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The Science of Music: A Platonic Application of the *Posterior Analytics* in Robert Kilwardby's *De ortu scientiarum*

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1. Introduction

The *De ortu scientiarum* of Robert Kilwardby, O. P., has been described as "la plus remarquable introduction à la philosophie que le moyen âge ait produite"[1]. Given the significance of Robert's "curious and useful booklet"[2] on the number, nature and order of the sciences, a study of the place of the *Posterior Analytics* within it seems especially suitable for anyone interested in the influence of the *Posterior Analytics* in the Latin tradition. Indeed, the appropriateness of such a study is confirmed in that of all the sources used by Robert in the *De ortu* only Aristotle's *Metaphysics* (62 times) is cited more than the *Posterior Analytics* (42 times). The liberal use of Aristotle's text makes the *De ortu* an interesting witness to the role of the *Posterior Analytics* in the mid-thirteenth century when Robert's text was composed. Robert is commonly thought of as one of the most able of the regent masters of arts at the University of Paris at a time when Aristotle was first being studied in earnest in the West. As such, the use he makes of Aristotle's text can probably be regarded as rather typical of the age but also be expected to

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[1] F. VAN STEENBERGHEN, *Introduction à l'étude de la philosophie médiévale*, *Philosophes Médiévaux*, vol. 25 (Louvain: Éditions de l'Institut Supérieur de Philosophie, 1983), p. 420. Cfr. J.A. WEISHEIPL, O.P., *The Nature, Scope, and Classification of the Sciences*, *Science in the Middle Ages*, David C. Lindberg, (Chicago: University of Chicago Press, 1978), p. 479.

[2] The description of the *De ortu* by the fourteenth century Dominican chronicler, Nicholas Trevet, as quoted by Albert Judy. Robert Kilwardby, O.P., *De ortu scientiarum*, Albert G. Judy, O.P. (Oxford: British Academy & Pontifical Institute of Medieval Studies, 1976), p. XIII.

include some interesting applications. Moreover, given Robert's future role in academic affairs at Oxford in 1277, the place of the *Posterior Analytics* in his intellectual vision is not without some significance for that dramatic year in the history of thought.

The argument I shall make about the use of the *Posterior Analytics* in Robert's text is quite specific. However, it can also address a number of rather well-received interpretations of thirteenth century thought and I shall address these once the argument is concluded. The principal focus of the essay is the science of music or harmonics, a science that was studied as part of the *Quadrivium* in the Arts Faculty[3]. Robert adopts Aristotle's position in the *Posterior Analytics* that music is one of the *scientiae mediae*, situated in the hierarchy of the sciences between mathematics and physics. Following Aristotle's text, music, he states, is a science subalternated to mathematics, one drawing its scientific validity from that science, and thus Robert is happy to define music as *numerus harmonicus*. However, on reading the *De ortu* it is clear that such a definition of music owes far more to Plato than to Aristotle. Robert, with remarkable ease, employs the *Posterior Analytics* to demonstrate the metaphysical anteriority of music and its role as the principle of organization within human nature and the world. The ease with which Robert assimilated Aristotle to the Plato of the thirteenth century is all the more evident when his *De ortu* is compared to other texts of the same genre of instructional literature. Written about the same time in the Arts Faculty of Paris[4], Robert's is the only one of these works to use Aristotle's text to any great degree and yet his account of the science of music as a description of a Platonic metaphysics is identical to those writers in the Arts Faculty making no reference to Aristotle's text; it is as though Robert had not used the text at all, and yet this is far from being true.

The argument is divided into two sections. In the first, Robert's adoption of certain epistemological principles in Aristotle's text is discussed in reference to the science of God and in the second, to the science of music. At first sight, Robert seems to adopt these principles in opposition to Augustine. This is not the case, however. Whilst the argument that Robert adapts Aristotle to an Augustinian and Platonic framework will only be completed when describing the science of music, the same assimilation is evident in his account of the science of God.

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[3] On the *Quadrivium* generally, see P. KIBRE, *The Quadrivium in the Thirteenth Century Universities*, *Arts libéraux et philosophie au moyen âge*, (Montreal - Institut D'Études Médiévales: Paris - J. Vrin, 1969), pp. 175-191.

[4] A selection of such works can be found in *Quatre introductions à la philosophie au XIII^e^ siècle*, Claude Lafleur, (Montreal - Institut D'Études Médiévales: Paris - J. Vrin, 1988).

