



Philosophical Review

An Anonymous Treatise in Six Books on Metaphysics and Natural Philosophy

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Source: *The Philosophical Review*, Vol. 40, No. 4 (Jul., 1931), pp. 317-340

Published by: [Duke University Press](#) on behalf of [Philosophical Review](#)

Stable URL: <http://www.jstor.org/stable/2179735>

Accessed: 03/11/2010 12:24

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THE PHILOSOPHICAL REVIEW

AN ANONYMOUS TREATISE IN SIX BOOKS ON METAPHYSICS AND NATURAL PHILOSOPHY

THE intellectual interests of the fourteenth century and the state of knowledge at that time are presented as it were in bird's-eye view by an anonymous compendium of six books on metaphysics and natural philosophy preserved in a Latin manuscript at Paris.¹ The handwriting, in the opinion of the Director, M. Omont, is of the second half of the fourteenth century, or perhaps even the beginning of the fifteenth. But of course this manuscript may be a later copy and not the original composition. The name of the author is unknown, and his abstention from citing recent writers by name makes it difficult to place him chronologically with any nicety. He sometimes gives a personal detail, as when he speaks of wishing to prove to a Jew by natural reason that God could be incarnated.² But such passages are insufficient to identify him. Not improbably he was a doctor of theology, since in other passages analogous to that just mentioned he rather leaves the impression that he could discuss theological questions, did they not lie outside his present scope.³

¹ Numbered 6752 of the Latin MSS. in the catalogue of the Bibliothèque du roi, where it is dated as of the fourteenth century. A membrane codex of 239 leaves, of which the first three are left blank. The text is in a large legible hand. This manuscript will henceforth be designated as BN 6752.

² BN 6752, fol. 20v, "Unde cum dudum cuidam Hebreo probare vellem deum incarnari potuisse et hoc per rationem naturalem."

³ *Idem*, "quia licet deum esse incarnatum sit catholicum et theologice inquirere ipsum tamen posse incarnari presentis speculationis apparet." *Ibid.*, fol. 46v, "Et licet articulum Parisiensem investigare sit potius catholicum quam philosophicum, quia tamen articulus favere videtur opinioni predictae que philosophica est investigatione non tamen veritate, ideo ad articulum Parisiensem respondere convenit."

Apparently the work was composed after 1323, the date of the canonization of Aquinas, since he is called St. Thomas,⁴ although this title might be a later insertion of a copyist. In connexion with the question whether individuals of the same species may differ essentially, allusion is made to an article condemned at Paris which involved the problem whether the soul of Christ was nobler than the soul of Judas. This appears, however, to be a reference to the 124th of the 219 articles condemned by Stephen Tempier, bishop of Paris, in 1277, and so affords little clue to the date of our treatise.⁵ On the other hand, the discussion of certain doctrines seems to place our compendium fairly well along in the fourteenth century. Thus, while the conception of the latitude of forms, as indicating their intension or remission, has been traced back to Henry of Ghent (1217-1293),⁶ Duhem regarded the phrase, 'uniformiter difformis', which we shall find our author further refining, as introduced by some unknown persons about the time of Albert of Saxony, or the middle of the fourteenth century.⁷

When our author states that the moderns have discarded the definition of *maximum quod non* given by the older philosophers,⁸ he evidently is not referring to those of classical times but to two periods of scholasticism, and is already making the distinction which is found from 1425 on in the German universities⁹ in the *via antiqua*, meaning the philosophy of the time of Albertus Magnus and Aquinas, and *via moderna*, indicating the teaching of men like Jean Buridan, Marsilius d'Inghen, and their followers.

⁴ *Ibid.*, fol. 214r.

⁵ The passage itself may be of some importance, however, as indicative of later opinion about the condemnation of 1277 and the particular question involved in the 124th article. I therefore reproduce it (in Appendix II, below).

⁶ See Pierre Duhem, *Études sur Léonard de Vinci*, troisième série, *Les précurseurs parisiens de Galilée*, Paris, 1913, p. 319. This work will henceforth be cited as Duhem, II (1913).

⁷ *Ibid.*, p. 309: "Bientôt, on vit apparaître un vocable dont il nous serait impossible de nommer l'inventeur . . . uniformiter difformis. Nous trouverons cette expression dans l'usage commun de maîtres de l'École d'Oxford qui furent contemporains d'Albert de Saxe ou qui furent même plus anciens que lui."

⁸ See below, note 44.

⁹ Gerhard Ritter, *Studien zur Spätscholastik*, II. *Via antiqua und via moderna auf den deutschen Universitäten des XV. Jahrhunderts*, Heidelberg, 1922, especially page 39.

Primarily our work is an exposition of the philosophy of Aristotle, and serves to emphasize his great influence on later medieval thought and science. But it manifests a different attitude towards Aristotle from that when the *Metaphysics* and the works of natural philosophy were first introduced at Paris and elsewhere, or from that when Albertus Magnus and Thomas Aquinas commented upon or paraphrased, expounded and pieced out, the known writings of Aristotle, and reconciled them as best they might with the Christian faith. Where Albert had expounded and amplified the extant Peripatetic body of fact and theory, our author would boil it down and simplify it for the benefit of students. "Because the text of Aristotle by its too great prolixity and the difficulty of its wording often uselessly retards youth in the prosecution of their studies and detains them overlong, therefore it has seemed fitting to collect in summary fashion the opinions of Aristotle himself and of other philosophers so that those matters which were previously drawn out may be readily comprehended under the form of a brief compendium."¹⁰

Our work is more than a mere abbreviation, however. Two other considerations have moved the author: first, that many passages in Aristotle's works are in contradiction to religious dogmas; second, that many persons in philosophy in modern times treat of matters of which Aristotle wrote little or nothing. Thus the history of modern philosophy has begun for our author. He believes that this new thinking should be included, and also some other points of which he has found slight or no mention elsewhere. He therefore lays claim to a certain amount of originality as well as modernity. Instead of adding to the Peripatetic philosophy a further body of fact in essential harmony with it, as Albertus Magnus had done, he interlards it with various recent theories of a different sort. Moral philosophy is left for a separate treatise, and is not treated in our manuscript.

