

PDF hosted at the Radboud Repository of the Radboud University Nijmegen

The following full text is a publisher's version.

For additional information about this publication click this link.

<http://hdl.handle.net/2066/84604>

Please be advised that this information was generated on 2019-04-22 and may be subject to change.

WHAT CAN WE KNOW ABOUT GOD? JOHN BURIDAN AND MARSILIUS OF INGHEN ON THE INTELLECT'S NATURAL CAPACITY FOR KNOWING GOD'S ESSENCE

Femke J. KOK

Abstract

Recent investigations into the relationship between the questions on the *Metaphysics* authored by Marsilius of Inghen, on the one hand, and John Buridan, on the other, have revealed interesting doctrinal contrasts between them. The present article extends these investigations by examining the metaphysical question of whether we have a natural capacity for knowing God. Even though Marsilius followed Buridan's reasoning to a great extent, he disagreed with his main point: that our intellect has the natural capacity for abstracting an absolute, simple, essential concept of God from his effects. The disagreement is rooted in their differing conceptions of what an absolute concept of God entails, viz. Buridan's strictly philosophical conception vis-à-vis Marsilius' more theological conception.

1. *Introduction*

Remarkably few commentaries on Aristotle's *Metaphysics* are extant from the fourteenth century¹. Two of them have become widely famous in the following centuries, especially at universities in Central Europe. These are the commentaries of John Buridan (ca. 1300 – ca. 1361) and Marsilius of Inghen (ca. 1340-1396)². Buridan, who

1. See C.H. LOHR, «Medieval Latin Aristotle Commentaries» in: *Traditio* 23-30 (1967-1974), *passim*; A. ZIMMERMANN, *Verzeichnis ungedruckter Kommentare zur Metaphysik und Physik des Aristoteles aus der Zeit von etwa 1250-1350*, Leiden / Köln 1971, pp. 49-145.

2. On Marsilius' fame at fifteenth-century Polish and German universities, see M.J.F.M. HOENEN, *Marsilius of Inghen. Divine Knowledge in Late Medieval Thought*, Leiden / New York / Köln 1993, p. 10. On the spread of Buridan's ideas in Central Europe see B. MICHAEL, *Johannes Buridan. Studien zu seinem Leben, seinen Werken und zur Rezeption seiner Theorien im Europa des späten Mittelalters*, I, Berlin 1985, pp. 334-336, and

was an arts master at the university of Paris for all his academic life, lectured on Aristotle's *Metaphysics* at least three times³. The *ultima lectura* of his questions on the *Metaphysics* originated from after 1346, probably circa 1350/1355⁴. Marsilius of Inghen is commonly known as a student of John Buridan, even though he never formally graduated under him⁵. After his graduation as a master of arts in Paris, Marsilius studied and taught theology at the university of Heidelberg⁶. His commentary on Aristotle's *Metaphysics* originated from the period of his studies in Heidelberg, probably from between 1387 and 1389⁷.

It is acknowledged by several historians that Marsilius' questions on the *Metaphysics*, like his other commentaries on Aristotle's work, follow closely in the footsteps of Buridan's⁸. Yet, recent investigations

M. MARKOWSKI, «L'influence de Jean Buridan sur les universités d'Europe Centrale», in: Z. KALUZA – P. VIGNAUX (eds.), *Preuve et raisons à l'Université de Paris. Logique, ontologie et théologie au XIV^e siècle*, Paris 1984, pp. 149-163.

3. See L.M. DE RIJK, «The commentaries on Aristotle's *Metaphysics*» in: O. WEIJERS – L. HOLZ (eds.), *L'enseignement des disciplines à la Faculté des arts (Paris et Oxford, XIII^e - XV^e siècles)*, Turnhout 1997, p. 305.

4. See B. MICHAEL, *Johannes Buridan*, pp. 809-810.

5. Even if Buridan was still alive at the time Marsilius studied in Paris, which cannot be stated with certainty, it is unlikely, if not impossible, that Marsilius studied under Buridan, given the fact that they belonged to different *nationes*, the Picard and English-German nation respectively. See J.M.M.H. THIJSEN, «The Buridan-School Reassessed. John Buridan and Albert of Saxony» in: *Vivarium* 42 (2004), p. 23.

