribués à Avicenne* (Alger 1961) S.30-36.

66 Hrsg. v. M. Bouyges, Beyrouth 1927. Das Buch war dem Mittelalter bekannt, auch in lateinischen Übersetzungen der Widerlegung des Averroes seit dem 14. Jh.; vgl. Beatrice H. Zedler (Hrsg.), *Averrois Destructio destructionum philosophiae Algazels in the Latin Version of Calo Calonymos*, Wisconsin 1961.

67 Vgl. dazu M. Marmura, *The Conflict over the World's Pre-Eternity in the Tahāfuts of Al-Ghazālī and Ibn Rushd* (thesis Michigan 1959).

68 Vgl. im Einzelnen Marmura (s.Anm. 29) S.366ff.

69 Vgl. dazu W.M. Watt in: *Der Islam* II (s.Anm. 29) S.404ff.

seiner Allmacht den Zusammenhang zwischen diesen.[70] Ġazzālī leugnete damit auch Ibn Sīnās neuplatonische Emanationslehren, folgt ihm aber in der Einbeziehung der Mystik in den Gottesglauben: In seinem Werk über *Die Wiederbelebung der Religionswissenschaften* (*Iḥyā' ᶜulūm ad-dīn*)[71] sucht er eine Synthese zwischen Sufi-Tugenden der Gottesliebe, koranischer Ethik und aristotelischer Lehre von der Tugend als Goldene Mitte.[72] Philosophie wird mehr zum logischen Werkzeug für die geistige Beschäftigung mit der Religion, für die Theologie. In der Theologie finden - wie bereits vorher bei den Muᶜtaziliten - seit Ġazzālī zunehmend auch philosophische Lehren Eingang.

Im Gegenzug hat Ġazzālī versucht, den Partikularien der Religion mehr Nachdruck zu verleihen. Das Streben nach Vollkommenheit orientiert sich am islamischen Gesetz und an den koranisch-islamischen Jenseitserwartungen einer mystisch geprägten Frömmigkeit des einzelnen Gläubigen. Die menschliche Gesellschaft, Fārābīs Musterstaat als Rahmen für die Verwirklichung der Philosophie im tugendhaften Handeln des Menschen tritt in den Hintergrund; ebenso der erkenntnistheoretische Aspekt der Philosophie, den Ġazzālī von Ibn Sīnā nicht uneingeschränkt übernommen und vielfach auf den Einsatz der Logik als Mittel der Beweisführung durch die philosophische Elite[73] reduziert hat.

Erst der spanische Philosoph Ibn Bāǧǧa (gest. 1139) hat Ibn Sīnās Begriff der Philosophie im Sinne eines mystischen Aufstiegs zu stets höheren Formen der Erkenntnis weiter ausgebaut. Ziel ist die Befreiung der Seele von der Materie und ihre Einswerdung mit dem aktiven Intellekt, einer Emanation Gottes, wodurch sie zu einem zunehmend abstrakten Begriff des aus Materie und Form zusammengesetzten sinnlich Wahrnehmbaren kommt.[74] Hierbei hat Ibn Bāǧǧa das Schlagwort vom

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70 Vgl. im Einzelnen Marmura, "Ghazali and Demonstrative Science", in: *Journal of the History of Philosophy* 3, 1965, S.183-204 und Daiber, *Muᶜammar* (s.Anm. 10) S.284f. gegebene Hinweise.

71 Hrsg. in 4 Bänden in Kairo 1862; seither sind mehrere Nachdrucke erschienen.

72 Vgl. dazu O.E. Chahine, *L'originalité créatrice de la philosophie musulmane* (Paris 1972) S.105ff.; ferner Gazzālīs Schrift *Mīzān al-ᶜamal* ed. Sulaimān Dunyā, Kairo 1964 /Übers. Hikmat Hachem, *Critère de l'action*, Paris 1945.

73 Vgl. dazu Ġazzālīs *Iltǧām al-ᶜawāmm min ᶜilm al-kalām* in: *al-Quṣūr al-ᶜawālī min rasā'il al-Imām al-Ġazzālī*, Kairo 1964.

74 Vgl. Ibn Bāǧǧa, *Risālat Ittiṣāl al-ᶜaql bi-l-insān* ed. M. Fakhry, *Opera metaphysica* (Beirut 1968) S.155ff.; --, *Tadbīr al-mutawaḥḥid* ed. Maᶜn Ziyādeh, Beirut 1978; dazu Mongi Chemli, *La philosophie morale d'Ibn Bājja (Avempace) à travers le Tadbīr al-*

"einsamen" Philosophen, genannt *al-mutawaḥḥid*, entwickelt. Er gibt hier einer Aussage eine neue Pointierung, worin Fārābī eingesteht, daß ein tugendhafter Mensch oder Philosoph zuweilen unter nichttugendhafter Herrschaft leben muß und wie "ein Fremder in der Welt" ist.[75] Ibn Bāǧǧa beschränkt sich nicht auf Fārābīs Pessimismus, wonach für den tugendhaften Mensch, der keinen tugendhaften Staat findet, "der Tod besser ist als das Leben". Denn der "einsame" Philosoph, der nicht seinesgleichen findet, muß sich wie ein Sufi von der Gemeinschaft, von den anderen Menschen - unter denen er wie "Unkraut" (pl. *nawābit*) leben muß - abkapseln. Obzwar - übereinstimmend mit Aristoteles - der Mensch von Natur ein politisches Lebewesen ist, sei diese Abkapselung unter diesen Umständen akzidentell etwas Gutes.[76]

Der Philosoph in der Abgeschiedenheit von der Welt sowie in mystischer Kontemplation und intellektuellem Aufstieg entpuppt sich bei Ibn Bāǧǧa als Rechtfertigung für autonomen Alleingang der Philosophie ohne - farabianisch formuliert - die Partikularia dieser Welt zu benötigen. Diese These vom Alleingang des Philosophen hat ein jüngerer Zeitgenosse von Ibn Bāǧǧa, der spanische Philosoph Ibn Ṭufail (gest. 1185 oder 1186) zum Thema seines philosophischen Romans *Ḥayy Ibn Yaqẓān* gemacht und dabei Fārābī, Ġazzālī und Ibn Bāǧǧa kritisiert.[77] Hierbei erweist sich Ibn Ṭufail als Schüler des Ibn Sīnā.[78] Er übernimmt dessen These von der Gottesschau durch mystische Kontemplation und von der Einheit aller Dinge, die eine erste notwendige göttliche Ursache habe.[79] Gleichzeitig übernimmt er die farabianisch-avicennianische These von Religion als symbolisches, allen Menschen verständliches Spiegelbild philosophischer

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Mutawaḥḥid, Tunis 1969; Georges Zainaty, *La morale d'Avempace*, Paris 1979 = Etudes musulmans 22; Joel L. Kraemer, "Ibn Bajja y Maimonides sobre la perfeccion humana", in: *I congreso internacional "Encuentro de las culturas" (3-7 octubre 1982)*, Toledo 1983, S.237-245.

75 Vgl. Fārābī, *al-Fuṣūl al-muntazaᶜa*, ed. F.M. Naǧǧar (Beirut 1971) S.95; –, *Kitāb al-Milla* ed. M. Mahdi (Beirut 1968) S.56f./Übers. Marmura (s.Anm. 29) S.354 oben; dazu Endress (s.Anm. 13) S.233ff.

76 Vgl. Marmura (s.Anm. 29) S.375f.; G. Endress, "Wissen und Gesellschaft in der islamischen Philosophie des Mittelalters", in: *Pragmatik. Handbuch pragmatischen Denkens*. Hrsg. v. Herbert Stachowiak. I (Hamburg 1986, S.219-245), S.236.; vgl. dazu Oliver Leaman, "Ibn Bājja on Society and Philosophy", in: *Der Islam* 57, 1980, S.109-119, bes.118f.

77 Vgl. Marmura (s.Anm. 29) S.377f.; –, "The Philosopher and Society: Some Medieval Arabic Discussions", in: *Arab Studies Quarterly* 1, Detroit 1979 (S.309-323), S.318ff.

78 Vgl. dazu auch Z.A. Siddiqi, *Philosophy of Ibn Tufayl* (Aligarh 1965) S.133ff.

79 Vgl. oben zu Anm. 59.

Wahrheit, nicht aber Fārābīs Einschätzung der Religion als Verwirklichung der Philosophie im tugendhaften Verhalten des Einzelnen im Musterstaat: Die Religion von Absāl, der um die verborgene Wahrheit der Offenbarung weiß und sich im Unterschied zu Salamān nicht auf die äußere Form, den Buchstaben sowie die vorgeschriebenen Rituale beschränkt, widerspricht nicht der philosophischen Erkenntnis, die Ḥayy Ibn Yaqẓān in mystischer Abgeschiedenheit auf der Insel erworben hatte.[80] Da Philosophie den Nichtphilosophen nur durch die Symbolik der Religion übermittelt werden kann, bleibt Ḥayy Ibn Yaqẓān gezwungenermaßen der "einsame" Philosoph, wie er es von Anfang war; Absāl leistet ihm Gesellschaft, weil ihm seine Kenntnis um die symbolische Bedeutung der Religion den Zugang zur philosophischen Wahrheit vermittelt hat. Hierbei erscheint bei Ibn Ṭufail dieselbe esoterische Einstellung, die wir bei Ibn Sīnā gefunden hatten: die Mehrheit der Leute ist nicht in der Lage, die tiefere Bedeutung der Religion zu verstehen, sollte daher nicht mit den Lehren der Philosophen konfrontiert werden und - einer aš^{c}aritischen Maxime folgend - ohne weiteres Fragen (*bi-lā kaifa*) die religiösen Vorschriften einhalten.[81]

Die Einschätzung der Philosophie als tiefere Bedeutung der Religion übernimmt Ibn Ṭufails jüngerer Freund Ibn Ruš^{v}d (gest. 1198). Er bietet in seinem *Faṣl al-maqāl* (*Die entscheidende Abhandlung*)[82] eine juristische Verteidigung der Philosophie. Die Philosophie sei nach dem Gesetz Pflicht, das logische Argumentieren und die Erforschung von Gottes Schöpfung zum Zwecke der Gottesschau sei vom Koran (z.B. Sure 59,2) befohlen.[83] Doch wie in der farabianisch-avicennianischen Auffassung des Ibn Ṭufail ist nicht jeder zu philosophischer Erkenntnis in der Lage; Ibn Ruš^{v}d unterscheidet die philosophische Elite, die zu logischen Schlüssen fähig ist - er nennt sie nach Sure 3,7 Leute, "die ein gründliches Wissen haben"[84]

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80 Im Unterschied hierzu kommt 1 Jh. später bei Ibn an-Nafīs der *Theologus autodictatus* durch Kontakte mit der Außenwelt zu dem Schluß, daß der Mensch die Gesellschaft nötig hat; ferner entdeckt er durch eigenes Nachdenken seine religiösen Pflichten, die Notwendigkeit eines Propheten und die Zeichen des kommenden Untergangs der Welt; s. Max Meyerhof, Joseph Schacht, *The Theologus Autodidactus* (ed. with an introduction, translation and notes. Oxford 1968) S.30f.

81 Vgl Ibn Ṭufail, *Ḥayy Ibn Yaqẓān* ed. Leon Gauthier (Beirut 1936) S.153f./Übers. Lenn Evan Goodman, *Ibn Tufayl's Ḥayy Ibn Yaqẓān* (New York 1972) S.164f.