The scope of the six books of our compendium is briefly as follows. The first, after discussing the character of metaphysics

¹⁰ BN 6752, fol. 4r, the *Praefatio* opens: "Quia textus Aristotelis nimia prolixitate verborumque difficultate sepius inutili iuvenum proficientium studia retardent temporaque detinent nimium, ideo congruum apparet ipsius Aristotelis aliorumque philosophorum sententias summatim colligere ut sub brevi compendio que prius extensa erant facilius comprehendantur."

and of natural philosophy, treats of universals and individuality. The second deals with form and matter, but especially with the subject, so much discussed in the fourteenth and fifteenth centuries, of the latitude of forms. The third book, covering the ground of Aristotle's *De anima* and such related treatises as *De somno et vigilia* and *De memoria et reminiscentia*, takes up the soul, senses, substantial forms, ideas and species. The fourth has to do with transmutation and motion, and somewhat corresponds to Aristotle's *Physics* and *De generatione et corruptione*. Book five treats of the earth, of the animals upon it, including man and the pseudo-science of physiognomy, of metals and minerals, winds and waters, and varied meteorological phenomena. The last book leads us through the spheres to the Intelligences and First Cause. On the whole, as will become more apparent upon examination of the full table of contents by chapter-headings (reproduced in Appendix I, below), the work is economically arranged and skilfully put together, blending the various subjects treated of by Aristotle and a large amount of more recent discussion and theorizing into a reasonably well-knit whole. It is a better synthesis than such earlier compilations as Alexander Neckam's *De naturis rerum*, Thomas of Cantimpré's *De natura rerum*, Bartholomew of England's *De proprietatibus rerum*, or Vincent of Beauvais' *Speculum naturale*.

Some illustrations may be offered of our author's readiness to disagree with Aristotle. Having mentioned the view of certain persons that the perfection of anything should be judged according to its approach to or recession from the first being, which is God, he adds that this argument would not be conclusive against the followers of Aristotle because they would say that God was of finite vigor and hence of finite perfection. "In this nevertheless they would err."¹¹ In another passage Aristotle's definition of place or space is criticized as too metaphysical and mathematical.¹² In a third passage our author grants that Aristotle did not use the word 'qualification', but holds that it is necessary to use it if we would have a general name for transmutation of quality made in the present.¹³ On a fourth occasion he contends

¹¹ BN 6752, fol. 36r.

¹² *Ibid.*, fols. 146v-147r.

¹³ *Ibid.*, fol. 117r.

that intension of forms is not caused by getting rid of contraries, though Aristotle and his Commentator may seem to have said so.¹⁴

Albertus Magnus is used extensively for the natural science of our treatise, especially for the discussion of metals and gems, where there was no Aristotelian work to follow. Albert's work on minerals is therefore excerpted practically verbatim, including its references and citations.¹⁵ In other connexions, however, our author sometimes disagrees with Albertus, opposing his arguments for the existence of Antipodes, for instance. Our work embodies not a little from Arabic astronomy, such as the theory of Thebit ben Corat of access and recess of the eighth sphere,¹⁶ or the attempt of Alpetragi, in his treatise on the sphere opening "Revelabo tibi secretum pectoris . . .", to explain all irregularities of the orbits of the planets by mere differences of movements.¹⁷ Use is made of such a post-Aristotelian and Platonic work as the *De deo Socratis* of Apuleius, and such a representative work of the earlier scholastic period as the *Sex principia*¹⁸ of Gilbert de la Porrée, who died in 1154.

While recent writers are not cited by name individually, their views are often referred to collectively. Sometimes our author approves of them, as when, discussing the proper subject of natural philosophy, after two other opinions he presents that "of

¹⁴ *Ibid.*, fol. 128r (lib. IV, cap. 24). See also fol. 120r (IV, 19), "Aristoteles tercio Topicorum innuere videtur quod intensio qualitatis fieri habet per depurationem a contrario . . ."; and fol. 123r, where we are told that this is false, "ut deducunt aliqui moderni".

¹⁵ Compare BN 6752, fol. 170r, with Albertus, *Mineralium* III, i, 4; fol. 171r with *Mineralium* III, i, 7-8; fol. 172r with *Mineralium* I, 13; fol. 172v with *Mineralium* I, i, 6; fol. 173v, on Avicenna's explanation of fossils, with *Mineralium* I, ii, 9; fol. 173v-174r with *Mineralium* II, 2; etc.

¹⁶ BN 6752, fol. 171r: "Thebit astrologus in suo tractatu de accessu et recessu octave spere negat motum primi mobilis super polis zodiaci compleri, imo imaginatur duos parvos circulos, unum in capite arietis et alium in capite libre, secundum quos dicit octavam speram moveri aliquando procedendo et aliquando retrogradiendo, ut predictum est. Nec oportebat secundum istam imaginationem res corruptas renovari. . . . Poli mundi moventur circa polos zodiaci et poli zodiaci moventur circa polos mundi. Et quia motus sunt valde differentes videtur igitur quod polorum distantia mutetur quia impossibile est aliqua duo semper equaliter distare quando quodlibet eorum continue movetur motu dissimili secundum velocitatem et tarditatem."

¹⁷ *Ibid.*, fol. 17v.

¹⁸ *Ibid.*, fol. 128r.

the moderns who hold that this whole moving universe is the adequate subject of natural philosophy, which opinion seems to be true".¹⁹ On other occasions he speaks disapprovingly of the inept or undigested subtlety of certain moderns.²⁰ Many moderns have thought that the perfection of anything arose from replication of the first degree of being or of the same degree, but this our author denies.²¹ He does not hesitate to disagree even with doctors of theology, at least when they enter the field of philosophy. Some of them, "in this thinking to philosophize", said that the infinite can be produced. Their arguments are at first sight formidable, but it seems to our author that their opinion does not contain the truth.²² The very subtlety, however, of the opinions with which our author disagrees reinforces our impression that he is writing well along in the fourteenth century.

An opinion of which our author believes that he has disposed or of which he heartily disapproves is commonly branded as false by him. Another milder term which he sometimes applies, *voluntaria*, is unfamiliar to me. It does not seem to mean quite the same as 'optional', but to imply a certain amount of condemnation on his part.²³ Possibly 'wilful' would be a fair translation for it.

Our author denies that matter is the cause of the multiplicity of individuals²⁴ in the same species, holding that the matter of one

¹⁹ BN 6752, fol. 7v, "Insuper tertia est opinio modernorum ponentium quod hoc totum ens mobile est subiectum adequatum philosophie naturalis que opinio videtur vera."

²⁰ *Ibid.*, fol. 17v, "De quorundam inepta subtilitate . . ."; fol. 84r, "De quorundam modernorum indigesta subtilitate . . ."; fol. 127r, "De quorundam modernorum inepta subtilitate in eadem materia."

²¹ *Ibid.*, fols. 37r-38v.

²² *Ibid.*, fol. 140r; "Et de hoc inquirentes aliqui doctores theologi in hoc credentes philosophari dixerunt infinitum posse produci." Fol. 140v, "Unde licet eorum argumenta prima facie difficilia videantur, mihi tamen apparet quod eorum opinio non continet veritatem."

²³ Thus at fol. 95v, after arguing that those who suppose a third factor in the composite besides matter and form make an unnecessary and superfluous assumption, since form and matter suffice to explain everything, he concludes that "predictam opinionem fore voluntariam". In his closing sentence at fol. 235v he says that to correct one's mistaken views "laudabilius est quam favorabiliter opinionem falsam licet voluntariam tueri".