6. For a gathering of facts about Marsilius' life, see M. SCHULZE, «Marsilius of Inghen», in: *Biographisch-bibliographisches Kirchenlexikon*, Vol. 16, Stuttgart 1999, cols. 988-1001. See also W. COURTENAY, «Marsilius of Inghen as Theologian», in: H.A.G. BRAAKHUIS – M. HOENEN (eds.), *Marsilius of Inghen. Acts of the International Marsilius of Inghen Symposium organized by the Nijmegen Centre for Medieval Studies Nijmegen, 18-20 december 1986*, Nijmegen 1992, pp. 39-57.

7. Marsilius taught in Heidelberg from 1386 (the year of the foundation of the *studium* of Heidelberg) until 1396 (the year of his death). See M. HOENEN, *Marsilius of Inghen*, p. 16. Recently, Andrea Tabarroni put a more exact date to Marsilius' lectures on the *Metaphysics*, based on a passage in *quaestio* 16 of book 7 («utrum in re singulari sit aliqua natura universalis distincta contra naturam singularem»), where Marsilius uses the example: «Urbanus VI est homo». Tabarroni reasonably claims that the use of such example points to a period that Urban VI was still alive, that is before October 15th 1389. See A. TABARRONI, «John Buridan and Marsilius of Inghen on the Meaning of Accidental Terms (*Quaestiones super Metaphysicam*, VII 3-5)», in: *Documenti e Studi sulla tradizione filosofica medievale* 14 (2003), pp. 402-403, n. 33.

8. See M. HOENEN, *Marsilius of Inghen*, p. 16. For the relationship between Buridan and Marsilius see also J. THIJSEN, «The Buridan-School Reassessed», pp. 18-42, and A. TABARRONI, «Buridan and Marsilius on Accidental Terms», p. 390.

into the relationship between the two commentaries show interesting doctrinal contrasts⁹. The disagreement between Buridan and Marsilius was more than once caused by different perspectives on the role of theological argument in metaphysics¹⁰. Interestingly, it has been found to be not the philosopher Buridan, but the theologian Marsilius who preserved a stricter separation between the order of nature and the order of miracle¹¹.

The relation between Buridan's and Marsilius' commentaries on the *Metaphysics* has not yet been exhaustively investigated. In this article, I will compare their views on the human capacity for knowing God or, in philosophical terms, the first cause¹². Because of its theologically

9. See M.E. REINA, «*Comprehensio veritatis*. Una questione di Marsilio di Inghen sulla Metafisica», in: L. BIANCHI - E. RANDI (eds.), *Filosofia e teologia nel Trecento. Studi in ricordo di Eugenio Randi*, Louvain-la-Neuve 1994, pp. 283-335; P.J.J.M. BAKKER, «Inhérence, univocité et séparabilité des accidents eucharistiques. Observations sur les rapports entre métaphysique et théologie au XIV^e siècle», in: Z. KALUZA – J.-L. SOLÈRE (eds.), *La servante et la consolatrice. La philosophie dans ses rapports avec la théologie au Moyen Âge*, Paris 2002, pp. 193-245, and A. TABARRONI, «Buridan and Marsilius on Accidental Terms», pp. 389-407.

10. In an article about the «*comprehensio veritatis*», based on the first question of the second book of both masters, Reina acknowledges a difference in the theological underpinning of Buridan's and Marsilius' epistemological views. Furthermore, Bakker proves that Buridan's and Marsilius' opinions on the acceptability of theological arguments in metaphysics drove a wedge between their ideas on the univocity of being. See M.E. REINA, «*Comprehensio veritatis*», p. 335, and P. BAKKER, «Inhérence, univocité et séparabilité», pp. 213-214. The doctrinal divergence between Buridan and Marsilius on the subject of accidental terms was not caused by different perspectives concerning the role of theological argument in metaphysics. Cf. A. TABARRONI, «Buridan and Marsilius on Accidental Terms», p. 390.