82 Hrsg. v. George F. Hourani, Leiden 1959; engl. Übers. v. Hourani, *Averroes on the Harmony of Religion and Philosophy* (s.Anm. 7).

83 Vgl. Marmura (s.Anm. 29) S.381f.

84 Vgl. dazu Hourani (s.Anm. 7) S.52, Anm. 74 u. S.54, Anm. 87.

- von denen, die sich mit rhetorischen Überredungen begnügen müssen; er fügt aber zwischen beiden Klassen die Schicht der Theologen (*mutakallimūn*) ein, die nicht über das dialektische Argumentieren hinaus kommen.

Jeglicher Konflikt zwischen Philosophie und Religion ist Ibn Rušd zufolge nur scheinbar und beruht darauf, daß schwierige Texte der religiösen Offenbarung wörtlich und nicht metaphorisch ausgelegt sowie von Leuten interpretiert werden, die nicht zur Beweisführung fähig sind.[85] Doch im Unterschied zu Ġazzālī, dessen Kritik an den Philosophen[86] er in seinem *Tahāfut at-tahāfut*[87] zurückweist, ist Irrtum in der Einschätzung der Offenbarung als wörtlich oder allegorisch zu interpretierende Texte noch nicht "Unglaube" (*kufr*). Ein Beispiel ist die religiöse Überlieferung über die Auferstehung, wo es unsicher sei, ob sie hinsichtlich der Unsterblichkeit der Seele wörtlich oder philosophisch interpretiert werden müsse; Ibn Rušd nimmt sie sowohl wörtlich und betrachtet sie als Bestätigung für die individuelle Unsterblichkeit der Seele. Aber er bietet auch eine philosophische Interpretation, wobei er gegen Ġazzālī zur Leugnung der individuellen Unsterblichkeit kommt: Dies begründet Ibn Rušd mit seiner Theorie vom aktiven ewigen Intellekt.[88] Dieser ist die Form des Hyle-Intellektes, welcher - vergleichbar der Form-Materie-Verbindung - seinerseits Form der Seele ist. Somit ist die Form der Seele, der Hyle-Intellekt, ewige Potentialität und besitzt die Disposition (*istiʿdād*), um unter Einwirkung des aktiven Intellekts die Intelligiblen durch die Vorstellungskraft aufzunehmen und das erworbene Wissen mit dem aktiven Intellekt zu verbinden. Diese Verbindung (*ittiṣāl*, *ittiḥād*) ist die vollkommenste Form menschlicher Erkenntnis, die der spekulative Intellekt des Menschen in ständiger Beschäftigung mit den Wissenschaften erlangen

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85 Vgl. im Einzelnen Marmura (s.Anm. 29) S.382-4.

86 Vgl. Marmura (s.Anm. 29) S.384ff.

87 Hrsg. v. M. Bouyges, Beyrouth 1930/engl. Übers. v. Simon Van Den Bergh (I-II, London 1969, repr. 1978). - Zwischen beiden Werken sucht ʿAlāʾaddīn aṭ-Ṭūsī (gest. 1482), *aḏ-Ḏaḫīra* (= *Tahāfut al-falāsifa*) zu vermitteln. Das Werk ist von Riḍā Saʿāda 1981 in Beirut neu herausgegeben worden.

88 Vgl. A.L. Ivry, "Averroes on Intellection and Conjunction", in: *Journal of the American Oriental Society* 86, 1966, S.76-85; --, "Towards a Unified View of Averroes' Philosophy", in: *The Philosophical Forum* IV/1 (new series), Fall 1972 (Boston, Mass. 1973), S.87-113.; Marmura (s.Anm. 29) S.385ff.; Kalman P. Bland, *The Epistle on the Possibility of Conjunction with the Active Intellect by Ibn Rushd with the Commentary of Moses Narboni* (New York 1982), Einl. S.1ff. und Text; Ovey N. Mohammed, *Averroes' Doctrine of Immortality*, Waterloo, Ontario 1984.

kann.[89] Als Folge dieser Verbindung der Seele mit der ewigen Form des aktiven Intellektes und den vergänglichen imaginären Formen des Hyle-Intellektes gibt es für Averroes keine individuelle Unsterblichkeit der Seele.[90]

Bedeutsam ist in in dieser epistemologischen Stellungnahme zur Unsterblichkeit die Beziehung zwischen sinnlichen, vergänglichen Einzelwahrnehmungen und abstrahierten ewigen Allgemeinbegriffen, zwischen Intellekt und Sinneswahrnehmung. Ibn Rušd führt hier in modifizierter Form Gedanken des Fārābī und des Ibn Bāǧǧa weiter;[91] der aktive Intellekt ist das Bindeglied zwischen der absoluten Einfachheit und Ewigkeit von Gottes Wissen und der Vielheit des erworbenen Wissens um die sichtbare, vergängliche Welt. Seine Verbindung mit dem erworbenen Wissen ist Aufgabe der Philosophen, welche hiermit ohne Zuhilfenahme der göttlichen Offenbarung zu jeder Zeit und an jedem Ort Glückseligkeit, nämlich Unsterblichkeit erlangen können.[92]

Hiermit hat Ibn Rušd die farabianisch-avicennianische Auffassung von der göttlichen Offenbarung durch den Propheten als etwas für die menschliche Erkenntnis Unentbehrliches eingeschränkt. Ferner hat er Ibn Bāǧǧas und Ibn Ṭufails mystische Lehre vom "einsamen" Philosophen nicht übernommen und knüpft stattdessen an Fārābīs Lehre von der Glückseligkeit des Menschen in der Gemeinschaft an.[93] In seiner These von der Konjunktion des erworbenen Wissens mit dem aktiven Intellekt hat Ibn Rušd jedoch abgesehen von Fārābīs Parallelisierung von aristotelischer Abhängigkeit des Denkens von der Wahrnehmung mit philosophischer Theorie und Praxis, Einsicht und Ethik. Denn die Gemeinschaft ist eher Hindernis philosophischer Erkenntnis.[94]

Indessen weisen auch bei Ibn Rušd die Partikularien auf Universalien, auf allgemeine Begriffe, die durch die theoretische Fähigkeit des Menschen abstrahiert werden können. Hier erscheint Fārābīs These von

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89 Vgl. Übers. Bland (s.vor.Anm.) S.36; 69 (wo Ibn Rušd sich damit ausdrücklich gegen die Sufis wendet); 103ff.; Mahmoud Kassem, *Théorie de la connaissance d'après Averroès et son interpretation chez Thomas d'Aquin* (Alger 1978) S.235ff.

90 Vgl. zu weiteren Argumenten gegen diese Lehre des Ġazzālī Marmura (s.Anm. 29) S.386-388.

91 Vgl. Bland (s.Anm. 88) S.4ff.

92 Vgl. Bland (s.Anm. 88) S.6f.

93 Vgl. Übers. Bland (s.Anm. 88) S.108f.

94 Vgl. Bland l.c.

der Religion als Spiegelbild und Instrument der Philosophie ersetzt durch die kompliziertere These vom philosophischen Wissen des Menschen um die Manifestation göttlichen Wissens durch die Verbindung seiner Seele mit der ewigen Form des aktiven Intellektes und mit der vergänglichen Form des Hyle-Intellektes; nicht mehr der Philosoph, Prophet und Regent des Musterstaates (Fārābī), nicht mehr der mystische und einsame Wahrheitssucher (Ibn Sīnā, Ibn Bāǧǧa, Ibn Ṭufail), sondern diese dem gesamten Menschengeschlecht zur Aufgabe gesetzte Verbindung führt zur Glückseligkeit.[95] Philosophie ist zur höchsten Form universaler menschlicher Kenntnis religiöser Wahrheit geworden. Wie bei Fārābī, Ibn Sīnā, Ibn Bāǧǧa und Ibn Ṭufail ist sie nicht für jeden begreiflich. Selbst Philosophen können sich hierbei irren, da auch die theoretische Fähigkeit der Menschen auf Bilder angewiesen ist. Somit muß es zuweilen unklar bleiben, ob ein Gedanke allegorisch auszulegen ist oder nicht.

Averroes' Auffassung formt den Endpunkt einer Entwicklung, die einen ersten Höhepunkt in Fārābī erreicht hatte. Dieser hat mit seiner Harmonisierung von Philosopie und Religion den Philosophiebegriff der nachfolgenden Zeit entscheidend geprägt. Philosophie wird zum autonomen Wissenszweig, dessen Inhalt sich sowohl an den griechischen Philosophen von Platon und Aristoteles bis Proclus, als auch am Islam, an Koran und religiöser Überlieferung orientiert und dessen Ideen wie erkenntnistheoretischen Methoden zunehmend die einzelnen Wissenschaften in ihren formalen und inhaltlichen Prägungen und abgrenzenden Einteilungen,[96] auch die islamische Theologie[97] geprägt haben. Während ihres Duells mit

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[95] Vgl. hier Shlomo Pines, "La philosophie dans l'économie du genre humain selon Averroès; une réponse à al-Fārābī?" In: *Multiple Averroès* (Paris 1978) S.189-207; Endress (s.Anm. 76) S.239f.

[96] Vgl. Ahmad A. al-Rabe, *Muslim Philosophers Classifications of the Sciences: al-Kindī, al-Fārābī, al-Ghazālī, Ibn Khaldūn*. Thesis Harvard (Cambridge, Mass.) 1984; G. Endress (s.Anm. 76) S.219ff., bes. 223ff.

[97] Genannt seien hier Ibn Tūmart (gest. 391/1001), aš-Šahrastānī (12. Jh.), Naṣīraddīn aṭ-Ṭūsī (13. Jh.), Ibn Taimīya (13./14. Jh.) und Ibn Abī Ǧumhūr al-Aḥsā'ī (15. Jh.): s. Georges Vajda, "Une synthèse peu connue de la révélation et de la philosophie: Le "Kanz al-ᶜulūm" de Muḥammad B. ᶜAlī Ibn Tūmart al-Andalusī", in: *Mélanges Louis Massignon* 3, Damas 1957, S.359-374. - W. Madelung, "Aš-Šahrastānīs Streitschrift gegen Avicenna und ihre Widerlegung durch Naṣīraddīn aṭ-Ṭūsī", in: *Akten des 7.Kongresses für Arabistik und Islamwissenschaft* (= Abhandlungen der Akademie der Wissenschaften zu Göttingen, philol.hist. Kl., 3.F. Nr.98), Göttingen 1976, S.250-259; Šahrastānīs *Muṣāraᶜat al-falāsifa* und Ṭūsīs *Maṣāriᶜ al-muṣāriᶜ* sind von Maḥmūd al-Marᶜašī u. Ḥasan al-Muᶜizzī 1405/1984 in Qumm herausgegeben worden. - Ṣabih Ahmad Kamali, *Types of Islamic Thought* (Aligarh 1963) S.53ff. (zu Ibn Taimīya); Thomas Michel, "Ibn Taymiyya's Critique of Falsafa", in: *Hamdard Islamicus* 6/1, Karachi 1983, S.3-14. - W. Madelung,

religiöser Offenbarung, das auf eine wechselhafte Geschichte lebhafter, teilweise politisierter Diskussionen zurückblicken kann,[98] hat sich islamische Philosophie ebenso profiliert wie die übrigen Wissenschaften und das religiöse Denken und Handeln des Islam. Sie hat das damalige Bewußtsein so sehr geprägt, daß der berühmte islamische Historiker Ibn Ḫaldūn (gest. 1406) eine nicht unkritische Zusammenschau von islamischer Gesellschaft, religiös-politischem Gesetz und Philosophie bieten kann, die Einflüsse des von Fārābī bis Averroes entwickelten philosophischen Weltbildes verrät[99] und nach Averroes' Vorbild die universalhistorische Bedeutung der auf richtige Weise gepflegten[100] Philosophie für die Menschheit unterstreicht. Seine Geschichtsdarstellung und seine philosophische, von Einsichten in soziale Gegebenheiten und Erfordernissen geprägte Schau der Geschichte hat er nicht nur für eine Minderheit von Gebildeten geschrieben, sondern für alle;[101] auch hier greift Ibn Ḫaldūn auf Vorbilder der Vergangenheit zurück.