²⁴ BN 6752, fols. 11v-12r; "causa plurificationis individuorum".

individual is of the same character as that of another.²⁵ Matter is therefore not the cause of individuality, "but rather individuals are distinguished by themselves and consequently by their essences individually".²⁶ Moreover, the variety of inferiors depends on the motion of the stars.²⁷ Since he denies that anything else than matter and form enters into the composite,²⁸ individuality must result from form, and this depends on the celestial movements. This is further shown when our author follows Albertus Magnus in ascribing the effects produced by precious stones to their substantial forms, and goes on to say that the substantial form is a sort of mean between the celestial influences and the matter which receives form. "Therefore form is caused by the influences, provided matter is found disposed, and according to the disposition of the form operations are introduced."²⁹

As has been said already, the latitude of forms receives much attention from our author. Certain moderns had formed the hypothesis that the perfection of any species was of a certain latitude and consequently divisible infinitely.³⁰ Individuals of that species would all have differing degrees of specific perfection and exceed one another in essential perfection without differing in species. It would also be impossible for several individuals of the same species to be identically perfect. But our author rejects the whole hypothesis as false,³¹ although it would seem to have much to commend it. In the second book he returns to a more protracted discussion of latitude. For that of all creatures some have set the two exclusive limits of absolute non-being and of God, while others have posited two inclusive terms, first matter at the bottom of the ladder and supreme Intelligence at the top.³²

²⁵ *Idem*, "eiusdem rationis".

²⁶ *Ibid.*, fol. 12v: "Ex his ergo concluditur quod materia non est causa individuationis seu distinctionis individuorum eiusdem speciei sed potius individua se ipsis et consequenter suis essentiis individualiter distinguuntur."

²⁷ *Ibid.*, fol. 13r-v.

²⁸ See note 23.

²⁹ BN 6752, fol. 174v; "Itaque forma ab influentiis causatur dummodo materia disposita inveniatur et secundum dispositionem forme operationes introducuntur."

³⁰ For, as is stated at fol. 41v, "quodlibet continuum est infinitum secundum divisionem".

³¹ *Ibid.*, fol. 17v.

³² *Ibid.*, fol. 35r (II, 14).

He raises many questions as to this scale of creatures: whether the supreme degree of being is attainable,³³ how the latitude of creatures is uniformly difform,³⁴ whether it is continuous or interrupted,³⁵ and concerning its genera,³⁶ of which some have distinguished six, others ten or twelve, while certain persons have placed man midway in the series.³⁷ Our author distinguishes eight: what is potential like first matter, corporal accidents, spiritual accidents, inanimate forms, vegetable forms, sensitive forms, rational forms, and intelligences. The last genus includes angels "and generally anything that understands without phantasy".³⁸ In the latitude of not-being four degrees of privation are distinguished. Examples of the first are antichrist and Adam, "because they are not, but were or will be". An instance of the second degree is a mountain of gold, which might exist but neither is nor has been. The third degree is represented by the proposition, Man is an ass, which is impossible but can be imagined. But no example of not-being to the fourth degree can be given, since it is not even imaginable.³⁹

The subtlety of late medieval scholasticism is further evidenced in the exceedingly fine point to which are developed the distinctions of uniformity and difformity. Thus latitude which is difformly difformly difform is twofold, one variety being uniformly difformly difformly difform, while the other is difformly difformly difformly difform. This last in turn may also be distinguished into its uniform and difform varieties, and so on *ad infinitum*.⁴⁰ Our author gives several opinions as to how the intension of forms is produced, including that of the author of the *Sex prin-*

³³ *Ibid.*, fol. 41r (II, 20).

³⁴ *Ibid.*, fol. 46r (II, 23).

³⁵ *Ibid.*, II, 24-25.

³⁶ *Ibid.*, fol. 47v (II, 26).

³⁷ *Ibid.*, fol. 48r; "humaneque perfectioni applaudere cupientes quidam in orizonte creabilium hominem constitutum dixerunt ipsum dicentes in medio dicte latitudinis huiusmodi fore constitutum."

³⁸ *Idem*; "et universaliter quecumque res intelligens sine fantasmate."

³⁹ BN 6752, fol. 88r.

⁴⁰ *Ibid.*, fol. 45v; "Insuper latitudo difformiter difformiter difformis est duplex quia quedam est uniformiter difformiter difformiter difformis, alia vero est difformiter difformiter difformiter difformis, et ita potest distingui de latitudine difformiter difformiter difformiter difformis, et sic in infinitum."

cipia.⁴¹ He does not believe that mean qualities come from the extremes, but since many moderns think so, he will not omit their reasons, so that the reader may form his own opinion.⁴²

In connexion with another favorite topic of late scholasticism, that of maximum and minimum, our author introduces a discussion of *maximum quod non* and *minimum quod non*, although he admits that Aristotle never used either expression.⁴³ The moderns have proved rationally that the definition of *maximum quod non* given by the older philosophers is not valid,⁴⁴ but their substitute is prolix and obscure, and our author tries to restate it more clearly.⁴⁵ In the case of homogeneous things he is inclined to prefer to use as the lower limit of their latitudes the greatest quantity or intensest quality that they fall short of reaching, rather than the least that they do touch, but he is willing to let the reader follow his own preference.⁴⁶ For vision, however, he

⁴¹ *Ibid.*, fol. 128r; "Videre igitur restat qualiter huiusmodi intensio fiat et de hoc multi fuerunt opiniones."

⁴² *Ibid.*, fol. 122r et seq. (IV, 20).

⁴³ *Ibid.*, fol. 111v. Duhem, *Études sur Léonard de Vinci, Seconde série*, Paris, 1909—henceforth to be cited as Duhem, II (1909)—page 25 et seq., has noted that Aquinas, in his commentary on *De celo et mundo*, I, 25, said: "De même que l'on détermine la puissance que quelqu'un possède en indiquant le maximum de ce qu'il peut accomplir, de même on détermine ce qui lui est impossible par l'œuvre minimum parmi celles qu'il ne peut accomplir." Jean de Jandun, however, in his commentary on the same work, written before 1323 (Venice, 1574, I, 2; fols. 78–80), held: "Il est vrai qu'à une vertu naturelle donnée correspond un maximum des œuvres qu'elle peut accomplir; il n'est pas vrai qu'il lui corresponde un minimum des œuvres qu'elle ne peut pas accomplir." Albert of Saxony, on the contrary, *Questiones in libros de celo et mundo*, lib. I, quest. xiv, affirmed: "potentia activa non terminatur per maximum in quod sic; terminatur per minimum in quod non." Marsilius d'Inghen also spoke of "maximum in quod non". For Buridan's discussion of the same matter see Duhem, II (1909), 383–384. Richard Suiseth, *Calculaciones*, Tractatus decimus de maximo et minimo, edition of 1520, fol. 34r, writes: "Et primo notande sunt significationes terminorum. Ut maximum significat sic, scilicet tantum et non maius: et minimum, aliquantum et non minus. Et maximum quod non, id est non tantum sed omne maius, et minimum quod non, id est non tantum sed omne minus."