11. As is well known, arts masters in Buridan's day had to take a vow that they would dispute no purely theological questions and that, if they had to dispute a question that touched upon both faith and philosophy, they would determine it in favour of faith. Buridan reacted to this vow explicitly in his commentary on the *Physics*, where he wondered how he was supposed to solve these questions in favour of faith, if he was not allowed to dispute them. See M.M. McLAUGHLIN, *Intellectual Freedom and its Limitations in the University of Paris in the Thirteenth and Fourteenth Century*, New York 1977, pp. 127-128. See also E.D. SYLLA, «*Ideo quasi mendicare oportet intellectum humanum*. The Role of Theology in John Buridan's Natural Philosophy», in: J. THIJSSSEN – J. ZUPKO (eds.), *The Metaphysics and Natural Philosophy of John Buridan*, Leiden / Boston / Köln 2001, pp. 221-222, and P. BAKKER, «Aristotelian Metaphysics and Eucharistic Theology: John Buridan and Marsilius of Inghen on the Ontological Status of Accidental Being», in: J. THIJSSSEN – J. ZUPKO, *The Metaphysics and Natural Philosophy*, pp. 247-264.

12. JOHN BURIDAN, *Quaestiones super Metaphysicam* (hereafter *QM*), II, 3: «Utrum cognoscere possimus primam causam, scilicet Deum»; MARSILIUS OF INGHEEN, *Quaestiones super Metaphysicam* (hereafter *QM*), II, 3: «Utrum cognitio prime cause est homini

delicate character, this question lends itself well for a further comparison of Buridan's and Marsilius' commentaries on the *Metaphysics*¹³. But before I explore the positions of Buridan and Marsilius, I shall explain very briefly the origins of the present question.

2. *The origins and development of the discussion*

In the fourteenth century, the possibility of natural knowledge about God's essence was widely discussed, not only in theological writings,

possibilis», and XII, 13: «Utrum in puro lumine naturali possit esse evidens sive notum Deum esse». For Buridan's text, I use the following edition: *In Metaphysicam Aristotelis Quaestiones argutissimae [secundum ultimam lectionem]*, Paris 1518 (Rpt. [with incorrect date of original publication of 1588] Frankfurt am Main 1964). L.M. de Rijk has argued for the reliability of this edition in comparison with several manuscripts. See L.M. DE RIJK, «The Commentaries on Aristotle's *Metaphysics*», pp. 303-312. Incidentally, I correct the edition with MS. Venezia, Biblioteca Marciana, lat. CI VI, 204a, and MS. Paris, Bibliothèque nationale de France, lat. 14716. The reliability of these manuscripts is established by P. BAKKER, in: «Inhérence, univocité et séparabilité», pp. 215-216. Very recently, L.M. de Rijk provided an edition of what he labels the *Lectura Erfordiensis in I-IV Metaphysicam*, which in his view constitutes an early (possibly the earliest) version of Buridan's *Questions on the Metaphysics*: L.M. DE RIJK, *Lectura Erfordiensis in I-IV Metaphysicam together with the 15th-century Abbreviatio Caminensis. Introduction, Critical Edition and Indexes*, Turnhout 2008. Although there are scarcely any doctrinal differences between the questions «Utrum nos possimus intelligere primam causam» in the *Lectura Erfordiensis* and «Utrum possimus cognoscere primam causam, scilicet Deum» in the *ultima lectura*, some parts in the *ultima lectura* are missing in the *lectura Erfordiensis*, and *vice versa*. Where relevant, I will note these differences in the footnotes. For Marsilius' text, I use the following manuscript: MS. Kraków, Biblioteka Jagiellońska, 709. Its reliability is established in: P. BAKKER, «Inhérence, univocité et séparabilité», pp. 215-216.