2. The Science of God: Adopting the *Posterior Analytics*

Characteristic of Robert's thought is the attempt to harmonize oppositions and to break down metaphysical divisions. Thus, in his *De natura relationis*, Robert wants to show that a substance can also be a relation[5] and in his *Sentences*-commentary that one and the same thing (*res*) can be a genus, species and individual substances.[6] A large part of this interest in reconciling the seemingly opposed is spent in demonstrating the general agreement between the works of Aristotle and those of Saint Augustine. This interest never seems to have left Robert since, with regard at least to one particular topic, the attempt is present in his *De ortu* (1250), his *Sentences*-commentary (1252) and in his *Letter to Peter Conflans* (1277): elsewhere I have shown that Robert understands the Aristotelian eduction of form from the potency of matter to be compatible with the Augustinian *ratio seminalis*[7], a position held by the Dominicans Richard Fishacre at Oxford[8] (and someone that could possibly have taught Robert)[9] and (later) Dietrich of Freiberg[10].

A similar attempt at synthesis is found in chapter 27 of the *De ortu* where Robert is anxious to show that the same science is able to describe creatures and their Creator. At first blush, it might appear that Robert makes a fundamental choice for Aristotle over and against Augustine. However, Robert's adoption of Aristotle's epistemology in the *Posterior Analytics* reveals, I want to argue, his commitment to the Augustine of the thirteenth century.

The problem of the chapter is posed immediately in terms of the *Posterior Analytics*. Robert cites the first lines of that work *omnis doctrina et disciplina intellectiva ex praeexistenti fit cognitione*, and adds the gloss that all knowledge arises from sense-knowledge (*scilicet sensitiva*). Given that the cognition of God is only intellectual (*solum intellectiva est*) it would appear that according to Aristotle there can be no cognition of God in this life, says Robert[11]. Two strategies offer themselves to Robert. The first is to acknowledge the limitation inherent in Aristotle's epistemology and to adopt as more complete the *cognitio scientifica* of Augustine's *Super Genesim ad litteram*[12]. A second strategy, however, and one better adopted (*potius*), he argues, is to agree with Aristotle and to

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5 R. Kilwardby, O.P., *De natura relationis*, L. Schmücker, (Brixen, Südtirol: A. Weger, 1980).

6 R. Kilwardby, O.P., *Quaestiones in Librum secundum sententiarum*, G. Leibold, (Munich: Bayerische Akademie der Wissenschaften, 1992), q. 17.

7 G.J. McAleer, *The Presence of Averroes in the Natural Philosophy of Robert Kilwardby*, «Archiv für Geschichte der Philosophie», 81 (1999), pp. 33-54.

8 D.E. Sharp, *The Philosophy of Richard Fishacre*, «New Scholasticism», 7 (1933), p. 296.

9 R. Kilwardby, *De ortu scientiarum*, Judy, *Introduction*, p. XV.

10 See L. Sturlese, *L'averroismo nella cultura filosofica tedesca medievale*, *Averroismus im Mittelalter und in der Renaissance*, F. Niewöhner and Loris Sturlese (Zurich: Spur, 1994), pp. 114-129.

11 R. Kilwardby, *De ortu scientiarum*, c. 27, par. 220, 84; cf. Aristotle, *Anal. post.* I, 1 (71^{a}1-2).

12 *Ibidem*, par. 222, 85.

acknowledge that a certain scientific knowledge of God can be derived from knowledge based on the senses[13]. That Robert would rather adopt the second strategy is motivated by his commitment to a metaphysics of creaturehood typical of the Neo-Augustinian movement. Aristotle's epistemology nicely tracks this metaphysics and in some ways better than the scientific epistemology of Augustine (at least as this is understood by some of his interpreters).

Respecting the first approach, Robert writes that Augustine's *Super Genesim ad litteram* describes a scientific knowledge in which there are three visions (*cognitio scientifica fiat per triplicem visionem, scilicet corporalem, spiritualem et intellectualem*). The opening lines of the *Posterior Analytics*, says Robert, refer only to spiritual scientific cognition and not to a purely intellectual scientific cognition. The former, for Augustine, are cognitions of corporeal things when their images are lodged in the spirit or imagination whilst the latter are cognitions present through themselves to the mind alone; their number includes the will, mind, the thought process as such and God. As Augustine examined the nature of intellectual cognition more thoroughly (*proprius et strictius*) than Aristotle so:

> «it would not be incongruous for someone to say that in the said proposition of the *Posterior Analytics* intellectual cognition is taken for that intellectual operation which Augustine would say is spiritual. So, that God can be cognized through a purely intellectual vision does not oppose the said proposition of Aristotle»[14].