⁴⁴ *Ibid.*, fol. 109v: "Maximum quod non est illud in quo talis res non potest esse sed in quolibet maiori. Hec autem diffinitio data est ab antiquioribus philosophis, moderni tamen ipsam non valere rationabiliter probant."

⁴⁵ *Ibid.*, fol. 110r.

⁴⁶ *Ibid.*, fol. 111v: "Ex quibus omnibus concludi potest quod si volumus presentem responsionem tenere, habemus in rebus omogeneis a parte inferiori dare maximum quod non et non minimum quod sic. Eligat tamen lector quam partem voluerit quia utramque probabilem puto."

contends that it is not possible to give a minimum distance at which it will operate, because this could always be divided into smaller portions; but that it is possible to suppose a maximum distance at which it will not operate because it is too small to be seen.⁴⁷

A touching faith in nature is displayed by our author in laying down the following five propositions, derived no doubt from Aristotle:

1. Nothing is idle in nature.
2. Of possible courses nature always does what is best.
3. Nature is the principle of the thing of which it is the nature; art, however, is the principle in another.
4. Nature always acts for some reason or towards some end.
5. Nature rejects infinity and confusion.⁴⁸

Nine similar propositions concerning art are expressly ascribed to Aristotle:

1. The human race lives by art and reason.
2. No art considers the particular because particulars are infinite and unknowable.
3. Science and art come through experience.
4. Invention of the arts was necessary for living well.
5. Artificial operations are deliberative and thereby differ from natural operations.
6. No one of himself can discover speculative or practical arts.
7. Art is better than experience.
8. Art ought to employ organs.
9. If anything can be done without art, much more so by art.⁴⁹

But this last principle our author has just before refused to admit in the case of alchemy, holding that alchemists try to accomplish by art what can be done only by nature.⁵⁰

Some of his opinions in physics are of interest. He holds that local motion cannot be distinguished from the moving object, although some regard it as a flexible and successive accident distinct from the thing moved.⁵¹ Velocity is defined as follows: "That is said to be moved more swiftly which in equal time covers a greater space."⁵² He agrees with Aristotle that the heart is the

⁴⁷ *Ibid.*, fol. 112v (IV, 14).

⁴⁸ *Ibid.*, fol. 100r (IV, 4).

⁴⁹ *Ibid.*, fol. 137r.

⁵⁰ *Ibid.*, fol. 136v.

⁵¹ *Ibid.*, fols. 144r-146r.

⁵² *Ibid.*, fol. 115r; "illud dicitur velocius moveri quod in equali tempore maius spatium describit."

seat of motion in the body,⁵³ and that "natural motion"—*i.e.* of a falling body—"is swifter in the end than in the beginning".⁵⁴ The possibility of perpetual motion is discussed. If we do not experience it in inanimate objects, nevertheless many say that it has been invented artificially. Our author has performed the experiment of keeping a wheel filled with quicksilver rotating by applying heat to the lower part, and understands the reason, that mercury rises with heat.⁵⁵ This device is probably the same as that for perpetual motion which Drebbel showed to James I. It does not seem to occur to our author that it might be utilized as a thermometer, or that it is not really perpetual motion. On the other hand, when he inquires whether there can be motion in a vacuum, this does not mean that he entertains the possibility of the existence of a vacuum. But he believes that it sometimes assists the investigation of truth to presuppose the impossible.⁵⁶ Something approaching the conception of mass seems involved in the statement that many ancients and moderns distinguish *quantitas continua seu molis* from *res quanta*. Our author, however, rebuts their arguments.⁵⁷ Some suggestion of the modern conception of inertia is perhaps discernible in the utterance, "As is the proportion of active power to the resistance, so is that of the lifting force to the weight".⁵⁸

If there were several worlds, would the earth of one be moved towards the center of another? It seems so, because earth tends towards the center. To this it is replied that if the worlds were concentric, the earth of the superior or outer world would tend towards the center of the inferior, but would be detained by violence above the surface of the last sphere of the inferior world. If, however, the worlds had different centers, the earth of each would tend towards its own center.⁵⁹ Duhem, without using or knowing of our work and manuscript, has traced the earlier his-

⁵³ *Ibid.*, fol. 99r.

⁵⁴ *Ibid.*, fol. 115r; "motus naturalis velocior est in fine quam in principio."

⁵⁵ *Ibid.*, fol. 52r-v.

⁵⁶ *Ibid.*, fol. 153r.

⁵⁷ *Ibid.*, fol. 133r.

⁵⁸ *Ibid.*, fol. 114r; "qualis est proportio potentie active ad resistantiam, talis est potentie levative ad pondus."

⁵⁹ *Ibid.*, fol. 163r.

tory of this problem, especially in fourteenth-century thought.⁶⁰ It goes back to the Aristotelian argument against the plurality of worlds, that the element earth can have only one natural place, namely, in the center of our world. Jean de Jandun, in his commentary on the *Physics* written soon after 1323, maintained the same position, and opposed the theory that a certain virtue of the natural place attracted the earth, because it would weaken the Aristotelian argument against the plurality of worlds.⁶¹ But William of Ockham, contending in his commentary on the *Sentences* that God could make more than one world, argued that the earth in each world would collect at its own center, and adduced the analogy of fire, which even in our world—if kindled at opposite poles—would move upward in opposite directions.⁶² Albert of Saxony, writing probably between 1351 and 1362, denied the natural possibility of several worlds with different centers, but granted that if there were such, the earth in each case would tend towards the center of its own world.⁶³ Nicholas Oresme, in 1377 in his commentary in French on *De celo et mundo*, defended the possibility of many worlds and held that weights in each world would move towards its center.⁶⁴

St. Thomas Aquinas made local motion the cause of heat, but this is not so when there is no friction of the parts of the thing moved. Thus the iron shaft of a millstone does not grow hot, and, if a heavy body were moved in a vacuum, it would not become heated because there would be no friction from the air. Our author therefore adopts the opinion of Albert that the friction or collision of bodies is the cause of heat.⁶⁵ Yet the nature

⁶⁰ Duhem, II (1909), 58–96.

⁶¹ Duhem, II (1909), 84; Ioannis de Ianduno, *Super octo libros Aristotelis de physico auditu subtilissime quaestiones*, Venetiis apud Iuntas, 1551, VIII, xi, fol. 116r: "Item, si virtus naturalis loci esset causa effectiva motus gravis, sequitur, si ponerentur plures mundi quod grave secundum naturam suam haberet tantam convenientiam cum medio alterius mundi sicut cum medio huius mundi. . . . Nec istud intendit Arist. sed intendit quod grave illius mundi esset natum moveri ad medium huius mundi: et hoc bene sequeretur cum esset eiusdem rationis cum gravi huius mundi."