13. That this was a theologically delicate question can be learned from the condemnations of 1277. These contain four articles relating to the human capacity for knowing God. These articles seem to leave philosophers after 1277 little space to develop their theories on this subject. See D. PICHÉ, *La condamnation parisienne de 1277. Nouvelle édition du texte latin, traduction, introduction et commentaire*, Paris 1999, articles n. 36: «Quod deum in hac uita mortali possumus intelligere per essentiam»; n. 211: «Quod intellectus noster per sua naturalia potest pertingere ad cognitionem essentiam primae causae. Hoc male sonat et est error, si intelligatur de cognitione immediata»; n. 215: «Quod de deo non potest cognosci nisi quia ipse est, siue ipsum esse»; and n. 216: «Quod deum esse ens per se positivum non est intelligibile, sed privativum est ens per se». For the origins of these condemned articles, see J.A. AERTSEN, «Von Gott kann man nichts erkennen, außer daß er ist (Satz 215 der Pariser Verurteilung). Die Debatte über die (Un-)möglichkeit einer Gotteserkenntnis *quid est*», in: J.A. AERTSEN – K. EMERY, Jr. – A. SPEER (eds.), *Nach der Verurteilung von 1277. Philosophie und Theologie an der Universität von Paris im letzten Viertel des 13. Jahrhunderts. Studien und Texte*, Berlin / New York 2001, pp. 22-37.

such as commentaries on the *Sentences*, but also in many purely philosophical writings, like the commentaries on Aristotle's *Metaphysics*¹⁴. The question on the knowability of God harked back to a single remark in Aristotle's *Metaphysics* on the knowability of the «things which are by nature most evident of all»¹⁵. Aristotle stressed:

The investigation of the truth is in one way hard, in another easy. An indication of this is found in the fact that no one is able to attain the truth adequately, while, on the other hand, no one fails entirely [...]. Perhaps, as difficulties are of two kinds, the cause of the present difficulty is not in the facts but in us. For as the eyes of bats are to the blaze of day, so is the reason in our soul to the things which are by nature most evident of all¹⁶.

According to Aristotle, the difficulty of knowing the most evident things lies in us, and more specifically in our rational power. These most evident things must be «the principles of eternal things», for these are by nature most intelligible¹⁷. The tone of the medieval discussion that was provoked by this passage was set by Averroes and focused on the question whether human beings, conjoined to their bodies, have the capacity for knowing separate substances (*substantiae separatae*)¹⁸. In a scholastic context this question was provided in

14. A very famous theological analysis of man's natural capability of knowing God can be found in JOHN DUNS SCOTUS, *Ordinatio*, I, 3, 1, 1, in: *Opera Omnia*, III, ed. C. BALIC, Vatican 1954, pp. 1-48.

15. For an extensive discussion of this passage see C. STEEL, *Der Adler und die Nacht-eule. Albert und Thomas über die Möglichkeit der Metaphysik*, Münster 2001.

16. ARISTOTLE, *Metaphysics*, II, 1, 993a30-993b11; transl. in: J. BARNES (ed.), *The Complete Works of Aristotle. The Revised Oxford Translation*, Princeton 1995, pp. 1569-1570. In William of Moerbeke's Latin translation, which was most probably used by Buridan and Marsilius, the text reads: «De ueritate theoria sic quidem difficilis est, sic uero facilis. Signum autem est neque digne nullum adipisci ipsam posse nec omnes exsortes esse [...]. Forsan autem et difficultate secundum duos existente modos, non in rebus sed in nobis est eius causa. Sicut enim nicticoracum oculi ad lucem diei se habent, sic et anime nostre intellectus ad ea que sunt omnium nature manifestissima.» See *Aristoteles Latinus*, XXV, 3, ed. G. VUILLEMIN-DIEM, p. 43, 1-14.

17. See ARISTOTLE, *Metaphysics*, II, 1, 993b23-993b30. According to Carlos Steel, this passage in fact discusses the question whether human beings have the capacity for knowing things that transcend sense perception. What is at stake, in other words, is the possibility of the project of metaphysics, for the wish to perform a metaphysics might founder on the fact that we are not capable of such knowledge. See C. STEEL, *Der Adler und die Nacht-eule*, pp. 4-5.

18. Averroes explained that Aristotle's words bespeak the difficulty, and not the impossibility to know separate substances. For if it were impossible for us to understand abstract things (*res abstractae*), nature would have acted in vain. It would have made something,

commentaries on *De Anima* and the *Metaphysics*¹⁹. The question is partly epistemological, as it explores the limits of philosophical knowledge, but it is also metaphysical, for it examines our capacity for knowing the supernatural, i.e. separate substances, including God.