Nevertheless, Robert prefers not to adopt this account of Augustine's epistemology and makes it clear that Aristotle's epistemological principles are to be adopted. The ontologism latent in this version of Augustine[15] is hardly congruent with the Neo-Augustinian movement in which the finitude of the creature is emphasized. Human knowledge, rooted in the senses as it is, simply cannot rise in this life to a cognition of God's essence directly: though Robert does explain that God might grant such a cognition to some in this life from a special degree of love[16].

Robert adopts Aristotle's text claiming that every human intellectual cognition in this life comes from a previous sensitive cognition (*quod omnis intellectiva cognitio humana universaliter in hac vita fit ex praeexistenti sensitiva cognitione*)[17], including an intellectual cognition of God. He does so, however, because

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[13] *Ibidem*, par. 223, 85.

[14] «*Et non incongrue diceret quis quod in dicta propositione de Posterioribus sumitur cognitio intellectiva pro illa intellectiva quae spiritualis dicitur apud Augustinum. Et ita Deus cognosci potest visione pure intellectuali, non obstante dicta propositione Aristotelis*» (*Ibidem*, par. 222, 85); all translations are my own.

[15] Which may have been endorsed by Grosseteste: see J. McEvoy, *The Philosophy of Robert Grosseteste* (Oxford: Oxford University Press, 1982), pp. 303-304.

[16] R. Kilwardby, *De ortu scientiarum*, c. 27, par. 225, 86.

[17] *Ibidem*, par. 223, 85; cf. c. 4, par. 7, p. 11.

it suits his Augustinianism in two ways: it helps describe an epistemic distance and a metaphysical division. Robert divides this sense-based intellectual cognition into two varieties. Intellectual cognition can arise directly from a corporeal vision. This kind of intellectual cognition consists in spiritual images present to the soul and can persist even when the concrete things from which the images are derived are no longer present. Since these spiritual images always remain rooted in corporeal vision they cannot lead to a knowledge of God. However, intellectual cognition can also arise indirectly from the senses as when the mind has engaged the method of abstraction *per differentiam et per amotionem* and come to cognize what it has in no manner sensed[18]. A natural knowledge of God can be gained indirectly, for example, by noting the degree of simplicity and permanence that pertains to a creature of some sort and then, through the method of abstraction, one can cognize the absolute simplicity and immutability of the essence of God. Noting such a distinction between the simplicity of God and the composition of the creature, with its divisions and parts, is, as a number of commentators have argued[19], one of the defining characteristics of the Neo-Augustinian movement. Whilst Aristotle's epistemology is to be preferred to Augustine's description of a scientific knowledge unconnected with sense knowledge, Robert's adoption of the epistemology of the opening lines of the *Posterior Analytics* is made so easy by the fact that it serves his Augustinian sensibility respecting the epistemic distance and metaphysical division of the creature in relation to God. Robert writes:

> «And so through a sense cognition the mind comes to a cognition of the non-sensible, such as created spirits and God. So that when a cognition of the divisibility of the body is converted through a method of opposition into a cognition of the simplicity of spirit, and then both through the composition and mutability of the creature we ascend into a cognition of the simplicity and immutability of the divine, in the manner that Augustine teaches in many places»[20].

Robert's use of the *Posterior Analytics* in his analysis of the science of God

[18] *Ibidem*, par. 223, pp. 85-86.

[19] On this aspect of the Neo-Augustinian movement see G.J. McAleer, *Disputing the Unity of the World: The Importance of res and the Influence of Averroes in Giles of Rome's Critique of Thomas Aquinas over the Unity of the World*, «Journal of the History of Philosophy», 34 (1998), pp. 29-55; J. Decorte, *Thomas Aquinas and Henry of Ghent on God's Relation to the World*, «Mediaevalia. Textos e Estudos», 3 (1993), pp. 91-107; F. Brunner, *Platonisme et Aristotélisme: La critique d'Ibn Gabirol par saint Thomas d'Aquin*, (Louvain-Paris: Publications Universitaires de Louvain-Éditions Béatrice-Nauwelaets, 1963), pp. 84-85.

[20] «*Et sic per sensitivam cognitionem venitur in cognitionem insensibilium, cuiusmodi sunt spiritus creati et Deus, ut quando cognita divisibilitate corporis per oppositum convertimur ad cognoscendum simplicitatem spiritus, et per compositionem et mutabilitatem creaturae ascendimus in cognitionem simplicitatis divinae et immutabilitatis, secundum quod docet Augustinus in multis locis*» (R. Kilwardby, *De ortu scientiarum*, c. 27, par. 224, p. 86).

cannot be said to put "secular learning on an almost equal footing with revealed truth" or to grant Aristotelian science a "proper autonomy in its own sphere." Such are the claims made by Wallace about Albert the Great and Thomas Aquinas. Rather does Robert appear to stand alongside Bonaventure in framing Aristotle within an «older Augustinian tradition»[21].