⁶² Duhem, II (1909), 76–77.

⁶³ *Ibid.*, p. 82; see also Duhem, I (1906), 34.

⁶⁴ Duhem, III (1913), 370–371.

⁶⁵ BN 6752, fol. 214r.

of heat was not thoroughly understood until the middle of the nineteenth century.

If earth is heavier than water, why is not the sphere of earth entirely submerged under the sphere of water? Some explain the dry land or habitable earth as a sort of mountain or excrescence, but our author prefers the explanation that the earth's center of gravity is not the same as the center of its circumference. The heavier half of the sphere sinks the deeper below the surface of the water, while a portion of the lighter hemisphere projects out of the water, just as the heavy scale of the balances falls and the lighter rises.⁶⁶ This hypothesis of overlapping or intersecting surfaces of earth and water saves the sphericity of the earth, and God was more likely to make a round and perfect than a hump-backed and deformed earth. Moreover, sailors find that the sea grows deeper in parts more remote from the land. And we find by experiment that earth subjected to water is commonly denser and heavier than dry earth. Furthermore, with mathematical instruments it is easy to demonstrate that the earth is spherical except for some mountains which count for little in comparison with its surface as a whole.⁶⁷

This view, that part of the sphere of earth was not covered with water because the center of gravity was not identical with the center of the sphere, was also held in the fourteenth century by Albert of Saxony, Themon Judaeus, and Nicolas Oresme.⁶⁸ Our author, however, appears to have offered some arguments for it which we do not find in Duhem's exposition of their views. Of another explanation, current at least since Ristoro d'Arezzo in the thirteenth century, that the dry land was uncovered by the force of the stars which also held the displaced masses of water in check elsewhere,⁶⁹ our author says nothing.

One reason why our author opposes the arguments of Albertus Magnus for the existence of Antipodes is that this theory requires

⁶⁶ *Ibid.*, fol. 159r-v.

⁶⁷ *Ibid.*, fol. 160r; "Item cum instrumentis mathematicis facilliter possumus experiri quod terra semper tendit ad rotunditatem demptis fortassis aliquibus montibus qui respectu totius terre parum debent computari."

⁶⁸ Duhem, III (1913), 361-367; also I (1906), 11.

⁶⁹ For Ristoro's theory see my *Science and Thought in the Fifteenth Century*, New York, 1929, p. 202.

that more than half of the earth's surface be under water, for the sphere of water exceeds that of earth in diameter and circumference. He grants, however, that habitation is possible under the tropics, because the first clime is only 12 and $\frac{3}{4}$ degrees from the equator, while the Tropic of Cancer is 23 degrees and 51 minutes north thereof.⁷⁰

In discussing earthquakes he suggests that the earth might in certain parts be so condensed by the action of water or cold as to displace other parts by its greater weight. Such condensation would take place so gradually as to be imperceptible.⁷¹ This notion of a slow shifting of the earth's crust and interior, which he says is not found in the writings of Aristotle, almost entitles him to be ranked among the forerunners of modern geology—a place, however, which he must share with other fourteenth-century thinkers like Albert of Saxony.⁷²

The idea that the earth revolved instead of the sky was also already in men's minds, but is branded as "most false" by our author, who argues that such velocity of the earth would bring buildings down in ruin and would not serve to explain why such planets as the sun and moon are nearer at some times than others, or to explain phenomena like eclipses, conjunctions, and oppositions.⁷³

From consideration of terrestrial phenomena our author at the close of the treatise wings his way aloft to the angels, of whom his account seems somewhat novel, at least in terminology. Angels have a twofold cognition, matutinal and vespertine—perhaps analogous to the Pauline "seeing darkly" and "face to face". Morning knowledge is what they have by intuition of the First Cause, in which they know things more directly than in their proper genera, which is the method of evening knowledge. As a very skilful artisan can achieve results with few tools, or a learned man can draw infinite conclusions from one principle, so to a more perfect angel a single species suffices for knowledge of many things. Some persons think that angels have universal

⁷⁰ BN 6752, fol. 219v.

⁷¹ *Ibid.*, fol. 160v.

⁷² Duhem, III (1913), 361; "En outre, les parties centrales de la terre, au bout de longs siècles, parviendront à la surface"; also p. 366.

⁷³ BN 6752, fol. 160r.

species or ideas, dating from creation and not derived from things; others hold that they derive their species or ideas from things. Others, taking middle ground, say that they have some universal species and some particular ones. They think that angels from the moment of their creation had universal species of all things, but afterwards received particular species in twilight knowledge from things. As we are first acquainted with particular phenomena and later form universal concepts, so conversely angels first possess universal knowledge and afterwards particularize.⁷⁴

Although our author accepts astrology in large measure, he shows a good deal of scepticism as to occult arts, sciences, and influences. He is, indeed, inclined to ascribe importance to the number eight in the universe, music, and geometry.⁷⁵ But at the theory of the *magnus annus* he looks askance. Not only is it against human liberty of action, but, since the moon does not fit into the solar year, it is impossible that after the great year of Plato everything should be the same again.⁷⁶ Thus he approaches Oresme's argument from the incommensurability of the celestial movements. He holds the usual orthodox view that the eclipse at the time of the Passion was not natural but universal.⁷⁷ He has a chapter on what comets signify. Noting that Seneca spoke of a comet in the time of Nero which was not a sign of any evil, our author objects that it was a sign of great evil since Nero was the worst ruler of those times.⁷⁸ Leopold of Austria is cited as quoting Damascenus to the effect that a comet is produced by God to signify the deaths of kings.⁷⁹ But, after noting Leopold's list of nine varieties of comets with as many different significations, and his stress upon the sign of the zodiac in which the comet appears, our author adds: "But while all these matters may seem curious, yet in my judgment they are very superstitious."⁸⁰ Similarly, after he has finished excerpting Albertus Magnus on the

⁷⁴ *Ibid.*, fols. 231v-232v.

⁷⁵ BN 6752, fol. 48r-v.

⁷⁶ *Ibid.*, fols. 13 and 16r.

⁷⁷ *Ibid.*, fols. 226v-227r.

⁷⁸ *Ibid.*, fol. 206r.

⁷⁹ *Ibid.*, fol. 206v. This citation of Damascenus is common in medieval works on comets.