In their commentaries on the *Metaphysics*, Buridan and Marsilius exclusively considered our capacity for knowing the first cause or God, and did not pay attention to separate substances. This can be explained, considering Buridan's views on separate substances. The philosophical class of separate substances, opposed to the theological class of angels, was usually bound to celestial movement²⁰. But in the twelfth book of the *Metaphysics*, Buridan argued that we do not need any separate substance besides God himself for safeguarding celestial movement²¹. Surely, he did not imply that separate substances do not exist, for in the same question he defended the existence of many separate substances, i.e. many legions of angels. But Buridan adhered to the common distinction between theology and philosophy, and he excluded angels from the philosophical realm²². The existence of

which is in itself naturally intelligible, whereas it is not understood by something else; as if nature made the sun invisible for any sight. See AVERROES, *In Aristotelis librum II (a) Metaphysicorum commentarius*, ed. DARMS, Fribourg 1966, p. 55-56: «Sed hoc non demonstrat res abstractas intelligere esse impossibile nobis, sicut inspicere solem est impossibile vespertilioni, quia si ita esset, otiose egisset natura, quia fecit illud, quod est in se naturaliter intellectum, aliquando non intellectum ab aliquo, sicut si fecisset solem non comprehensum ab aliquo visu.» Before Averroes, there was already a long Greek tradition of commentaries on this passage. See e.g. ALEXANDER OF APHRODISIAS, *In Metaph.*, II, 1, ed. M. HAYDUCK, Berolini 1891, p. 142, 16-23. In this article, I do not further examine the different medieval interpretations of Aristotle's simile of the bat, for others have done that before me. See STEEL, *Der Adler und die Nachtteule*.

19. Carlos Steel calls this question «die scholastische Version der modernen Frage nach der Möglichkeit der Metaphysik». See C. STEEL, *Der Adler und die Nachtteule*, p. 4.

20. See L. STURLESE, *Die deutsche Philosophie im Mittelalter. Von Bonifatius bis zu Albert dem Großen (748-1280)*, München 1993, pp. 351-352.

21. See BURIDAN, *QM*, XII, 9, fol. 73^{ra}: «Ideo sequitur secunda conclusio: quod preter ipsum Deum non oportet ponere alias substantias separatas ad movendum corpora celestia».

22. See BURIDAN, *QM*, XII, 9, fol. 73^{ra}: «Alia etiam conclusio ponitur: quod sunt multo plures substantie separate quam sphere celestes vel motus celestes, scilicet magne legiones angelorum; sed ista probari non possunt rationibus demonstrativis, habentibus ortum ex sensatis». The philosophical realm concerned demonstrative knowledge discovered by a discursive process based on mere perception, as opposed to theology, which proceeds from beliefs that are not known evidentially. See BURIDAN, *QM*, I, 2, fol. 4^{ra}-4^{rb}: «Notandum est etiam quod hic non comparamus metaphysicam ad theologiam, que procedit ex ignotis creditis quamvis non per se notis nec evidentissimis, [...]. Sed nos in proposito non

angels might be true according to Catholic faith, but this cannot be proved demonstratively. Consequently, a philosophical question about the knowability of separate substances exclusively concerns the first cause, or God.

Buridan not only excluded angels from his exploration, he also avoided the investigation of knowledge that we can acquire in the afterlife, for that did not belong to «this faculty» (i.e., the Faculty of Arts)²³. He thus acted in accordance with the vow that arts masters in Buridan's day had to take: that they would dispute no purely theological questions²⁴. So, too, Marsilius of Inghen carefully distinguished the quest for philosophical knowledge of God from supernatural knowledge, excluding the latter from his exploration. Supernatural knowledge is the beatific knowledge that the blessed will have in the afterlife, as well as knowledge that we have through faith, for faith and grace are infused virtues. What remained was the question whether we can have knowledge of God in a purely natural light²⁵. It is to this question I will now turn.