3. The Science of Music: Adapting the *Posterior Analytics*

Robert's interest in the synthesis of diverse traditions is present in his analysis of the science of harmonics, one which would become a source for latter theorists of music. James of Liège, the fourteenth century author of the *Speculum musicae*, a text which continues the metaphysical account of music found in writers like Robert, cites Robert as a source, identifying him as the first to define music explicitly as *numerus harmonicus*[22]. In defining music as *numerus harmonicus*[23]. Robert describes music as a mathematical science and as such, a science which is more abstract than natural science. When linked to Robert's interpretation of certain epistemological principles in the *Posterior Analytics*, music or harmonics is transformed into a metaphysical lattice by which the human body and the world more generally is ordered: in effect, he makes Aristotle's text an ally to a strongly Platonic strain within medieval thought[24].

Music, Robert says, appears to belong to the natural sciences since it is the measure or number of natural things (*res naturales*) and natural being (*esse naturale*). However, he continues, the *Posterior Analytics* shows that music is a subordinate science to arithmetic and that the demonstrations of this latter science are to be employed in the former[25]. Thus, while music does consider natural things it does not consider them as natural (*ut naturales*) but in a different and prior manner of explanation. Robert is keen to show in what way Aristotle's description of music as a subordinate science to mathematics is a quite accurate description of

[21] For this summary of the reactions to Aristotelianism by the luminaries of the period see W.A. WALLACE, O.P., *The Philosophical Setting of Medieval Science*, «Science in the Middle Ages», 96. For a similar description of the reactions to Aristotle, and the claim that Robert's "own outlook was framed entirely in these older terms", see G. LEFF, *Paris and Oxford Universities in the Thirteenth and Fourteenth Centuries*, (New York: John Wiley & Sons, 1968), pp. 290-291.

[22] F.J. SMITH, "A Medieval Philosophy of Number: Jacques de Liège and the *Speculum musicae*," *Arts libéraux et philosophie au moyen âge*, pp. 1035-1036.

[23] R. KILWARDBY, *De ortu scientiarum*, c. 18, par. 132, p. 53.

[24] For an extremely good introduction to the origins of the science of music and thoughts about the metaphysical implications of music in Greek and early Latin thought see H. CHADWICK, *Boethius: The Consolations of Music, Logic, Theology, and Philosophy* (Oxford: Oxford University Press, 1981), pp. 78-101.

[25] R. KILWARDBY, *De ortu scientiarum*, c. 21, par. 145, 58; cf. ARISTOTLE, *Anal. post.* i, 13 (78^b32-39).

the metaphysical situation. Making reference to Boethius' *De institutione musica* both at the beginning and end of his lengthy discussion of music, Robert notes that whilst sounds or tones are *res naturales mutabiles* the intellect can abstract these tones from all the actions and passions of motion to consider the essences of the tones themselves (*considera ipsas in se vocum essentias*) and to sort out the various sounds and tones into those which share the same form.

These essences and forms have numerical and harmonic proportions to one another prior to motion[26]. Robert writes:

> «Remove from them [the elements of an harmonic composition] through an operation of the intellect what are hot and cold, wet and dry, heavy and light and whatever at all pertains to action and passion and to motion and still there remains their diverse essences, powers and magnitudes which have in themselves a certain numerical existence; by which one of them is more true, greater or better than another and in this way they are related to one another in a certain numerical and harmonic proportion by which they are naturally suited to be adapted to one another and to harmoniously make something one»[27].

The metaphysical order of the tones of the harmonic system is a Platonism of forms and essences which stand in an hierarchy that determines their metaphysical relationship to the True and the Good. These essences have being, for they are said to have a *quandam numerositatem existentiae*, and are parts that exist metaphysically prior to the whole of which they are the constituting and ordering parts (*res per numeralem harmoniam compositae*):[28] the order that prevails amongst these forms and essences is the lattice for the order which exists within human nature and the world.

As the mathematical is metaphysically prior to the natural, according to Robert, and as music is more mathematical than it is natural, *numerus harmonicus* is the foundation of the natural world which is divided into *musica mundana* and *musica humana*[29]. Robert is explicit that *musica mundana* does not merely describe heavenly bodies but also the relations amongst the elements of the ter-

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[26] *Ibidem*, c. 21, par. 147, p. 58.