⁸⁰ BN 6752, fol. 207r; "Hec autem omnia licet videantur curiosa, iudicio tamen meo sunt valde superstitiosa."

operations of gems, he qualifies: "But here it should be noted that those things which were said above about stones are to be understood without superstitious credulity, because those which concern divinations and magic arts I believe are superstitious and worthless. Yet because the philosophers and notably Albertus Magnus wrote the aforesaid, therefore I have added them to this work more as a curiosity than for utility."⁸¹ This, however, seems a weak excuse for their inclusion. Our author grants that Aristotle seems to think that some dreams are presages of the future, but for himself doubts if this can be the case with dreams produced by natural causes. For it is not likely that the work of nature should be a presage of works of liberty, *i.e.* of human free will.⁸² He does not mean to deny that God or angels may induce prophetic dreams, however.⁸³ For the same reason of human free will he thinks it rash to judge a man according to the art of physiognomy.⁸⁴ The rejection of such beliefs on the sole ground of human freedom of the will cannot, however, be regarded as manifesting a high degree of rational scepticism or criticism. It is rather a moral or theological attitude.

In our fourth book is a curtly hostile reference to alchemy. The alchemists are said to fall into a great delusion, since they think by the heat of fire to produce gold, which can be generated only by the virtue of the sun, and think to produce in the furnace what has to be generated in the bowels of earth. It may be that many say gold has been made by alchemy; so far they have failed to convince our author.⁸⁵ In the ninth chapter of the fifth book⁸⁶ he again considers at greater length the question "whether by aid of any art one species of metals can be transmuted into another, which the alchemists attest can be done". He regards it, however, as difficult, because the works of nature are secret, nor are the causes of such operations fully known to us. He then details the doctrine of the composition of metals from sulphur and quick-

⁸¹ *Ibid.*, fol. 183r-v.

⁸² *Ibid.*, fol. 89v.

⁸³ *Ibid.*, fol. 90r.

⁸⁴ *Ibid.*, fol. 166v.

⁸⁵ BN 6752, fol. 136v; ". . . Et licet plures referant per alchimiam aurum factum fuisse, nihilominus mee credulitati pro nunc non occurrit."

⁸⁶ *Ibid.*, fols. 168v-170r.

silver. Transmutation of metals may be possible, but if the art of alchemy has any truth he still thinks that it can have no utility, because the labor and time required more than overweigh the profit of the conversion accomplished.⁸⁷

In closing his work our author piously ascribes all the glory to God, by whose aid, not his, it reaches its conclusion. He has written certain things imitating the opinions of Aristotle and other philosophers. He asks the reader to ascribe what is good to God and kindly to correct what is wrong, for he desires no favor except where reason approves. He may express opposite views somewhere else, but sees no harm in changing one's opinions for the better when an argument previously ignored occurs to one. Nor should a man be thought to contradict himself under such circumstances, since it is more praiseworthy to correct oneself than to hold a false opinion.⁸⁸

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APPENDIX I

Contents of the Six Books

Fol. 22r. Capitula primi libri:

- Primum capitulum de subiecto metaphysice.
- Secundum capitulum de subiecto philosophie naturalis.
- Tercium de qualitate utriusque philosophie.
- 4^m an dicte scientie sint propter quid vel quia.
- 5^m ubi agitur que sunt nota nature.
- 6^m qualiter universalialia prius vel posterius cognoscuntur.
- 7^m utrum universalialia sint ponenda realia ad extra.
- 8^m de differentia individuali penes quid attendatur.
- 9^m de quibusdam opinionibus circa causam individuationis.
- 10 qualiter sit respondendum ad motivum platonis.
- 11 qualiter sit respondendum ad 2^m motivum eiusdem.

⁸⁷ *Ibid.*, fol. 170r: "Unde si ars alchimie aliquid habeat veritatis, credo tamen quod nihil potest habere utilitatis, quia difficultas operis atque tempus requireret ut estimio sumptus maioris ponderis quam foret commoditas conversionis facte."

⁸⁸ With this may be compared the attitude of Agostino Nifo in his commentary on Aristotle's *De generatione et corruptione*, as given by Duhem, II (1909), 36-37: ". . . toujours, à ce sujet, je me suis montré hésitant; sans cesse, j'ai varié dans ce que j'ai écrit. . . . À titre donc de solution des difficultés qui se présentent en ce moment à nous, je vais formuler certaines propositions; mais je proteste que je m'exprimerai tout autrement si les circonstances venaient à changer."

- 12 de ulteriore errore platonis et qualiter sit respondendum rationibus Aristotelis et Boetii.
 13 de quorundam inepta difficultate circa distinctionem individuaalem.
 14 in quo consistat ratio diffinitiva individuatonis.
 15 quomodo intelligenda sit diffinitio individui seu suppositi.

Fol. 50r. Explicit liber secundus cuius capitula sunt hec:

- Primum capitulum de principiis rerum naturalium secundum Empedoclem.
 2^m ca^m de principiis rerum naturalium secundum Platonem.
 3^m ca. de principiis rerum naturalium secundum Anaxagoram et Anaximandrum.
 4^m ca. de principiis rerum naturalium secundum Permenidem et Mellisum.
 5^m ca. de principiis rerum naturalium secundum Aristotelem et philosophicam veritatem.
 6^m ca. de investigatione diffinitiva materie.
 7 ca. de rationibus Aristotelis in ponendo materiam.
 8 ca. qualiter ponenda sit materia in celestibus et in istis inferioribus.
 9 ca. de proprietatibus materie.
 10 ca. de quibusdam dubiis circa predicta.
 11 ca. de tercio dubio circa eandem materiam.
 12 ca. de inquisitione forme.
 13 ca. de proprietatibus forme substantialis.

Fol. 50v.

- 14^m ca. penes quid debeat attendi perfectio formarum.
 15 ca. de aliis opinionibus circa eandem difficultatem.
 16 ca. an replicatio alicuius gradus essendi augeat perfectionem specificam.
 17 ca. qualiter respondendum sit rationi eorum.
 18 ca. an independentia dici debeat aliquis gradus perfectionis in latitudini essendi.
 19 ca. de quibusdam dubiis circa predicta.
 20 ca. an supremus gradus essendi in latitudine creabilium sit producibilis.
 21 ca. de quibus ¹ motivis et evasionibus opinionis predictae.
 22 ca. de varietate latitudinum.
 23 ca. quomodo latitudo creabilium est uniformiter difformis.
 24 ca. an latitudo creabilium sit continua.
 25 ca. an latitudo creabilium est discreta.
 26 ca. de genere latitudinis creabilium.
 27 ca. de quibusdam dubiis circa predicta.

Fol. 95v. Explicit liber tercius cuius sequuntur capitula:

- Primum ca^m de inquisitione anime secundum antiquos.
 2^m c. de impugnatione predictorum opinionum.
 3^m c. quid sit anima secundam philosophicam veritatem.
 4^m c. de perpetuitate anime.
 5^m c. de potentiis anime.
 6^m c. de sensu visus.
 7^m c. de speciebus existentibus in medio.

¹ 'Quibusdam' in text.

Fol. 96r.