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"Ibn Abī ʿUmhūr al-Aḥsāʾī's Synthesis of kalām, philosophy and Sufism", in: *La signification du bas moyen âge dans l'histoire et la culture du monde musulman. Actes du 8me congrès de l'Union Européenne des Arabisants et Islamisants. Aix-en-Provence septembre 1976*, S.147-156 (auch: --, *Religious Schools and Sects in Medieval Islam*. London 1985).

98 Vgl. Endress (s.Anm. 76) S.233f.

99 Vgl. hierzu Muhsin Mahdi, *Ibn Khaldūn's Philosophy of History* (London 1957; ²Chicago 1971) S.84ff.; --, "Die Kritik der islamischen politischen Philosophie bei Ibn Khaldūn", in: *Wissenschaftliche Politik. Eine Einführung in Grundfragen ihrer Tradition und Theorie*. Hrsg. v. Dieter Oberndörfer. Freiburg/Br. 1962, S.117-151; E.J. Rosenthal, "Ibn Jaldūn's Attitude to the Falāsifa", in: --, *Studia Semitica* II, Cambridge 1971, S.115-126.

100 Vgl. al-Rabe (s.Anm. 96) S.171f.; 187ff.

101 Vgl. Mahdi (s.Anm. 99) S.113ff.; Ferial Ghazoul, "The Metaphors of Historiography: a study of Ibn Khaldūn's Historical Imagination", in: *In Quest of an Islamic Humanism. Arabic and Islamic Studies in Memory of Mohammed al-Nowaihi*. Cairo 1984, S.48-61.

ABSTRACT:

The Autonomy of Philosophy in Islam

The paper gives a survey of the concepts of philosophy hold by Islamic philosophers (Kindī, Abū Bakr ar-Rāzī, Abū Ḥātim ar-Rāzī, Fārābī, Ibn Sīnā, al-Ġazzālī, Ibn Bāgga, Ibn Ṭufail, Ibn Rušd, Ibn Ḫaldūn). The dominant concept of philosophy as an epistemological instrument and as a way to the knowledge of God started from Koranic-Islamic assumptions like the idea of a transcendent God, the emphasis of the search after knowledge and first rational methods of arguing and thinking about God and world as developed by the Muᶜtazilites of the 8th/9th century. For Kindī who followed Aristotelian and Neoplatonic ideas, philosophy is knowledge of the divine cause and does not contradict religion and its revelation. Abū Bakr ar-Rāzī took over Kindī's conception of the autonomy of philosophy and even denied the necessity of revelation; all people are able to philosophy. This was sharply criticized by his contemporary, the Ismaili scholar Abū Ḥātim ar-Rāzī whose ideas reappear in a modified manner in his younger contemporary, the famous philosopher Fārābī: he declared religion as "imitation", as a "picture" of philosophy which is realized in an ethical manner, in the religion of the perfect state; religion and philosophy need each other as the regent of the state, the philosopher must be a prophet whose imperfect intellect gets its divine inspirations from the *intellectus agens*. Fārābī paralleled this correlation between religion and philosophy with the Aristotelian correlation of praxis and theory and with Aristotle's thesis of the correlation between thought and sense-perception. - Fārābī's unique conception of philosophy influenced later philosophers who modified it. According to Ibn Sīnā religion is solely a language of symbols and pictures which the prophet received from the "active angels" and which not in every case can be transmitted to the people. Ibn Sīnā classified the prophet as a mystic who wants to guide people to the mystic pad. This mystical reorientation is taken over in Ġazzālī's synthesis between Sufi virtues, Koranic ethics and the Aristotelian conception of virtues as golden mean; philosophy is reduced mainly to a logic tool for argumentation in favour of religion. - The neglect of the community, the perfect state as a frame for the realization of philosophy is continued in Ibn Bāgga's concept of philosophy as mystical ascension of the soul to higher forms of cognition. His concept of the "solitary" philosopher played a central role in Ibn Ṭufail's philosophical novel *Ḥayy Ibn Yaqẓān*, where we can detect the Farabian-Avicennian conception of religion as symbolical mirror image of philosophical truth which can be understood by non-philosophers. - This estimation of philosophy as deeper meaning of religion is taken over in a specific manner by a younger friend of Ibn Ṭufail, the famous philosopher and jurist Ibn Rušd; according to him every conflict between philosophy and religion is caused by wrong interpretation of revelation. The philosopher must take care for more and more intensive connection between the divine active intellect and acquired knowledge. This conjunction is no more an exclusive task of a Farabian prophet-philosopher and leader in the perfect state, of a solitary mystic as suggested by Ibn Sīnā, Ibn Bāgga and Ibn Ṭufail; on the contrary, it is an obligation of every man, the whole mankind. Philosophy is the highest form of universal human knowledge about religious truth. Ibn Rušd's conception turns out to be the end of a development which had reached its first highlight with Fārābī. - Philosophy had become an autonomous branch of science; it continues Greek philosophy of Plato, Aristotle, his commentators, Plotin and Proclus and keeps to Islamic religious traditions of Koran and Sunna. With its contents and epistemological methods it has shaped more and more single branches of sciences, including Islamic theology. The duel between philosophy and religious revelation has shaped Islamic philosophy and sciences as well as religious thought and acting. Therefore the famous historian Ibn Ḫaldūn could present a critical synopsis of Islamic society, religious-political law and philosophy; in this he stressed - by following the model of Ibn Rušd - the universal importance of correctly understood philosophy to mankind. His history and his description of discovery of permanent social factors and demands in history addresses all people and not only an educated minority. Here too Ibn Ḫaldūn appears to be inspired by Islamic philosophers.

COLETTE SIRAT

La philosophie et la science selon les philosophes juifs du Moyen-Age

Tout le long de l'histoire de la philosophie juive, l'étude des sciences et l'étude de la Révélation ont été appliquées à résoudre les mêmes problèmes, à tenter de répondre aux mêmes questions, à expliquer Dieu et le monde. Il n'y a pas eu de partage entre les domaines auxquels seule la foi ou seule la raison pouvaient prétendre. La différence entre la philosophie et la foi est donc celle de définition, de méthode de pensée.

Il y a eu quelques penseurs opposés à la philosophie et à l'apprentissage des sciences. Ainsi Salmon ben Yeruhim (karaïte, Palestine, vers 910-970) affirme:

> "Désirer d'autres [livres que les livres révélés] c'est acquérir l'ignorance [et s'encombrer de] ce qui ne renferme point la sagesse...Celui qui porte intérêt à la sagesse des "autres", des étrangers, devient un disciple des incroyants..."[1]

Ces deux thèmes - les sciences sont extérieures à la religion et elles éloignent d'elle - seront repris et amplifiés durant la querelle au sujet des études philosophiques, en France du Sud, en Espagne et en Italie durant le XIIIème siècle.

Les premiers penseurs rationalistes, partisans du *Kalam*, ont affirmé cependant que la raison est une manifestation de Dieu, ainsi Qirqisani et Yefet ben Eli parmi les Karaïtes, Saadia Gaon, parmi les Rabbanites (tous trois du Xème siècle, Orient). Selon eux, la recherche et le raisonnement font partie de l'homme en tant qu'il se distingue des animaux. Comme eux, il a, certes, une âme vivante, mais la sienne est différente en ce qu'elle est une âme "parlante", c'est-à-dire rationnelle grâce à sa compréhension et son discernement qui incluent le langage. De plus, il y a une homogénéité du savoir qui, en elle-même, est preuve de sa nécessité: prenons une connaissance acquise par l'investigation rationnelle; elle est prouvée par une autre connaissance acquise également par l'investigation

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1 G. Vajda: *Deux commentaires karaïtes sur l'Ecclésiaste*, Leyde, 1971, p. 82.

rationnelle, mais cette dernière est prouvée par la connaissance intuitive qui se trouve ainsi être la base de tout raisonnement logique.

L'âme humaine, par sa disposition naturelle, telle qu'elle a été créée par Dieu, pense et comprend les définitions vraies des choses et a le pouvoir de faire un choix. "L'image et la ressemblance de Dieu", c'est cette capacité de discerner le bon du mauvais, de choisir, de percevoir les événements passés et futurs; les animaux se contentent d'acquérir ce qui est nécessaire à la survivance physique.

La spéculation rationnelle apporte une preuve à un processus psychologique qui existe de toutes façons, car le besoin de connaître et de chercher existe dans tous les hommes et nul n'est heureux lorsqu'on le traite d'ignorant.

La raison est ce qui distingue l'homme des animaux et le besoin de connaître est naturel à l'homme. La science est aussi, déjà, un corpus homogène. A la question: la spéculation rationnelle doit-elle s'appliquer à la religion? nos trois auteurs répondent décidément oui: la révélation est multiple puisque juifs, chrétiens, musulmans ont chacun leur révélation. Seule la raison permet de décider de l'authenticité d'une révélation. Il faut donc que le processus intellectuel, rationnel, précède et justifie l'acceptation d'une prophétie quelle qu'elle soit. Or, même dans la Bible, nous voyons qu'il y eut des faux prophètes. Plus encore, avant même d'accepter la prophétie, il faut être convaincu qu'un Dieu, bon et sage, est à l'origine de cette prophétie; il convient donc en premier lieu de prouver, par la raison, l'existence de Dieu.

A la seconde question: pourquoi la révélation était-elle nécessaire? les réponses diffèrent mais sont basées sur l'utilité et la nécessité politique.

Chez les philosophes juifs du Xème-XIIème siècle qu'on a coutume d'appeler les néo-platoniciens, la définition de la raison est celle des philosophes grecs mais le problème des rapports entre la raison c'est-à-dire - la philosophie et la science - et la révélation ne semble pas avoir été brûlant; il leur semblait évident qu'il n'y avait ni différence ni incompatibilité entre les deux. Citons ici un texte de Joseph b. Jacob Ibn Tsaddiq (Espagne, vers 1110-1150):

> "Nous avons dit que le chemin de la connaissance du Tout est la connaissance par l'homme de son âme, car en connaissant son corps, il connait le monde corporel et en connaissant son âme, il connait le monde spirituel; par cette connaissance, l'homme atteint la connaissance de son Créateur comme il est dit dans Job XIX, 26: à partir de ma chair, je verrai Dieu. Ne t'imagines pas que cette

> connaissance puisse s'accomplir sans étude ni recherche; l'absurdité de cette idée est évidente puisque ce n'est pas en vain que Dieu a donné à l'homme l'intellect et la faculté de raisonnement mais justement pour cette raison; ensuite le Créateur, béni soit-il, n'est pas objet de sensation ni de compréhension (immédiate) et l'homme ne peut le connaître que par l'intellect après des études et des recherches comme il est dit à propos d'Abraham notre père: qu'il chercha et pensa et réfléchit et, lorsqu'il eut compris, le Saint béni soit-il se révéla à lui. Nous voyons bien que cette connaissance de Dieu attribuée à Abraham est considérée dans la Bible comme le plus éminent et le plus important de tous les dons que Dieu donnera à Israël: "ils n'auront plus à instruire chacun son prochain, chacun son frère en disant: Connaissez le seigneur car tous me connaîtront, du plus petit au plus grand" (Jér. XXXI, 34) et la raison de cette connaissance est la prophétie selon le verset: " Et alors, je répandrai mon esprit sur toute chair; vos fils et vos filles prophétiseront" (Joël III, 1) et à ce sujet, les philosophes ont dit que ne peuvent servir la Cause des Causes qu'un homme prophète par nature dans sa génération ou un philosophe reconnu".[2]

Cette identification entre prophétie et philosophie pose des problèmes, car la philosophie inclut nombre de sciences qu'il est bien difficile d'attribuer au peuple juif recevant la Tora sur le Mont Sinaï; Ibn Tsaddiq résout la question en affirmant que lors du don de la Tora, Dieu a donné la prophétie à tout le peuple, car telle était sa volonté; mais comme, actuellement, nul ne peut atteindre la philosophie, c'est-à-dire la prophétie, si ce n'est par l'intermédiaire de la science, tous doivent gravir les degrés de la science.