[27] «*Tolle enim ab eis per intellectum quod calida sunt et frigida, et humida et sicca, et gravia et levia et quidquid omnino ad actionem vel passionem et ad motum pertinet, adhuc restat eorum essentiae diversae, virtutes etiam et magnitudines habentes in se quandam numerositatem existentiae qua unum illorum verius et magis est vel maius quam reliquum, et in hac sese habent ad invicem in quadam numerali et harmonica proportione qua nata sunt invicem aptari et concorditer unum facere*» (*ibidem*, par. 149, p. 59).

[28] *Ibidem*, c. 16, par. 112, p. 46; *ibidem*, c. 18, par. 132, p. 53.

[29] A similar account of the mathematical nature of music as well as its ontological significance can be found in an anonymous treatise from the Arts Faculty, *Compendium circa quadrivium* (c. 1240), *Quatre introductions à la philosophie au XIII^e siècle*, Claude Lafleur, p. 374. Grosseteste seems to have held the same position. See G. Leff, *Paris and Oxford Universities in the Thirteenth and Fourteenth Centuries*, p. 145.

restrial world, and thus all material composites. Speaking of the elements of the world, Robert wonders how they could be harmonized in a friendly manner (*amicabiliter consociarentur*) unless they were joined through harmonic proportion (*per harmonicam proportionem coniunguntur*)[30]. This sense of *musica mundana* is a common position in the Arts Faculty of the period as witnessed in the *Accessus philosophorum* (c. 1230). Its anonymous author writes, "since the substance of the thing that is the world consists in an harmonic composition, by a cognition of the composition and nature of the consonance of harmonics, we are lead to a cognition of the being of the world" (*cum substantia rei universe consistat in compositione armonica, cognita compositione et natura consonantiarum armonicarum, inducimur ad cognitionem esse universi*)[31]. If music is a structuring principle of human nature[32] and the world in general and if the proportions of the harmonic system are proportions between essences and forms which exist anterior to human nature and the world as «their ontological depth»[33], then in Robert one has a full-blown Platonism. In this sense, but only in this sense, is Robert one of the "Oxford Platonists". This designation of Weisheipl's is meant to identify a series of thinkers who adopted the metaphysical and scientific outlook of Grosseteste[34]. In arguing that music is the anterior metaphysical structure of the world, and in acknowledging that the science of music is subordinate to that of mathematics, Robert can certainly be said to see mathematics as did Grosseteste: «the very internal texture of the natural world, presiding over its coming to be and controlling its functioning»[35].

Yet, Robert cannot be said to have followed Grosseteste in having a method of verification[36]. Linking this metaphysical outlook with epistemology, Robert writes:

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[30] R. KILWARDBY, *De ortu scientiarum*, c. 18, par. 130, p. 52.

[31] Anonymous MASTER OF ARTS, *Accessus philosophorum, Quatre introductions à la philosophie au XIII^e siècle*, Claude Lafleur, pp. 204-205.

[32] Ideas of medical treatment through music were not uncommon in the Middle Ages. For Grosseteste's views see J. MCEVOY, *The Philosophy of Robert Grosseteste*, pp. 257-258, p. 476.

[33] W.A. WALLACE, *The Scientific Methodology of St. Albert the Great*, *Albertus Magnus - Doctor Universalis 1280/1980*, Gerbert Meyer & Albert Zimmermann (Mainz: Matthias-Grunewald, 1980), p. 389.

[34] J.A. WEISHEIPL, *Albertus Magnus and the Oxford Platonists*, «Proceedings of the American Catholic Philosophical Association», 32 (1958), pp. 132-136; *Celestial Movers in Medieval Physics*, *The Dignity of Science*, J.A. Weisheipl (Washington, D. C.: The Thomist Press, 1961), pp. 160-161.

[35] J. MCEVOY, *The Philosophy of Robert Grosseteste*, p. 210.

[36] For the role of the *Posterior Analytics* in grounding a method of verification in the works of Grosseteste and Bacon see G. LEFF, *Paris and Oxford Universities in the Thirteenth and Fourteenth Centuries*, pp. 278-288.

> «It is to be known that music, namely of the human and of the world, which stands in the human and amongst his parts and in the world and amongst its parts, is especially hidden and unknown to man for the most part»[37].