- 8^m c. de quibusdam dubiis circa predicta.
 9^m c. de quibusdam aliis circa eandem materiam.
 10 c. de explanatione predictorum.
 11 c. de modo causandi visionem.
 12 c. de sensu auditus.
 13 c. de tribus sensibus s. gustu odoratu et tactu.
 14 c. de distinctione potentiarum nonorganicarum ipsius anime.
 15 c. de intellectu agente et possibili.
 16 c. de proprietatibus intellectus atque conditionibus.
 17 c. de proprietatibus anime in generali.
 18 c. an in eodem corpore possint simul esse plures forme substantiales.
 19 c. de aliis opinionibus circa eandem materiam.
 20 c. de ulteriori declaratione predictorum.
 21 c. de quantificatione perfectionis specierum ydealium existentium in anima vel extra animam.
 22 c. de 2^o dubio circa predicta.
 23 c. de perfectione essentiali ydearum seu specierum complexarum.
 24 c. de aliquibus dubiis circa pretactam materiam.
 25 c. de quidditate seu indivisibilitate ydearum complexarum.
 26 c. penes quid attenditur perfectio ydearum complexarum.
 27 c. de obiecto intellectus quid sit obiectum intellectus.
 28 c. de quibusdam dubiis circa predictam materiam.
 29 c. de quorundam modernorum indigesta subtilitate contra predicta.
 30 c. de secunda propositione eiusdem opinionis.
 31 c. de tertia propositione eiusdem opinionis.
 32 c. quid querunt predictae opiniones cum suis rationibus et distinctionibus.
 33 c. de somno et vigilia.
 34 c. de memoria et reminiscentia.
 35 c. de quibusdam documentis circa memoriam.
 36 c. de appetitu et voluntate.
 37 c. de quibusdam dubiis et opinionibus circa predicta.
 38 c. de complexione anime et cuiuslibet forme substantialis.

Fol. 158r. Explicit quartus liber cuius hec sunt capitula:

- Primum capitulum de speciebus transmutationibus (sic) in generali.
 2^m ca. de quibusdam veritatibus transmutationum in generali.
 3^m c. de quibusdam aliis veritatibus.
 4^m c. de quibusdam veritatibus de natura que est principium motus.
 5 c. de transmutatione que fit ad substantiam.
 6 c. de quibusdam veritatibus Aristotelis de generatione et corruptione.
 7 c. qualiter respondendum sit predictis rationibus.
 8 c. de quibusdam aliis veritatibus.
 9 c. de mensura seu duratione generationis et corruptionis.
 10 c. de quibusdam aliis propositionibus in eadem materia.
 11 c. de aliis propositionibus in eadem materia (Supplied from text, fol. 108r).
 12 c. de limitatione rerum atque transmutationum secundum maximum et minimum.

- 13 c. de quibusdam propositionibus circa maximum et minimum et primo de rebus homogeneis et etherogeneis.
 14 c. de potentia visiva qualiter terminetur respectu distantie atque effectuum seu velocitatis in agendo.²
 15 is omitted here.
 16 c. qualiter potentia passiva terminatur seu in quolibet res secundum durationem.
 17 c. de motu seu transmutatione ad qualitatem.
 18 c. de contrarietatibus et oppositionibus.
 19 c. qualiter contraria possint esse simul in eodem subiecto et utrum qualitates medie constant ex extremis.
 20 c. quid sit tenendum circa predictam materiam.
 21 c. de quibusdam dubiis circa predicta.

Fol. 158v.

- 22 c. de quibusdam aliis dubiis circa eandem materiam.
 23 c. de quorundam modernorum inepta subtilitate in eadem materia.
 24 c. de gradibus intensivis formarum secundum aliquas opiniones.
 25 c. de gradibus intensivis formarum secundum veritatem.
 26 c. de quibusdam dubiis circa predicta.
 27. de motu ad quietem.
 28. quid realiter sit quantitas continua.
 29. de quadam alia opinione.
 30. de partibus ad quantitatem sicut de puncto et consimilibus.
 31. de arte et figuris artificialibus.
 32. de corpore et suis dimensionibus.
 33. de infinito et eius acceptionibus.
 34. an infinitum sit producibile.
 35. de impugnatione predictae opinionis.
 36. qualiter respondendum sit rationibus.
 37. de motu secundum locum.
 38. de loco diffinitive et quantificatione motus localis.
 39. de quibusdam proprietatibus loci ac quibusdam dubiis.
 40. de dubiis circa eandem materiam.
 41. de vacuo quid sit et utrum possit esse.
 42. an in vacuo possit esse motus.
 43. de tempore et motu secundum durationem.
 44. de quibusdam aliis mensuris s. evo eterno et de instanti.
 45. de actione et passione.

Fol. 212v. Explicit liber sextus (*quintus*) cuius sequitur capitula:

Primum capitulum de figura terre.

2^m ca^m de motu terre et quibusdam aliis dubiis.

3^m ca^m de quibusdam aliis dubiis in eadem materia.

² This heading for Cap. 14 seems to be a fusion of two headings in the text where we read, fol. 112v, "De potentia visiva qualiter terminetur respectu distantie et de potentia activa respectu distantie"; fol. 114r, cap. 15, "de potentia activa respectu distantie atque effectuum seu velocitatis in agendo."

- 4^m c. de animalibus et partibus eorundem.
 5^m c. de quibusdam aliis propositionibus in eadem materia.
 6^m c. de homine et quibusdam incidentibus atque sibi pertinentibus.
 7^m c. de phisonomia.
 8^m c. de quibusdam aliis propositionibus magis in speciali.
 9^m c. de metallis et de sulphure et argento vivo ex quibus generantur.
 10 c. de materia metallorum secundum multiplices opiniones.
 11 c. de forma substantiali metallorum et transmutatione secundum philosophos
 et alchimistas atque de loco generationis eorum.

Fol. 213r.

- 12 c. de generatione lapidis.
 13 c. de quibusdam proprietatibus et passionibus lapidum et operationibus
 eorundem.
 14 c. de imaginibus repertis in lapidibus.
 15 c. de suspensionibus et coloribus atque quibusdam incidentibus lapidum.
 16 c. de lapidibus in speciali secundum ordinem alphabeti et primo de iis quorum
 nomina incipiunt per a. b. c.
 17 c. de lapidibus quorum nomina incipiunt per d. e. f. g.
 18 c. de lapidibus quorum nomina incipiunt per has litteras i. k. l. m. n.
 19 c. de lapidibus quorum nomina incipiunt ab his litteris o. p. q. r. s. t. u. z.
 20 c. de ventis et causis eorum.
 21 c. de exalationibus et vaporibus.
 22 c. de quibusdam dubiis circa materiam ventorum et de varietate ipsorum.
 23 c. de quibusdam opinionibus pretermisiss circa motum terre.
 24 c. de fontibus et fluminibus.
 25 c. de mari et quibusdam incidentibus.
 26 c. de salsedine et dulcedine aquarum.
 27 c. de stagnis et figura maris.
 28 c. de quibusdam aliis dubiis et veritatibus circa naturam aquarum.
 29 c. de pluvia et causis eius.
 30 c. de signis pluviarum.
 31 c. de quibusdam aliis signis pluvie.
 32 c. de rore prima et nive atque caligine.
 33 c. de grandine.
 34 c. de yride.
 35 c. de halone et de virgis perpendicularibus atque parelio.
 36 c. de cometa.
 37 c. de iis que comete signant (or *significant* as in the text).
 38 c. de galaxia que alio nomine dicitur via lactea.
 39 c. de hiatis <?> et voraginibus et de tiphone atque etnesia.
 40 c. de tonitruo coruscatione fulgure et fulmine.
 41 c. de effectibus fulminis et quibusdam aliis impressionibus meteorologicis.