Pour les partisans du kalam comme pour les néo-platoniciens, il ne peut pas y avoir de conflit entre la philosophie et la révélation: ce sont deux rameaux d'une même branche. Avec Abraham Ibn Daoud (Espagne, XIIème siècle) nous entrons dans la période aristotélicienne. Et tout de suite on ressent l'opposition entre philosophie et religion:

> "La Tora et la philosophie sont en contradiction flagrante lorsqu'il s'agit de décrire l'essence divine: pour les philosophes, Dieu, incorporel, n'est aucunement susceptible de changement; la Tora, au contraire, relate les déplacements de Dieu, ses sentiments... Etant donné que la philosophie et la Tora sont à ce sujet en contradiction, nous sommes dans la situation d'un homme ayant deux maîtres, dont l'un est grand et l'autre n'est pas petit; au premier il ne peut complaire qu'en transgressant l'opinion du second, en conséquence, si nous trouvons un moyen de les mettre d'accord, nous nous en trouverons fort heureux."[3]

Abraham Ibn Daoud apportera dans son livre le témoignage des textes religieux et les preuves de la philosophie vraie. Ces preuves, que

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2 *Ha-Olam haqatan*, ed. S. Horovitz, Breslau, 1903, p. 21.

3 *Emuna Rama*, ed. S. Weil, Francforts/Main, 1852, p. 82.

sont-elles? elles sont des prémisses et des raisonnements qui s'enchaînent les unes aux autres, ainsi il faut d'abord exposer les prémisses de la physique et de la métaphysique lesquelles nous amèneront nécessairement à la connaissance des attributs divins et de ses actions, mais la vérité de cette connaissance des attributs divins ne sera assurée que si l'on prouve d'abord son existence et que l'on apporte la preuve de son unité...celle-ci ne sera véritablement prouvée que si la précède d'abord la preuve de l'existence des substances simples etc...

Pour Ibn Daoud, la philosophie est un corpus de raisonnements qui s'enchaînent les uns aux autres et forment un tout englobant l'ensemble des sciences et couronné par la connaissance des attributs divins. Les témoignages des textes religieux viendront ensuite fortifier les conclusions.

Pour Maimonide: l'intellect humain, est capable de distinguer le vrai du faux; il est le stade ultime de la perfection humaine et le but de son existence.

Dans son introduction logique, Maimonide définit l'un des trois genres de "parole" comme étant:

> "l'intelligible lui-même que l'homme a déjà intelligé, on l'appelle aussi parole intérieure...L'art de la logique qu'a fondé Aristote et qu'il a complété en huit livres, montre à la faculté de raison les chemins intelligibles, c'est-à-dire de la parole intérieure; c'est lui qui la préserve de l'erreur, lui montre la voie juste et la fait parvenir à la vérité dans tous les domaines où la faculté humaine peut atteindre la vérité. La philosophie théorique, qui se compose des sciences mathématiques, physique et métaphysique a pour but la connaissance des choses dépourvues de matière et elle recherche la vérité. La logique, pour les philosophes, ne fait pas partie des sciences elle est l'outil des sciences et l'on ne peut ni enseigner ni apprendre de manière ordonnée si ce n'est par l'art de la logique: elle est l'outil de toute chose et ne vient d'aucune chose."[4]

Ainsi, la boucle est bouclée et dans ce tableau de l'intellect, des sciences et de la vérité, la religion n'intervient pas: son domaine est celui du bien et du mal et non celui du vrai.

Le texte révélé doit confirmer les conclusions vraies et s'il ne le fait pas à première vue, c'est que le niveau exotérique est destiné au vulgaire. Le philosophe saura déceler la vérité sous le manteau du langage extérieur. Mais la science n'a pas réponse à toutes les questions ainsi elle ne donne pas de réponse assurée quant à l'éternité du monde ou à sa

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4 *Millot hahygayon*, ed. L. Roth et D.H. Baneth, Jérusalem, 1965, chap. XIV, p. 101 sqq.

nouveauté. Si elle le faisait, le texte biblique, convenablement expliqué, viendrait le confirmer.

Dans leurs grands traits, l'attitude d'Abraham Ibn Daoud et celle de Maimonide concordent: la vérité doit être recherchée par la philosophie - c'est-à-dire la science - la tradition religieuse se pliera à la vérité ainsi obtenue.

Parmi les successeurs de Maimonide, les caractéristiques de la science se dessinent quelquefois avec plus de détails:

D'abord chez Juda b. Salomon ha-Cohen, espagnol qui se rendit en Italie à la cour de Frédéric II et, en 1245 traduisit lui-même en hébreu l'encyclopédie qu'il avait rédigée en arabe: "L'exposé sur la science".

Les deux parties scientifiques: mathématique-astronomie et physique sont encadrées par des développements relevant de la "science divine": chacune des sciences s'applique à un monde différent: le monde d'ici-bas, le monde des sphères, le monde divin. Les méthodes des sciences diffèrent comme diffèrent leur objet d'étude: la science divine, seule, atteint le non-corporel et les deux autres sciences découlent d'elle:

> "L'auteur, Juda ha-Cohen b. Salomon ha-Cohen de Tolède dit: lorsque tu réfléchis et occupes ta pensée de ces sciences afin d'acquérir la connaissance de tout ce qui existe du début à la fin, tu verras à la fin que tu ne connaîtras que fort peu de choses en ce qui concerne les deux mondes perçus par les sens: le monde des sphères et celui de la génération et de la corruption. Quant au monde spirituel, même si tu connaissais par coeur les treize livres d'Aristote sur la science divine, tu n'en tirerais pas plus que la connaissance du premier moteur, rocher, un vivant, qui n'est ni corps, ni force dans un corps et qu'il y a pour chaque sphère un intellect séparé, c'est tout ce que tu apprendrais à propos de ce monde (spirituel) si tu occupes ta pensée de ces traités...Les philosophes se sont efforcés à connaître ces trois mondes, par l'opinion (conjecture) seulement, laquelle est science d'une connaissance qui s'enracine dans la sensation comme Aristote l'a mentionné dans "la démonstration" [*Analytiques*] et "l'âme" [*De Anima*]. Aussi, ce serait vraiment miraculeux de pouvoir, à partir de la sensation, connaître, comprendre et atteindre quelque chose qui n'est aucunement sensible; aussi, ce peu que (les philosophes) ont atteint, bien que ce soit comme une goutte d'eau dans la mer, n'est pas peu pour celui qui l'a atteint par une opinion de l'intellect dont la base est la sensation. Or (Dieu) n'est aucunement sensible comme il est dit: "Aucun oeil humain n'a vu Dieu" (Is. LXIV, 3) car nous ne percevons que les corps. Puisqu'il en est ainsi et que nous ne pouvons user de l'opinion, comment atteindrons-nous les détails de cette science qui est la base, la cause et le début des sciences des deux mondes (inférieurs)? Ne convient-il pas de dire à propos de celui qui ne s'est occupé que des sciences de ces deux mondes: "vous tous, venez donc de nouveau et je ne trouverai pas un sage parmi vous" (Job XVII, 10) car n'est appelée "sagesse" que la sagesse certaine, celle qui est "spirituelle" et celui qui la connaît est appelé sage comme le dit Aristote dans le Livre III de la *Métaphysique*; en

effet, le monde (spirituel) précède les autres par toutes sortes de précédences et celui qui connaît cette sagesse n'a pas besoin de fatiguer son esprit des deux sciences inférieures, car il les connaît immédiatement avec facilité, mais celui qui ne connaît que ces deux sciences a encore besoin de connaître la sagesse. Etant donné que nous ne pouvons atteindre cette sagesse par le seul raisonnement, nous avons besoin de la recevoir (*le-qabbela*) oralement, d'homme à homme, à partir de la Puissance divine [Dieu]."[5]

De même diffèrent entre elles les deux sciences inférieures:

"Les genres de démonstration apportés en physique sont le contraire de celles qu'apportent les sciences mathématiques: dans ces dernières, on va de l'antérieur au postérieur tandis qu'en physique, on va du postérieur à l'antérieur, et comme les choses connues par les sciences mathématiques le sont généralement par les sciences physiques, les démonstrations des sciences mathématiques sont absolues, tandis que celles de la physique ne sont pas complètement connues, absolument et en soi, aussi les démonstrations qui sont faites dans cette science physique sont-elles appelées preuves."[6]

Cette comparaison entre les preuves apportées par la physique et les démonstrations apportées par les mathématiques commente le tout début du Livre I de la *Physique* où Aristote décrit le processus d'analyse dans les sciences de la nature sans référence aux mathématiques. On trouve cette comparaison dans l'*Epitomé* d'Averroès et, de manière plus explicite et élaborée, dans le *Commentaire moyen*, source du *Midrash ha-Hokhma.*

Et ici Juda ajoute:

"Bien plus, toutes les choses dont on dit qu'elles sont expliquées dans cette science (physique) ne le sont pas convenablement, même

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5 traduit dans C. Sirat: Juda b. Salomon ha-Cohen philosophe, astronome et peut-être Kabbaliste de la première moitié du XIIIème siècle, dans *Italia*, II, 1977, pp. 39-61.

6 En d'autres mots: "The propositions and observation statements of science have empirical furniture only: In epistemological principle, they have all to do with ships, shoes and sealing wax, etc. To say as much is not in any way to diminish science, for the material world is full of wonderful and inspiring things. Some are commonplace and ordinary, to be sure - among them perhaps raindrops, pebbles and water fleas - but others are awe-inspiring or in the literal sense tremendous: the multitudinous seas round Cape Horn, where the Atlantic and Pacific oceans fight it out to see which is the greatest; and the great dome of heaven, as we may become aware of it on a high plateau, for nowhere else does the world seem so large. All are part of the empirical mise-en-scène of the world. The law of Conservation of Information makes it clear that from observation statements or descriptive laws having only empirical furniture there is no process of reasoning by which we may derive theorems having to do with first and last things; it is no more easily possible to derive such theorems from the hypotheses and observation statements with which science begins than it is possible to deduce from the axioms and postulates of Euclid a theorem to do with how to cook an omelet or bake a cake - accomplishments that would at once unseat the Law of Conservation of Information. I do not believe that revelation is a source of information, though I acknowledge that it is widely believed to be so - and that Coleridge judged theology Queen of the Pure Sciences for that very reason." P. Medawar: *The Limits of Science*, Oxford, 1986, pp. 81-82.

par ces démonstrations appelées "preuves" mais quelques unes d'entre elles seulement. Il en résulte que l'infériorité de la physique est due à trois défauts hiérarchiquement disposés:
(1) Les prémisses ne sont pas toutes basées sur les évidences premières.
(2) Il n'y a pas de démonstration parfaite comme dans les démonstrations mathématiques, mais seulement des preuves.
(3) Nombre de faits ne sont pas expliqués, même par des preuves." (Ibidem).