A cunning gloss of the *Posterior Analytics* will be used to justify Robert's assertion that the very inability of the human to verify that music is an anterior metaphysical lattice proves his description of the metaphysically prior and posterior. With reference to the *Posterior Analytics*, an earlier chapter of the *De ortu* explains that respecting the object of the science of music, arithmetic gives the *propter quid* explanation and harmonics the *quia* of the explanation[38]. Thus Robert can write:

> «And because the said consideration of music is more absolute and prior to the consideration of nature, just as number and the numeral proportions of things are prior to motion and to all action and passion, so music is more abstract than natural science and so is mathematical and not natural»[39].

Significant here is the way in which once more Aristotle's ordering of the sciences, although seemingly being employed in earnest, is made to fit an already established Platonic framework. All human investigation, says Robert, proceeds from those things which are more known and prior for us (nature) to those which are prior and more known *simpliciter sive naturae* (music). Aristotle is drawn upon for support:

> «Aristotle says in Book I of the *Posterior Analytics* that those things which are prior and more know to us are those close to the senses, absolutely however those things more prior and known are those further away. Those further away are especially universals and those closer are singulars. It is for this reason that arithmetic must be the last discovered of the two said sciences. Number is more abstract considered in itself than one of the categories, and so it happens that it is prior to them, and so more remote from sense than them and more properly intellectual; and this anyone can perceive in himself through this that the position of things is easily recorded but numbers with difficulty»[40].

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[37] «*Sed hoc sciendum quod ista musica, scilicet humana et mundana, quae consistit in homine et partibus eius et in mundo et partibus eius, valde occulta est et homini ignota pro maxima parte*» (R. KILWARDBY, *De ortu scientiarum*, c. 21, par. 150, p. 59).

[38] «*Et ideo dicit Aristoteles in I Posteriorum quod harmonica est sub arithmetica et arithmetica habet dicere propter quid eorum quorum harmonica dicit quia, et non impedit hic subalternatio diversas esse scientias*» (*Ibidem*, c. 16, par. 112, p. 46).

[39] «*Et quia dicta consideratio musici absolutior est et prior consideratione naturalis, sicut numerus et proportiones numerales rerum priores sunt motu et omnino actione et passione, ideo abstractior est musica quam naturalis scientia, et ideo mathematica est et non naturalis*» (*Ibidem*, c. 21, par. 150, p. 59).

[40] «*Dicit autem Aristoteles in I Posteriorum quod ad nos priora et notiora sunt proxima sen-*

The very hiddenness of the musical principles structuring the human body legitimates the assumption that those harmonic proportions are indeed present and efficacious as metaphysical principles. The assumption is drawn from the epistemological principles of Aristotle's text where it is argued, and in perfect accord with Robert's Platonic commitments, that what is far from sense and difficult to know are the prior and absolute principles of more observable phenomena[41].

4. Conclusion

Robert's Platonic application of the *Posterior Analytics* demonstrates, I would suggest, the continuing resilience of Augustinian Platonism after the introduction of Aristotle into the West. If the *De ortu* is a fine example of the use of Aristotle during the first period of Aristotelianism then on the basis of Robert's application of the *Posterior Analytics* in his treatment of music and the science of God it must be concluded that Aristotle did not make a dent, so to speak, in the Arts Faculty and the heavily Augustinian and Platonic theories of the liberal arts expounded there. Robert's applications of the *Posterior Analytics* reveal the continuing resilience of an Augustinian Platonism, suggesting that the generally positive reaction to Aristotelianism up until the early 1250's (Gauthier)[42] or 1260's (Van Stenberghen)[43] was due to the neat and easy absorption of Aristotelian ideas into a Platonic framework. Certainly, Robert's use of the text does not lead him to a scientific methodology in which scientific explanations might be structured by the phenomena that had been observed. Although such a methodology had been drawn from Aristotle by Grosseteste[44] and by Robert's contemporaries, Albertus Magnus and Thomas Aquinas[45]. Robert understands Aristotle's epistemological

sui, simpliciter autem priora et notiora quae longius sunt. Sunt autem longius universalia maxime, proxima autem singularia. Haec igitur causa est quod arithmetica sit ultimo inventa inter dictas scientias. Numerus enim est maioris abstractionis per se consideratus quam aliquod praedictorum, et ideo constat quod prior est illis, et ideo remotior a sensu quam illa et propior intellectui; et hoc potest unusquisque sentire in se per hoc quod facile recordatur rerum situs sed difficile numeros» (*Ibidem*, c. 19, par. 135, p. 54); cfr. ARISTOTLE, *Anal. post.*, i, 2 (72[a]1-5).