Fol. 235v. (Sixth and last book.)

- Primum ca^m de speris et planetis in generali.
 2^m c. de spera et equinoctiali atque zodiaco.
 3^m c. de coluris meridiano et orizonte aliisque circulis.

Fol. 236r.

4^m c. de diversitate plagarum locorum atque climatum.

5^m c. de differentia et diversitate locorum.

6^m c. de motibus corporum celestium in generali et de mensuris inde acceptis.

7 c. de qualitate signorum aliisque mensuris temporis.

8 c. de eclipsis et quibusdam circulis planetarum.

9 c. de ortu et occasu signorum et quantitate dierum.

10 c. de intelligentiis.

11 c. de causis et concatenatione ipsarum.

12 c. de prima causa et sui perfectione.

APPENDIX II

The Article of Paris Concerning the Soul of Christ and the Soul of Judas

(from BN 6752, fols. 46r–46v)

Our author introduces the matter on fol. 46r by saying, “Nam aliqui crediderunt quod in latitudine creabilium species quelibet haberet certam latitudinem intensivam in qua latitudine omnia individua existantia dicuntur esse eiusdem speciei”. The individuals of the species would then differ *specificice* but not *essentialiter*. Our author states that his first book has already made the falsity of this opinion clear. He then proceeds (fol. 46v):

Verum est tamen quod isti suam opinionem muniant articulo parisiensi quo dicitur quod anima Christi in essentialibus perfectior est anima Iude, certum est tamen quod predictæ due anime fuerunt eiusdem speciei, si ergo essentialiter se mutuo excedunt, igitur in eadem specie reperitur excessus essentialis.

Et licet articulum Parisiensem investigare sit potius catholicum quam philosophicum, quia tamen articulus favere videtur opinioni predictæ que philosophica est investigatione, non tamen veritate, ideo ad articulum parisiensem respondere convenit. Dicendum ergo quod ille articulus condemnatus est non tanquam falsus sed tanquam scandalosus. Nam comparare animam Iude anime Christi hoc est comparare pessimum optimo quod penes Deum facere non congruit.

Vel aliter dicitur quod per essentialia anime Christi non solum intelligitur perfectio naturalis ipsius anime, imo etiam intelliguntur perfectiones et gratie collate animi Christi que ideo dici possunt quodammodo essentialia anime Christi eo quod fuerunt sibi coeve et ab ea numquam separate, imo in tantum sibi radicate quod sibi tanquam connaturales adherebant. In talibus igitur anima Christi excessit animam Iude, et si talia dicantur essentialia large accipiendo, ut predictum est, tunc articulus remanebit verus non obstante falsitate predictæ opinionis.

Insuper aliter dici potest quod predictæ gratie, licet non essent essentialia anime Christi in quantum erat anima, erant tamen sibi essentialia in quantum erat anima Christi quia impossibile fuit ipsa existente anima Christi non habere multas gratias quas habuit.

Item aliter dici potest quod predictus articulus inconsulte seu minus diggeste fuit damnatus. Hanc tamen responsionem dare non auderem nisi in doctoribus solemnibus etiam parisiensibus simile legissem sicut in Egidio et Henrico de Gandavo. Credo tamen melius esse in predictis responsionibus sistere quia presens responsio presumptione suspecta est.

The article of Paris to which reference is made seems to be the following:

Chartularium Univ. Paris., I (1889), 550.

124. Quod inconveniens est ponere aliquos intellectus nobiliores aliis; quia cum ista diversitas non possit esse a parte corporum, oportet quod sit a parte intelligentiarum; et sic anime nobiles et ignobiles essent necessario diversarum specierum, sicut intelligentie.—Error, quia sic anima Christi non esset nobilior anima Iude.

Such words as 'essential', 'in essentials', and 'essentially', do not appear in this article itself as they did in our author's discussion of it. But there appears to be a relation to the debate between Aquinas and Egidius Romanus whether a quality is more or less perfect in its essence, or whether its intensity is a matter of existence (*esse*), that is, of its more or less complete realization in different individuals.¹ Henry of Ghent, who in his *Quolibeta* confesses that he was one of those who condemned the 219 opinions in 1277,² agreed with Aquinas that forms in their essence possessed a certain latitude.³ There would therefore seem to be no ground for the notion, although it prevailed already at the beginning of the fourteenth century, that the 124th article of 1277 was one of those censuring Thomist opinions.⁴ It is also difficult to understand how our author can represent Henry as disapproving of the condemnation. Egidius and Godofredus de Fontibus, however, are known to have criticized it.⁵ At any rate in 1325

¹ Duhem, III (1913), 318 *et seq.*

² *Quodlib.* 2, q. 9; 8, q. 1; cited by Du Plessis d'Argentré, *Collectio judiciorum de novis erroribus*, I (1755), 213.

³ Duhem, III (1913), 319: "En ce débat, Henri de Gand (1217-1293) se range nettement au parti de Saint Thomas d'Aquin: 'L'intensio et la remissio des formes', dit-il, 'se doivent produire en leur essence et par leur nature même, car en leur essence même, elles possèdent une certaine latitude (*latitudo*).'"

⁴ Iohannes de Napoli, *Quolibeto*, II, qu. ult.; cited by *Chartularium Univ. Paris.*, I, 556.

⁵ Du Plessis d'Argentré, *op. cit.*, especially p. 214, col. 2, where is given Godfrey's quotation of the 124th article. Godfrey also, like John of Naples, states that these articles were held to reflect upon Aquinas: *Ibid.*, 215, "Sunt etiam in detrimentum non modicum doctrinae studentibus perutilis recentissimi et excellentissimi doctoris, scilicet fratris Thomae, quae ex predictis articulis minus iuste aliquo modo diffamatur;

the condemnation of 1277 was annulled in so far as it touched or might seem to touch the doctrine of Aquinas, who had been canonized two years before. This might seem to leave the 124th article open to discussion, and, since our author does not feel quite free to do so, might tend to induce us to put his writing before 1325. But other features of the treatise seem to call for a date subsequent to that.

quia articuli suprapositi et quamplures alii videntur sumpti esse ex iis quae tantus doctor scripsit in doctrina tam utili et solemnii."