En fait, conclut Juda, il faudrait pouvoir apporter en physique des preuves manifestes au sens, des démonstrations expérimentales qu'on ne puisse mettre en doute, comme le sont les expériences dans les sciences mathématiques et astronomiques. En l'absence de ces démonstrations, on ne peut choisir entre les théories physiques opposées, et les débats entre physiciens ne sont que discussions oiseuses.

Shemtob b. Joseph Falqéra (Provence, 1225-1295) considère que le domaine de recherche de la philosophie et celui de la religion coïncident: cependant, ni la science ni la religion n'ont la prérogative de la vérité:

Deux voies s'offrent à l'homme: la voie prophétique et la voie scientifique. Celui sur qui s'épanche l'influx de l'intellect et qui est prophète atteindra la vérité sans recherche, aux autres hommes s'ouvre seulement la voie scientifique, celle que Maimonide a décrite dans *Le Guide des Égarés*; elle consiste à examiner, à scruter et à comprendre tout ce qui existe, dans ses détails et dans son ensemble, car il n'y a de preuve de l'existence de Dieu que par cette réalité existant devant nos yeux; mais, pour tirer de cette réalité sensible la preuve de l'existence d'un autre être, nous devons nous la représenter intellectuellement selon sa nature et sa forme, et cela ne peut se faire que par l'étude des livres rédigés par les philosophes non-juifs car, si les juifs ont composé des ouvrages de philosophie, ceux-ci se sont perdus au cours de l'exil.

Dans cette recherche de la science vraie, tout ce qui a été démontré véritablement et qui concorde avec la foi religieuse doit être admis par le savant, quelque soit la source de la démonstration. Et citant Aristote, Falqéra réaffirme l'universalisme de la science et de la philosophie: on ne doit prêter attention qu'à ce qui est dit et non point à celui qui le dit; la vérité reste la vérité quelle que soit la bouche qui l'énonce, quelle que soit la religion de celui qui l'énonce.

L'éducation, les habitudes de pensée prises dès l'enfance jouent ici un rôle important: il est des vérités évidentes que l'homme tend à rejeter, sans même les examiner, car elles lui paraissent étranges et inhabituelles; si, à première vue, ces idées lui paraissent le contraire de la vérité, c'est

parce qu'elles sont le contraire de ce qu'il a appris. Et Falqéra cite Porphyre pour demander instamment à ses lecteurs d'examiner avec soin et sans préjugés toute idée nouvelle; il ne faut ni l'adopter, ni la rejeter précipitamment mais rechercher, avec soin et patience, si cette idée nouvelle est vraie ou non, si elle est vraie en partie et en partie douteuse, comme c'est le cas de la plupart des idées.

Toutes les explications du monde qui ont été énoncées ou toutes celles qui pourraient l'être doivent être patiemment étudiées et il faut choisir celle qui est meilleure que les autres, celle qui répond le mieux à la réalité sensible et aux intelligibles tirés de cette réalité; et cela, même si dans cette explication du monde il demeure des choses cachées...[7]

Pour Falqéra, cependant, la vérité est une.

Pour Isaac Albalag, son contemporain, il se peut qu'elle soit double:

> "de même qu'il faut être philosophe pour saisir l'intention du philosophe, de même seul un prophète est à même de saisir l'intention du prophète. Ceci parce que les modes [littéralement: "voies"] de l'appréhension philosophique et de l'appréhension prophétique sont divers et même contraires: le philosophe appréhende l'intelligible au moyen du sensible, alors que le prophète appréhende le sensible par l'intelligible. Il n'est pas douteux que [le contenu respectif de] leurs appréhensions ne soit aussi divers que leurs modes d'appréhension, si bien que l'un peut appréhender, en partant d'en bas, le contraire de ce qu'appréhende l'autre en partant d'en haut. Il ne faut donc pas mettre en contradiction l'un avec l'autre mais le sage doit croire le philosophe lorsque celui-ci apporte une démonstration et recevoir l'enseignement du prophète par mode de foi simple. Même si les paroles de l'un contredisent celles de l'autre, aucun [des deux] ne doit céder la place à l'autre, car c'est une qualité spécifique de la foi scripturaire que, démentie par la démonstration, elle peut rester vraie. En effet, ce qui est impossible devant la recherche syllogistique sur le plan de l'ordre de la nature, l'appréhension prophétique peut le saisir comme nécessaire sur le plan de la toute-puissance du Maître [de la nature]. C'est pourquoi il existe beaucoup de choses impossibles devant la doctrine spéculative qui sont possibles devant la doctrine scripturaire. Il advient aussi que, à la faveur de sa recherche, le philosophe appréhende quelque chose qui n'est saisi par le prophète qu'à la faveur de ce qu'il possède de spéculation [rationnelle], non à la faveur de la prophétie. Cela non pas à cause de l'imperfection de la prophétie, mais parce que son mode d'appréhension est supérieur à ce [lui du philosophe]".[8]

Les philosophes du XIVème siècle, en Provence comme en Espagne, ont généralement suivi Averroès (*Résumé des Parva Naturalia*, ed. H.

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[7] Les croyances des philosophes, introduction, traduit dans C. Sirat: *La philosophie juive au Moyen-Age selon des textes imprimés et manuscrits*, Paris, 1983, pp. 284-285.

[8] G. Vajda: *Isaac Albalag, averroiste juif, traducteur et annotateur d'Al-Ghazali*, Paris, 1960, pp. 154-155.

Blumberg, p. 58-59) et affirment que la science est acquise par un enchaînement de raisonnements, de syllogismes; on ne peut sauter les étapes. Ainsi Nissim de Marseille (début du XIVème siècle) écrit:

> "Il n'est pas possible que les connaissances et les appréhensions que l'homme a la capacité d'acquérir par la spéculation et la réflexion puissent parvenir à l'homme dans une vision ou dans un rêve prophétique car si cela était possible, la spéculation syllogistique et la connaissance du raisonnement seraient superflues."[9]

Trois conséquences à cette affirmation: 1) le rôle du prophète n'est pas lié à la science mais à la prévision de l'avenir et la faculté spécifiquement prophétique est la faculté imaginative, 2) en matière de science, les prophètes peuvent se tromper et, de fait, se sont trompés, 3) le prophète peut aussi être philosophe, auquel cas il atteint la perfection dans les deux facultés: imaginative et intellectuelle; ce fut le cas de Moïse.

Nous trouvons ces idées chez Nissim de Marseille, Joseph Caspi, Moïse de Narbonne[10], Isaac Pulgar et Gersonide, et à ce propos ils évoquent l'adage talmudique (*Talmud de Babylone*, Baba Batra, 12 a): "le sage est supérieur au prophète". Isaac Pulgar fait ressortir un autre trait de la science:

> "La différence entre le sage (le savant) et le prophète tient au [domaine] appréhendé comme à la route qui mène à la perfection [en ce domaine]: le savant atteint les choses cachées et il comprend comment il les appréhende en vérité et totalement; en effet, l'intellect est comme une recherche et une réflexion afin de faire sortir le côté caché de ce qui est connu; il fait ressortir le terme moyen [du syllogisme] et en l'exprimant, il joint la mineure à la majeure et les lie, de sorte qu'il pose la question recherchée comme conclusion du syllogisme et ôte tout obstacle. Seul le prophète appréhendera un sujet sans savoir comment cette connaissance lui est venue et pourquoi c'est à lui qu'elle s'est révélée. Si un contradicteur élève des objections, il ne pourra pas lui répondre car il ne connaît pas le chemin [qui mène à cette connaissance]. En effet, la prophétie repose sur la faculté imaginative (ne vas pas t'imaginer autre chose!) et non pas sur la faculté discursive (tu te tromperais grandement!) et lorsqu'il a besoin de se représenter quelque chose, il manque [au prophète] la voie qui mène de l'un à l'autre. Aussi un sage a-t-il eu raison de dire: "le sage est supérieur au prophète" c'est là une objection absolue et une preuve évidente

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9 Ma^{c}ase Nissim, ms. hébreu 720, fol. 36b, 1ère colonne, cité dans Ch. Touati: Le problème de l'inerrance prophétique dans la théologie juive du Moyen-Age, dans *Revue de l'Histoire des Religions*, n° 174, 1968, p. 178.

10 Cf. le *Commentaire sur Les Intentions des philosophes*, d'Algazel, Paris, Bibliothèque nationale, ms. hébr. 956, fol. 181 recto.

que le prophète ne peut pas enseigner à autrui quoi que ce soit de sa prophétie".[11]

Gersonide (1288-1344) partage avec ses contemporains l'opinion que la prophétie est essentiellement liée à la faculté imaginative et qu'elle prévoit les événements futurs. Certes, les prophètes et, en particulier, Moïse furent aussi des "sages", des savants; mais tous ne le furent pas.

Pour Gersonide, aucun sujet ne peut être interdit à la recherche scientifique, le problème se posait à propos de la création du monde. Maimonide, ne trouvant aucune preuve scientifique décisive en faveur de l'éternité ou de la création du monde, avait conseillé de s'en remettre au texte révélé, lequel était en faveur de la création du monde. Cette décision de Maimonide, est due à l'incapacité où il se trouvait alors de fournir des preuves scientifiques; non pas à l'impossibilité essentielle de fournir ces preuves. Or, Gersonide peut prouver que la création du monde a pris place dans le temps, à partir d'une matière première dépourvue de forme laquelle se trouve à l'état primitif entre les sphères célestes.

En faveur de cette création temporelle, Gersonide évoque d'abord ce désir profond et naturel de l'homme, ce besoin de savoir et de comprendre les sujets importants et nobles comme celui de la création, ensuite des faits historiques:

1) il y a un progrès des sciences et toutes ne sont pas au même niveau de perfection:

> "les anciens ont pour chaque science apporté leur tribut mais chacune de ces sciences n'a atteint sa perfection qu'après un certain temps ainsi la science [physique] n'a atteint sa perfection qu'avec le philosophe [Aristote] et une autre science [la médecine] n'est parvenue à complétude que lorsque vint Galien; dans l'astronomie nous n'avons pas trouvé qu'elle fut parfaite chez aucun des anciens; cette science là a eu besoin d'une période de temps plus longue pour se perfectionner.
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> En effet, ayant besoin des sens, sa perfection est venue plus tard. Les sciences mathématiques: géométrie et arithmétique ont été les premières à se perfectionner car les savants qui ont précédé Aristote ont écrit des livres parfaits, selon ce qu'on raconte à ce propos. En revanche, la physique avait besoin des sens plus qu'elles, aussi est-elle venue à perfection plus tard; quant à la médecine, elle avait besoin plus encore des sens et en particulier de ce que l'on apprend des expériences et de ce qu'on apprend de la chirurgie aussi est-elle parvenue à perfection plus tard encore. L'astronomie avait

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11 *Ezer Hadat*, ed. J.S. Levinger, Tel-Aviv, 1984, p. 88 et S. Pines: "Sur quelques idées communes au Ezer Hadat d'Isaac Polgar et à Spinoza", dans *Etudes de Kabbale, de philosophie et de pensée juives* (en hébreu) offertes à I. Tishby à l'occasion de son 75ème anniversaire, Jérusalem, 1986, p. 423.