[41] On the invisibility of music as a structuring principle of the visible in Augustine and Plato see N. VAN DEUSEN, *Theology and Music at the Early University*, Brill's Studies in Intellectual History, 57 (Leiden: E. J. Brill, 1995), p. x, nn. 3- 21.

[42] R.A. GAUTHIER, *Les sources du commentaire: Le commentaire d'Averroès*, in Saint THOMAS AQUINAS, *Sententia Libri de anima*, *Opera omnia*, 45, 1 (Rome: Commissio Leonina, 1984), pp. 221-222.

[43] F. VAN STEENBERGHEN, *Introduction à l'étude de la philosophie médiévale*, pp. 362-363.

[44] A.C. CROMBIE, *Robert Grosseteste and the Origins of Experimental Science*, (Oxford: Oxford University Press, 1953).

[45] W.A. WALLACE, *Traditional Natural Philosophy*, *The Cambridge History of Renaissance Philosophy*, Charles B. Schmitt et al., (Cambridge: Cambridge University Press, 1988), p. 207.

principles to explain why what cannot be observed is metaphysically prior to those things which are observed. Consequently, if it is true, as Crombie has argued, that Grosseteste developed the intellectual framework for experimental science at Oxford[46] through the combination of a Platonic attachment to mathematics and principles of verification derived from the *Posterior Analytics*, Robert does not follow Grosseteste in adopting this framework[47].

It might also be misleading to suggest, as has Gauthier, that the reaction to a radical Aristotelian philosophy (what he terms the "second Averroism") began in the schools of theology, and by implication, not in the Arts faculties were Aristotle is thought to have found a more sympathetic ear[48]. As someone said to have led the charge against Aristotelianism after the early 1250's, it may well be that Robert did not revise his attitude to Aristotle between 1250 and 1252[49]. I hope this essay has shown that Robert's applications of the *Posterior Analytics* with respect to the sciences of God and music demonstrate that he had already decided against Aristotle in favour of an Augustinian Platonism by 1250. In which case, Robert's thought cannot accurately be characterized as an «eclectic Aristotelianism»[50] but points perhaps to the emergence of the Neo-Augustinian movement long before the date of 1270 which Van Steenberghen identifies[51].

With the *De ortu* being a major witness to the initial reaction to Aristotle in the Arts Faculty, the finding that Aristotle was absorbed into an existing Augustinian Platonism, may throw light on the events of the 1270's. It surely is not clear that the Arts Faculty as a whole even around the 1270's became a hotbed of "progressive" thinking[52]. Besides the works of Siger of Brabant and Boethius of Dacia noteworthy editions do exist (although more would be needed to decide this ques-

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[46] Crombie's thesis has recently been endorsed by S. MARRONE in his, *Metaphysics and Science in the Thirteenth Century: William of Auvergne, Robert Grosseteste and Roger Bacon*, *Medieval Philosophy: Routledge History of Philosophy*, Vol. 3, John Marenbon (London: Routledge, 1998), pp. 212-213. Doubts have been raised about the accuracy of this thesis, however. See the trenchant comments in J. MCEVOY, *The Philosophy of Robert Grosseteste*, p. 208.

[47] Crombie squarely places Robert in the Oxford School of Robert Grosseteste, see A.C. CROMBIE, *Robert Grosseteste and the Origins of Experimental Science*, pp. 138-139.

[48] R.A. GAUTHIER, *Les sources du commentaire: Le commentaire d'Averroès*, p. 222.

[49] Gauthier argues that in his *Sentences-commentary* of 1252 Robert begins a critique of Aristotelianism similar to, and simultaneously with, Bonaventure's. See R.A. GAUTHEIR, *Les sources du commentaire: Le commentaire d'Averroès*, p. 221.

[50] This is Van Steenberghen's term for most of the philosophy prior to Thomas and the rise of the Neo-Augustinian movement. Robert is said to share this eclecticism, a mixture of Aristotle and Neo-platonism, with thinkers like Bonaventure. The present essay argues that the term is inappropriate since it suggests that Robert's philosophy is ultimately more dependent upon Aristotle than it is Augustine. See F. VAN STEENBERGHEN, *Introduction à l'étude de la philosophie médiévale*, pp. 420-464.

[51] F. VAN STEENBERGHEN, *Introduction à l'étude de la philosophie médiévale*, p. 466.