> besoin de sens à tel point qu'il n'était pas possible qu'elle vint à perfection si ce n'est après un temps d'une longueur très remarquable. Si cette perfection est venue si tard c'est que ces sciences [astronomiques] élèvent l'homme au degré de la perfection: il les désire naturellement avec grande force. Il n'est donc pas possible que l'humanité soit éternelle et que ces sciences soient nouvelles..."[12].

Le quinzième siècle fut, pour les Juifs, un siècle de retrait et de lutte contre les persécutions. Les philosophes moins nombreux qu'auparavant, durent défendre la philosophie et les sciences contre les attaques de partisans d'une religion moins ouverte aux courants extérieurs. De nouveau, on reprocha aux sciences d'être extérieures au judaïsme et de détourner les fidèles de leur religion.

Dans son *Derekh Emouna*, Abraham Bibago définit les sciences comme introduisant à une perfection proprement humaine à laquelle s'ajoutera la perfection du juif croyant.

> "La science "grecque" n'est pas la science de la recherche démonstrative dont nous parlons car cette science de la recherche est une science intellectuelle que l'homme acquiert en tant qu'homme; elle est donc science proprement humaine et non pas science "grecque"; la science grecque est celle qui est particulière à la Grèce et n'est pas celle des autres peuples...ces sciences sont donc des sciences humaines et non pas grecques, des sciences intellectuelles et intérieures [à l'homme et au juif en tant qu'homme] et non des sciences extérieures."[13]

Centre National de la Recherche Scientifique, Paris

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12 *Les guerres du Seigneur*, ed. Riva di Trento, 1560, fol. 48b, 2ème colonne.

13 ed. Constantinoble, 1522, fol. 46 verso.

ABSTRACT:

Science and Philosophy: the Jewish Philosophers in the Middle Ages

In the Middle Ages, Jews did not restrict the realm of philosophical investigation: all fields of knowledge, including religious ones, were subjected to philosophical inquiry. It was accepted by every one that human reason has the right to ask questions; however one of the most frequent criticisms was that philosophy was not the way Jews have to ask these questions. Jewish philosophers never accepted these criticisms and tried to build systems where Science and Revelation were parallel or complementary.

For Jewish Mutakallimun (X^{th} century) as for those called neoplatonists (XII^{th} century), philosophy is a corpus of sciences, which is homogenous and learnt with effort, contrary to prophecy which is given by *God*, however, they are two branches stemming from the same tree.

With Abraham Ibn Daud and Maimonides, there are clearly felt the differences between the revealed God and Aristotle's First Mover. For them, as for the other Aristotelian philosophers, Truth is learnt by learning the sciences; from them onwards, the philosophers tried often, with the help of arguments found in Aristotle's *Metaphysics*, to define the field of the Sciences, their methods and the degree of perfection they are able to reach.

The most original opinions were those of two philosophers specialised in astronomy: Juda b. Salomon ha-Cohen (Spain-Italy, 13^{th} century) and Gersonides (Provence, 14^{th} century).

For Juda b. Salomon ha-Cohen, the demonstrations of the mathematical sciences are absolute while those of physics are not known completely, absolutely and in themselves; one should be able to adduce in physics proofs manifest to the senses - experimental demonstrations that one cannot question, like experiments carried out in the mathematical and astronomical sciences. In the absence of these demonstrations, one cannot choose between conflicting theories in physics.

For Gersonides, the progress of the sciences is far from being complete and has not reached an equal level in the different branches of knowledge. Astronomy is a science where observation by the senses is so necessary that perfection came very late.

At the end of the Middle Ages, Jewish Philosophers had to defend themselves against the critique that philosophy induced them to abandon their faith for an alien lore. The answer given by one of them - Abraham Bibago - was that "Greek Wisdom is not the demonstrative science of research; the science of research is an intellectual science, an attribute of man as a human being and, in consequence, it is a human science, not a Greek science".

J. MARENBON

The Theoretical and Practical Autonomy of Philosophy as a Discipline in the Middle Ages: Latin Philosophy, 1250-1350

I

Was philosophy an autonomous discipline in the Christian West during the later Middle Ages? Most historians of medieval philosophy have regarded this question as a challenge to their chosen profession - a challenge too serious to be met without the assistance of a venerated figure, dominating the pages of their books and justifying their claims to be truly historians of *philosophy*. The identity of the figure varies. For some he is the Arts Master - a 'new, urban type of' teacher with 'a basically unclerical conception of the scientific enterprise', 'critical' and 'questioning' of authorities, seeking truths as yet unknown and 'guaranteed only by reason.'[1] For others he is Thomas Aquinas, *Doctor* of the distinction between faith and reason, creator of a 'sound synthesis' between Aristotelianism and Christianity which preserved the rights of both philosophy and theology.[2] For yet others he is the Christian Philosopher, whose treatment of the problems of philosophy is made no less philosophical, but all the more percipient by his adherence to the faith.[3]

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1 C.H. Lohr, 'The Medieval Interpretation of Aristotle' in N. Kretzmann, A. Kenny, J. Pinborg (eds.), *The Cambridge History of Later Medieval Philosophy*, pp. 81-98: see pp. 86, 90-1, 95. Behind Lohr's phrases are ideas of J. Le Goff's: cf. *Les intellectuels au moyen âge* (Paris, 1969), esp. pp. 63-9.

2 This point of view is put forward with particular clarity by F. van Steenberghen: see his *La philosophie au XIIIe siècle* (Louvain/Paris, 1966), esp. pp. 46-54 and his *Introduction à l'étude de la philosophie médiévale* (Louvain/Paris, 1974), pp. 78-113. For a discussion of this, and other approaches to medieval philosophy, see J. Marenbon, *Later Medieval Philosophy (1150-1350). An Introduction* (London, 1987), pp. 83-90.

3 The notion of 'Christian philosophy' is associated particularly with E. Gilson, who expounds it in many of his earlier works and, perhaps most fully, in *L'Esprit de la philosophie médiévale* (Paris, 1944^2). In his late work, however, Gilson was less keen to stress the distinctiveness of a 'Christian philosophy', and more eager to see the great scholastic thinkers as theologians: see esp. 'Les recherches historico-critiques et

I shall answer the question about the autonomy of philosophy without the aid of these spectral figures, because I consider that the question raises many interesting problems, but only one real challenge: that of recognizing its ambiguity. 'Philosophy' is an ambiguous word when used by a medieval historian. Either it can mean the subjects called *philosophia* in the Middle Ages; or it can mean philosophy - that is, the subject which, nowadays, is studied by those who call themselves philosophers. The main subject of this paper will be the autonomy of *philosophia* - first, its autonomy in practice; then, its autonomy in theory. I shall end with a few remarks about the relation between *philosophia* and philosophy.

II

Although the word *philosophia* itself had a number of different meanings in the Middle Ages,[4] there is one usage of it which predominates in thirteenth and fourteenth-century university texts (and which, alone, I will be considering here). By this usage, *philosophia* is what men can discover by reason and observation, without the aid of revealed knowledge.

The organization of studies in medieval universities ensured the practical autonomy of *philosophia* in this sense, because faculties of arts were faculties of *philosophia*, where students studied only disciplines open to natural reason - such as grammar, logic, biology, physics and metaphysics - using especially the works of Aristotle, the *Philosophus*, as their text-books.[5] Historians sometimes give the impression that this autonomy was constantly under attack from conservative theologians and the Church authorities, who saw the freedom of rational speculation as a

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l'avenir de la scolastique', *Antonianum* 26 (1951), pp. 40-8 [reprinted in his *Etudes médiévales* (Paris, 1986), pp. 9-17] and *Introduction à la philosophie chrétienne* (Paris, 1960).

4 On the term 'philosophia' see E.R. Curtius, 'Zur Geschichte des Wortes Philosophie im Mittelalter', *Romanische Forschungen* 47 (1943), pp. 290-300; but unfortunately, Curtius ends his survey with the twelfth century.

5 On the curriculum of the arts faculties, see G. Leff, *Paris and Oxford Universities in the Thirteenth and Fourteenth Centuries* (New York/London/Sydney, 1968), chapters 1 and 2; P. Glorieux, *La faculté des arts et ses maîtres au XIIIe siècle* (Paris, 1971); J. Weisheipl, 'Curriculum of the Faculty of Arts at Oxford in the Early Fourteenth Century', *Mediaeval Studies* 26 (1964), pp. 143-85.

threat to Christian doctrine.[6] They cite the condemnations of 1277 and the cases of Siger of Brabant and Boethius of Dacia. But such instances of discord were very much the exception. The foundation of teaching in the arts faculties always remained logic and grammar - subjects which posed no challenge to the faith; and, even in the other arts, the possibilities for conflict with Christian doctrine were few, and were rarely taken.

The condemnations of 1277 themselves provide evidence for this view, so long as two distinctions are carefully observed: that between autonomy and hegemony, and that between theoretical and practical autonomy. By directing his decree against those engaged in the arts who *exceeded* the 'limits of their faculty'[7], Bishop Tempier endorsed - indeed *required* - the autonomy of the arts masters in the practice of their disciplines. He went on, in a series of prohibitions, to censure claims (some of which may never in fact have been made) for the hegemony of *philosophia* - claims that *philosophia* could take the place of theological enquiry.[8] And, by condemning absolutely certain propositions, which might be reached as the result of natural reasoning, Tempier attacked the very

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[6] For instance - to take two recent discussions - Lohr (op. cit., p. 92) writes: '...in the thirteenth century the newly translated philosophical and scientific sources rendered questionable the simple concordances which the twelfth century had made between authorities limited to the Latin ecclesiastical tradition. In this new situation some rejected the new literature and attempted by ecclesiastical condemnations to prevent its being read; others, like Bonaventure and Olivi, saw in Aristotle the apocalyptic beast of the last days...'; whilst M. Haren [*Medieval Thought* (London, 1985), p. 5], having explained that 1250-77 was 'a period during which Aristotle was being studied in the major arts faculty of Europe, in a formal, exegetical fashion, divorced from the wider theological considerations with which it was soon to be confronted', adds that 'This confrontation with radical teaching in the arts faculty at Paris was a dramatic manifestation of the intellectual tensions felt at the time.'

[7] 'Magnarum et gravium personarum crebra zeloque fidei accensa insinuavit relatio, quod nonnulli Parisius studentes in artibus propriae facultatis limites excedentes quosdam manifestos et exsecrabiles errores ... quasi dubitabiles in scholis tractare et disputare praesumunt': ed. in R. Hissette, *Enquête sur les 219 articles condamnés à Paris le 7 mars 1277* (Louvain/Paris, 1977), p. 13.

[8] Articles 1 - 7 in Hissette, op. cit., pp. 15-27: *Quod non est excellentior status quam vacare philosophiae*; *Quod sapientes mundi sunt philosophi tantum*; *Quod ad hoc quod homo habeat aliquam certitudinem alicuius conclusionis, oportet quod sit fundatus super principia per se nota*; *Quod nihil est credendum, nisi per se notum, vel ex per se notis possit declarari*; *Quod homo non debet esse contentus auctoritate ad habendum certitudinem alicuius quaestionis*; *Quod nulla quaestio est disputabilis per rationem, quam philosophus non debeat disputare et determinare, quia rationes accipiuntur a rebus. Philosophia autem omnes res habet considerare secundum diversas sui partes*; *Quod omnes scientiae non sunt necessariae, praeter philosophicas disciplinas; et quod non sunt necessariae, nisi propter consuetudinem hominum.*

basis of the theoretical autonomy of *philosophia*, but imposed only a slight reservation on the arts masters' autonomy in practice.

The only important restrictions on the practical autonomy of *philosophia* came from within. Arts masters were, in general, young; their pupils very young. Students usually began their studies in the arts faculties when they were fourteen or fifteen; after about seven years (the figure was less fixed in Paris than at Oxford) they became masters. Few of them went on teaching arts once - in their mid-twenties - they had completed two years of obligatory teaching ('necessary regency'); and, even among the exceptional masters who remained in the faculty and made a career there, none before Buridan (1295/1300 - after 1358) could compete with the theologians in depth of reading and analytical skill. It is not surprising, then, that they turned to theological writings for help in their pursuit of *philosophia* (witness Siger of Brabant, whose differences with St Thomas should not obscure the extent of his debt to him[9]). Nor is it surprising that they tended to concentrate on the literal exegesis of Aristotelian texts (even in *quaestio*-commentaries), learning the lessons of natural reason, not by reasoning but from authority.

What of the theologians? They read and used works of *philosophia* (usually with greater comprehension than the arts masters). But, just as the arts faculty was organized around the autonomous study of *philosophia*, so the theology faculty was organized around the autonomous study of theology. The theologians' set-texts were the Bible and the *Sentences* of Peter the Lombard; the aim of their long studies was to increase their understanding of the faith. None the less, many historians claim that there are two important ways in which the theologians engaged in the autonomous practice of *philosophia*. First, many theologians wrote individual works entirely dedicated to *philosophia* - for instance, Aquinas's *De unitate intellectus* and his commentaries on Aristotle, or Ockham's *Summa logicae*. Second, there are many passages in theological works which, it is said, are devoted to natural reasoning and can be detached from their theological context. Both these claims call for serious qualification.

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9 See R.A. Gauthier, 'Notes sur Siger de Brabant. I. Siger en 1265', *Revue des sciences philosophiques et théologiques* 67 (1983), pp. 201-32, esp. pp. 212-32. Even Radulphus Brito, one of the most sophisticated arts masters, who spent about ten years teaching in the faculty (c. 1296-1306) before going on to study theology, draws heavily on Aquinas: cf. Marenbon, op. cit., pp. 140-1.

Even when he sets out to write a whole work on a subject belonging to *philosophia*, a theologian does not forget what he knows as a theologian. For example, Aquinas's Christian understanding of man and his status in this life implicitly informs the way he reasons, without using revealed premisses, about the potential intellect in *De unitate intellectus*, and it shapes his grasp of Aristotle in his commentaries, despite his close scrutiny of the letter of the text; whilst for Ockham, the theologian has an explicit role to play even in logic, where God's power to create and annihilate, and Christ's sinlessness, are used as the basis for arguments in favour of an anti-realist theory of universals.[10]

These considerations apply with yet greater force to the claim that passages of *philosophia* are detachable from their contexts in theological works. When an historian tries to understand a text from the past, he is attempting to grasp the writer's intention, as expressed in the text. But the character of an intention depends on the whole complex of intentions to which it belongs. It cannot be isolated for close study, in the way that, say, natural science can study the individual atoms which make up a molecule. The historian who detaches passages of *philosophia* from their theological contexts is *imposing* autonomy, not discovering it.

There are, then, strong arguments against the position that *philosophia* was practised as an autonomous discipline by later medieval theologians. By contrast, the practical autonomy of *philosophia* was the organizing principle of the arts faculties, although it was restricted by the age and inexperience of most masters there.

III

I come now to the theoretical autonomy of *philosophia* - a topic so large that I shall restrict myself to three, connected illustrations - from the arts master Boethius of Dacia, and from the masters of theology Aquinas and Duns Scotus. I shall then suggest a few more general conclusions.

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10 *Summa Logicae* [ed. P. Boehner, G. Gál and S. Brown (New York, 1974)], p. 51:29-37, 42-4. J.E. Murdoch ['From Social into Intellectual Factors: An Aspect of the Unitary Character of Late Medieval Learning' in J.E. Murdoch and E. Sylla (eds.), *The Cultural Context of Medieval Learning* (Dordrecht/Boston, 1975), pp. 271-348] provides many examples of how, in fourteenth-century thought, concepts derived from theology were used in mathematical and physics discussions.

In his *De aeternitate mundi* (c.1271/2)[11] Boethius of Dacia discusses a problem known to Christian thinkers for centuries.[12] According to natural reason and to Aristotle, it seems that the world is eternal; according to Christian doctrine, the world had a beginning. Can the two positions be reconciled? The main thread of Boethius's argument involves a peculiarly precise - and peculiarly narrow - statement of this familiar problem. The natural scientist, says Boethius, is *compelled* to deny the statement that the world had a beginning. Influenced by the widely-studied *Posterior Analytics*, Boethius holds that each discipline within *philosophia* has its own principles and contains only truths which are based on them.[13] He does not, however, believe that the exponent of one discipline is *compelled* to deny a statement, simply because it cannot be known from the principles of his own discipline. For instance, the natural scientist can accept statements about geometry which he cannot demonstrate within natural science.[14] But if a statement actually goes against the principles of a discipline, then the exponent of that discipline is *compelled* to deny it. For the natural scientist, this is the case with the statement that the world had a beginning, since it goes against the principle of his discipline that every motion is caused by a preceding one.[15]

The problem, then, for Boethius is to show that, when the natural scientist denies that the world had a beginning - which he *must* do - he is not contradicting the revealed truth that the world did have a beginning. Boethius solves the problem by arguing that, not only is each discipline based on its principles, but its conclusions must be qualified by these principles. Whenever a natural scientist, for example, says 'p is true', what he is really asserting, according to Boethius, is that 'p is true according to the principles of natural science'. And it is a matter of

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11 N.G. Green-Pedersen (ed.), *Boethii Daci Opera* VI.ii (Copenhagen, 1976), pp. 335-66.

12 For a survey of the tradition, see R. Sorabji, *Time, Creation and the Continuum* (London, 1983), pp. 193-252.

13 Ed. cit., pp. 347:335 - 348:336: '...nullus artifex potest aliquid causare, concedere vel negare nisi ex principiis suae scientiae.'

14 Ibid., p. 351:438-444: '... veritates, quas naturalis non potest causare ex suis principiis nec scire, quae tamen non contrariantur suis principiis nec destruunt suam scientiam, negare non debet. Ut quod "circa quemlibet punctum signatum in superficie sunt quattuor recti anguli possibiles" habet veritatem, naturalis ex suis principiis causare non potest, nec tamen debet eam negare, quia non contrariatur suis principiis nec destruit suam scientiam.'

15 Ibid., pp. 348:345-56; 350:394-8.

elementary logic to note that the statement 'p is true according to something' (for instance, 'according to the principles of natural science') does not contradict the statement that 'p is false'.[16] The natural scientist, then, is forced to say 'The world had no beginning', but because in his mouth this sentence means 'The world had no beginning according to the principles of natural science', he has not been forced to contradict the revealed truth - which, says Boethius, is truth without qualification (*simpliciter*).[17]

Boethius thus succeeds in providing an elegant solution to the problem in the precise terms in which he has stated it.[18] But the solution immediately raises awkward, wider questions. One of them Boethius seems to have anticipated elsewhere in his work. If every statement within a branch of *philosophia* is to be understood merely as a statement about the conclusions which follow from that discipline's principles, how is it possible to investigate the relation between the principles of the various disciplines? This, says Boethius, is the special function of metaphysics.[19] But there is another, related question: what is the relation between the principles of the sciences and the 'truth of christian faith'?

Boethius can provide no answer to this question. Aquinas can, and does. Like Boethius, Aquinas analyses the disciplines of *philosophia* in Aristotelian terms: each has its own principles from which its conclusions are drawn. Unlike Boethius, he feels able to order these disciplines in relation to revealed truth. He can do so because, in his view, theology is a scientific discipline in the Aristotelian sense, like mathematics, physics and metaphysics.

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16 Ibid., eg. p. 352:468-75: 'Quicquid enim naturalis secundum quod naturalis negat vel concedit, ex causis et principiis naturalibus hoc negat vel concedit. Unde conclusio in qua naturalis dicit mundum et primum motum <non> esse novum accepta absolute falsa est, sed si referatur in rationes et principia ex quibus ipse eam concludit, ex illis sequitur. Scimus enim quod qui dicit Socratem esse album, et qui negat Socratem esse album secundum quaedam, uterque dicit verum.'

17 Ibid. p. 351:422.

18 Other scholars' analyses of Boethius's argument take his focus to have been wider. The fullest is by J. Pinborg ['Zur Philosophie des Boethius de Dacia. Ein Überblick', *Studia Mediewistyczne* 15 (1974), pp. 165-85, esp. pp. 175-82 (reprinted in his *Medieval Semantics* (London, 1984)], with bibliography. See also P. Wilpert, 'Boethius von Dacien - Die Autonomie des Philosophen' in P. Wilpert (ed.), *Beiträge zum Berufsbewusstein des mittelalterlichen Menschen*, Miscellanea Mediaevalia III, (Berlin, 1964), pp. 135-52.

19 See Pinborg, op. cit., pp. 170-2 and the texts quoted by him in n. 12.

This position requires some explanation. The principles of theology are the articles of faith which, St Thomas recognizes, are not self-evident to earthly theologians, in the way that Aristotle requires of a scientific discipline. They are self-evident, however, to the blessed in heaven. Aristotle recognized that some disciplines are subalternate to others: such disciplines are based on principles which are self-evident only in the higher discipline to which they are subalternated. For instance, optics takes its principles from geometry; music from arithmetic. Similarly, according to Aquinas, earthly theology is subalternated to the theology of the blessed; and earthly theologians are enabled to accept the principles of the subalternating discipline by the 'light of faith'.[20]

Aquinas accepts that there is a branch of *philosophia* dealing with every sort of being; but this does not mean, for him, that theology is superfluous (or, as it does for Boethius, that there is an inexplicable gap between the unqualified truth of faith and the true statements made within the disciplines of *philosophia* - which are true because they are statements not about the world, but about the disciplines to which they belong). Just as a natural scientist and an astronomer can reach the same correct conclusion that the earth is round, each in his different way - the astronomer by abstract mathematical calculation, the natural scientist by material measurement; so, in general, the exponents of *philosophia* and theology discuss the same things, each of them within the framework of a scientific discipline, but in different ways - the *philosophi* by the light of natural reason, the theologians by the light of faith.[21]

Aquinas does not, however, consider that these ways are of equal value. Like Hume, though for very different reasons, he finds the 'condition of mankind ... a whimsical' one.[22] The end which man seeks by his nature and which, using his natural reason, he can attain, is not

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20 *S[umma] T[heologiae]* I, q.1, a.2; cf. Commentary on *De trinitate*, q.2, a.2, ad 5 & 7 and see M.-D. Chenu, *La théologie comme science au XIIIe siècle* (Paris, 1957), pp. 64-100.