[52] R. HISSETTE, *Enquête sur les 219 articles condamnés à Paris le 7 mars 1277*, *Philosophes médiévaux*, Vol. 22 (Louvain: Publications Universitaires, 1977), p. 7.

tion conclusively) in which an Augustinian Platonism and synthesis of this with Aristotle is patent. Rather than assuming that the condemnations of 1277 quashed the nascent radicalism of the Arts Faculty that otherwise would have transformed the intellectual landscape[53], perhaps thought might be given to the possible resilience of an Augustinian Platonism[54] that Henry Bate is a witness to in the Arts Faculty of the 1290's and James of Liège in the 1330's or 40's[55]. Must we assume from the presence of Siger's radicalism (if such there was) that there was a complete absence of the Augustinian Platonic tradition in the Arts Faculty at Paris in the 1270's? The assumption is all the more unwarranted if it is true that Robert, as amongst the most significant early masters at Paris, «was to influence his successors for several decades»[56]. Moreover, it is unclear that the "progressives" were in the Arts Faculty and the "conservatives" in the Theology Faculty, as historians such as Hissette and Gauthier, amongst others[57], want to maintain. If it is true that Thomas Aquinas and Albert the Great are Aristotelianizing Christianity[58], and if it is the case that save for Siger there is a continuation from the 1230's through to the 1330's of a Platonic metaphysics, which a study of the science of music might confirm, then to see the faculties as opposed to one another must be simplistic: and thus, to see the condemnations of 1277 as handed down against the Arts Faculty must likewise be simplistic.

Finally, Robert appears to be similar to his confrere Albert the Great, who, at least in Booth's interpretation, has a commitment to certain Platonic metaphysical themes that infuse and structure his logical and methodological positions[59].

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[53] C.G. Normore, *Who was Condemned in 1277?*, «Modern Schoolman», 72 (1995), pp. 273-281.

[54] Against a pervasive narrative common amongst historians of medieval political theory, that the arrival of Aristotelian political philosophy routed Augustine's *City of God*, see G.J. McAleer, *Political Authority in the Sentences-Commentary of Giles of Rome: A Case of the Waning of Augustine's Political Thought after Aquinas?*, «Journal of the History of Ideas», 60 (1999), pp. 21-36.

[55] H. Bate, *Speculum divinorum et quorundam naturalium*, I, Dom E. Van de Vyver, O.S.B., (Louvain: Publications Universitaires; Paris: Béatrice-Nauwelaerts, 1960); James of Liège, *Speculum musicae*,R. Bragard, (Rome: American Institute of Musicology, 1955). Elsewhere, I have argued that Siger's basic metaphysical commitments are the same as those found in Kilwardby, Henry of Ghent and Giles of Rome. Whether Siger was a "radical" seems to me very far from clear. Please see my, *Who were the Averroists of the Thirteenth Century? A Study of Siger of Brabant and Neo-Augustinians in respect of the Plurality Controversy*, «Modern Schoolman», 76 (1999), pp. 273-292.

[56] S. Ebbesen, *The Paris Arts Faculty: Siger of Brabant, Boethius of Dacia, Radulphus Brito, Medieval Philosophy: Routledge History of Philosophy*, Vol. 3, John Marenbon, p. 271.

[57] Cfr. C. Normore, *Who was Condemned in 1277?*, pp. 273-281; G. Leff, *Paris and Oxford Universities in the Thirteenth and Fourteenth Centuries*, p. 229.

[58] W.A. Wallace, *The Philosophical Setting of Medieval Science*, *Science in the Middle Ages*, David C. Lindberg, p. 97.

[59] See the fascinating remarks of E. Booth, O.P., *Aristotelian Aporetic Ontology in Islamic and Christian Thinkers*, (Cambridge: Cambridge University Press, 1983), pp. 163-180.

Robert's Platonism is not only evident in his science of music but also in his metaphysical account of genus and species. Robert's support of the plurality of forms thesis, and the role he will play in 1277, is founded upon his claim that genus and species are forms prior to the individual substances and can exist without individual substances as *rationes seminales*. As we have seen from this study of Robert's use of the *Posterior Analytics*, the fundamental metaphysical orientation that supports his position on plurality in 1277 is already decided in his thoughts about music in 1250. Caution is necessary, therefore, when it is argued that while Aristotle's metaphysics and psychology were sources of contention in the thirteenth century, his logic and natural philosophy were universally accepted[60]. Robert's use of the epistemological principles of the *Posterior Analytics* is governed from the start by his Augustinian and Platonic orientation and made to contribute to a metaphysical position that will have enormous significance in 1277.

[60] For this claim see G. LEFF, *Paris and Oxford Universities in the Thirteenth and Fourteenth Centuries*, p. 189.