21 *ST* I, q.1, a.1, ad 2: '...diversa ratio cognoscibilis diversitatem scientiarum inducit. Eandem enim conclusionem demonstrat astrologus et naturalis, puta quod terra est rotunda: sed astrologus per medium mathematicum, idest a materia abstractum; naturalis autem per medium circa materiam consideratum. Unde nihil prohibet de eisdem rebus, de quibus philosophicae disciplinae tractant secundum quod sunt cognoscibilia lumine naturalis rationis, et aliam scientiam tractare secundum quod cognoscuntur lumine divinae revelationis.'

22 *An Enquiry concerning Human Understanding*, XII,2 [ed. L. Selby-Bigge (Oxford, 1902^2), p. 160]: '... the whimsical condition of mankind, who must act and reason and believe; though they are not able, by their most diligent enquiry, to satisfy themselves concerning the foundation of these operations...'.

his true end. Although by nature he seeks to know God, he does so only through created things; but his true end (which he cannot attain in this life) is to enjoy the immediate vision of God. All the enquiries of *philosophia* are based on an understanding only of man's natural end, not of his true one.[23] As St Thomas puts it:

> The perfection of a rational creature consists not only in what is fitting for him by his nature, but also in what is attributed by a kind of supernatural participation in God's goodness. For this reason it is said ... that the final happiness of man consists in a kind of supernatural vision of God. But man cannot attain this vision save in the manner of a pupil learning from God, his teacher...[24]

Duns Scotus was a severe critic of Aquinas's conception of theology and its relation to *philosophia*. He rejects the view of earthly theology as a subalternate discipline to the theology of the blessed.[25] And he will not accept that the theologian knows the same things as the exponent of *philosophia*, but in a different and higher way. He refers directly to St Thomas's own example and turns it back on itself. Once the physicist knows, by his measurements, that the earth is round, then he does not need to know from the astronomer that his calculations also show the earth to be round.[26] Scotus insists that the same piece of knowledge is

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23 See eg. *Commentary on Sentences*, Prologue, q.1, a.1: '...omnes qui recte senserunt posuerunt finem humanae vitae dei contemplationem. Contemplatio autem dei est dupliciter: una per creaturas, quae imperfecta est ... in qua contemplatione Philosophus felicitatem contemplativam posuit, quae tamen est felicitas viae; et ad hanc ordinatur tota cognitio philosophica, quae ex rationibus creaturarum procedit. Est alia dei contemplatio, qua videtur immediate per suam essentiam; et haec perfecta est, quae erit in patria et est homini possibilis secundum fidei suppositionem. Unde oportet ut ea quae sunt ad finem proportionentur fini, quatenus homo manducatur ad illam contemplationem in statu viae per cognitionem non a creaturis sumptis, sed immediate ex divino lumine inspiratatam; et haec est doctrina theologiae'; and ibid., III d.24, q.1. a.3a, ad 2: 'per rationem ergo naturalem potest cognosci summum bonum, secundum quod diffundit se communicatione naturali, non autem secundum quod diffundit se communicatione supernaturali; et secundum hanc rationem summum bonum est finis nostrae vitae: de quo oportet haberi fidem, cum ratio in illud non possit.'

24 *ST*, II-2, q.2, a.3; cf. *De veritate*, q.14, a.10.

25 For the (non-)scientific character of theology, see *Ordinatio* [in C. Balić (ed.), *Ioannis Duns Scoti Opera Omnia* I (Vatican, 1950)], Prologue, pars 4, q.1-2. Scotus rejects Aquinas's teachings on subalternation at pp. 148:12-149:13. Cf. A.-M. Vellico, 'De charactero scientifico sacrae theologiae apud Doctorem Subtilem', *Antonianum* 16 (1941), pp. 3-30.

26 *Ordinatio*, ed. cit., Prologue, q.1. Scotus explicitly quotes (p. 48:1-7) the passage from Aquinas's *ST* which is reproduced in n. 21 above, and then comments (ll. 9-14): 'Contra: si de cognoscibilibus in theologia est cognitio tradita vel possibilis tradi in aliis scientiis, licet in alio lumine, ergo non est necessaria cognitio theologica de eisdem. Consequentia patet in exemplo eius, quia cognoscens terram esse rotundam per medium physicum, non indiget cognitione per medium mathematicum, tamquam simpli-

the same piece of knowledge, whatever way it is discovered. He therefore believes that theology would be superfluous, if *philosophia* could provide knowledge about every sort of thing. But, as he goes on to argue, it cannot: although *philosophia* considers every sort of thing that can be speculated on, it does not treat everything which can be known about them, because some have properties about which the *philosophi* are inevitably ignorant.[27] For instance, the *philosophi* assert that God causes whatever he causes necessarily. Wrongly - because it is one of God's properties to cause things contingently.[28] But they cannot know this by natural reason.

IV

Before trying to draw any conclusions about the theoretical autonomy of *philosophia* from these three illustrations, it is important to recognize that, like 'philosophy', 'autonomy' is a term with more than one meaning.[29] To state that, in the later Middle Ages, *philosophia* was autonomous in theory might be to make any one of three, different claims. The weakest of these claims would be that it had autonomy of definition; a stronger claim would be that it was autonomous with regard to the truth of its individual conclusions; strongest of all, that it was autonomous with regard to truth about the subjects it considered.

Arts masters and theologians in the medieval universities unhesitatingly granted *philosophia* autonomy in the weakest sense: autonomy of definition. Just as, in practice, *philosophia* was autonomous

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citer necessaria.'

27 Ibid., p. 50:1-4: '...in illis scientiis speculativis etsi tractetur de omnibus speculabilibus, non tamen quantum ad omnia cognoscibilia de eis, quia non quantum ad propria eorum...'. Scotus then refers back to a passage earlier in the *quaestio* (pp. 22:15 ff.), which begins: '...VI *Metaphysicae*: cognitio substantiarum separatarum est nobilissima, quia circa nobilissimum genus; igitur cognitio eorum quae sunt propria eis est maxime nobilis et necessaria, nam illa propria eis sunt perfectiora cognoscibilia quam illa in quibus conveniunt cum sensibilibus. *Sed illa propria non possumus cognoscere ex puris naturalibus tantum*'(my italics).

28 Ibid., p. 24:7-10: 'Proprietas etiam istius naturae ad extra est contingenter causare; et ad oppositum huius magis effectus ducunt, in errorem, sicut patet per opinionem philosophorum, ponentium primum necessaria causare quidquid causat.'

29 I am very grateful to Professor Amos Funkenstein for asking a question about 'autonomy' when this paper was read, which has led me to clarify the different, potentially confusing meanings of this term.

in the arts faculties, so its distinctiveness from theology was recognized in theory. The subjects belonging to *philosophia* were based on self-evident premisses, observation and reasoning, whereas theology also made use of revealed knowledge.

The example of Boethius of Dacia shows how difficult it was for arts masters to discuss the autonomy of *philosophia* in any sense which went beyond this weak one. They were ill-equipped to theorize about the boundaries of *philosophia*, as opposed to discussing its internal divisions. To scrutinize the boundaries of *philosophia*, they needed a discipline which, unlike any of the arts, is not itself based on natural reason, but rather places and describes natural reason within a wider context.

The illustrations from Aquinas and Duns Scotus show, by contrast, how carefully theologians examined the claims of *philosophia* to a less weak form of autonomy. Their conclusions varied about its autonomy with regard to the truth of individual conclusions. Aquinas allowed *philosophia* this second, stronger autonomy. He considered that, so long as reason was correctly used and began from self-evident premisses, no statement that it found true could be false.[30] *Philosophia* could therefore be relied upon, without external correction, to arrive at true conclusions. Duns Scotus disagreed. He argued that, without revelation to correct their findings, the exponents of *philosophia* could not avoid concluding the truth of various statements which are, in fact false (for instance, 'that God causes necessarily', whereas in fact he causes contingently).

Duns Scotus's refusal to grant *philosophia* this second, stronger form of autonomy, which Aquinas allows it, has often led historians to state that St Thomas recognized the autonomy of *philosophia*, whereas Duns Scotus did not. But this assessment is misleading, for both Aquinas and Duns Scotus - and, I would add, almost every later medieval theologian - were united in denying the autonomy of *philosophia* in the third, strongest, and most important sense. Even if, as Aquinas (but not Scotus) thought, *philosophia* asserted no actual falsehoods, theologians were agreed that, nevertheless, it was radically deficient in its efforts to find the truth. Natural reason could not but be ignorant of man's end and therefore could not but misjudge man's present position and cognitive capabilities. Were its conclusions to be considered as an autonomous

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30 These views are implied by the illustrations discussed above. Aquinas develops them more explicitly in his Commentary on Boethius's *De trinitate* q.2, a.3, *ST* I, q.1, a.8, *Summa contra Gentiles* I, 7 and at the end of *De unitate intellectus*.

body of knowledge, *philosophia* would therefore mislead. Its value to the theologians depended on their ability to gauge its limitations.

By denying *philosophia* autonomy in the strongest sense, later medieval theologians therefore did much more than to insist that the truths of *philosophia* needed to be *supplemented* by the truths of theology. They pointed out that the picture of man and the universe offered by *philosophia* - its account of topics as various as cognition, causality, volition and virtue - was mistaken. It was for this reason that, whilst they accepted the autonomous practice of *philosophia* in the arts faculties as a propaedeutic, the theologians did not themselves practise *philosophia* autonomously. In their view, the great thinkers of antiquity had been forced, by the accident of their time of birth, to seek 'the invisible things of God' only through what was made. The christian was in a more fortunate position. For him, *philosophia* must be placed - whether institutionally, or in a scheme of a work, or in a single work - within the disciplined search for a truth not attainable without the guidance of faith.

V

There is a more general conclusion to be drawn from all that I have been saying. There are, doubtless, many similarities, some of them close, between the problems and methods of medieval thinkers and those of modern philosophers. But, regarded as disciplines, *philosophia* and modern philosophy bear little resemblance.

Few of the many subjects included in *philosophia* are now parts of philosophy, although many of them are still studied, independently. *Philosophia* provided a general education, taken by all who pursued their studies beyond a basic level; philosophy, by contrast, is a specialist subject. *Philosophia* was recognized as a lower set of disciplines, from which students could pass on to higher disciplines, such as theology. Modern philosophers take a less modest view of their studies. And, although some modern philosophers might claim that the distinguishing mark of their discipline - like that of *philosophia* - is its basis in natural reason, there are two ways in which this apparent similarity is deceptive. First, there are many other subjects nowadays besides philosophy which can equally well be said to be based on natural reason. The philosopher

will therefore have to find some additional characteristic to distinguish his pursuit. Second, in the Middle Ages natural reason was understood by contrast - with supernatural cognitive powers and with revelation. Outside this context, the meaning of the term - if it retains any - is different.

If, then, *philosophia* and modern philosophy are so unlike, study of the autonomy of *philosophia* in the Middle Ages cannot be used - as many historians of medieval thought have tried to use it - to establish the claim that their material is 'truly philosophy' and that they are truly 'historians of philosophy'. Rather, it should make them aware of the dangers of assuming that the organization of knowledge in past times will conform to modern expectations, and lead them to reflect on the problems posed by the very notion of the 'history of philosophy'.[31]

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[31] A useful companion to such reflection is provided by the essays in R. Rorty, J.B. Schneewind and Q. Skinner (eds.), *Philosophy in History* (Cambridge, 1984). This collection includes articles on ancient, early modern and more recent thought. But no period raises the problems its contributors explore more pointedly than the Middle Ages. Historians of medieval philosophy have much to learn from - and perhaps even more to contribute to - such theoretical discussion.

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