3. *The intellect's natural capacity for knowing God's essence*

3.1. Historical background: Thomas Aquinas and Antonius Andreae

To appreciate the significance of Buridan's and Marsilius' answers to this question, one must consider its historical context. Buridan and Marsilius, who argued that philosophical knowledge of God's

querimus nisi de habitibus intellectualibus ex humana ratione et processu ratiocinativo inventis et ex nobis evidentibus deductis. [...] Unde in hoc differt metaphysica a theologia, quod cum utraque consideret de Deo et de divinis, metaphysica non consideret de Deo et de divinis nisi ea que possunt probari et ratione demonstrativa concludi seu induci».

23. See BURIDAN, *QM*, II, 3, fol. 10th: «Notandum est quod ad istam facultatem non pertinet inquirere quomodo post mortem intelligamus Deum, sed hoc pertinet ad theologiam».

24. See footnote 11.

25. See MARSILIUS, *QM*, II, 3, fol. 16^{ra}: «Secluditur a presenti investigatione cognitio beatifica quam habent sancti in patria, quoniam illa homini non est possibilis in illa vita. Secundo secluditur cognitio meritoria quam habent fideles per fidem et karitatem in vita presenti, nam et hec in puro lumine naturali non est homini possibilis cum fides et karitas sint virtutes infuse. Et sic manet sensus tituli: utrum aliquis in puro lumine naturali possit habere cognitionem Dei seu prime cause». See also BURIDAN, *QM*, II, 3, fol. 10th: «Sed ad istam <facultatem> bene pertinet inquirere quomodo naturaliter in ista vita possemus intelligere».

essence is possible in this life, opposed directly to Thomas Aquinas (1225-1274). As is well known, Thomas Aquinas was convinced that the essence of immaterial being cannot be demonstrated philosophically, for conjoined to our earthly body, we can only gain knowledge through abstraction from sensible things, by means of *phantasmata* that we have from them²⁶. Crucial to note is that Thomas thinks it is impossible to proceed by abstraction from sensible things to quidditative knowledge of immaterial substances, as sensible and immaterial beings bear no proper relation to one another²⁷. As the essence of immaterial being cannot be abstracted from the sensory images (*species*) of sensible things, God's essence (contrary to his existence) cannot be demonstrated from the sensible images of his effects²⁸.

Even though Thomas' position found many defenders in the late thirteenth and fourteenth century, there was a greater tendency to mitigate or contradict his views about the possibility of essential knowledge about God²⁹. An influential argument against Thomas' position was found in the *Quaestiones in Metaphysicam* of Antonius

26. See THOMAS, *Summa Theologiae* (hereafter *S. Th.*), I, 84, 7, ed. Leon., V, Rome 1889, pp. 325-326; See also C. STEEL, *Der Adler und die Nachtteule*, p. 9. For a full elaboration of Thomas' view on (quidditative) knowledge of God see J.F. WIPPEL, *Metaphysical Themes in Thomas Aquinas*, Washington D.C. 1984, I, pp. 215-241; and ID., *The Metaphysical Thought of Thomas Aquinas. From Finite Being to Uncreated Being*, Washington D.C. 2000, pp. 501-575.

27. See THOMAS, *In duodecim libros Metaphysicorum Aristotelis expositio*, II, 1, §285, ed. M.-R. CATHALA – R.M. SPIAZZI, Taurini / Romae 1964, p. 82: «[...] impossibile est quod anima humana huiusmodi corpori unita cognoscat de veritate rerum, nisi quantum potest elevari per ea quae abstrahendo a phantasmatis intelligit. Per haec autem nullo modo potest elevari ad cognoscendum quidditates immaterialium substantiarum, quae sunt improporionatae istis substantiis sensibilibus. Unde impossibile est quod anima humana huiusmodi corpori unita, apprehendat substantias separatas cognoscendo de eis quod quid est».

28. See THOMAS, *S. Th.*, I, 12, 2, ed. Leon., IV, Rome 1888, p. 117: «Primo quidem quia, sicut dicit Dionysius, primo capitulo *De divinis nominibus*, 'per similitudines inferioris ordinis rerum nullo modo superiora possunt cognosci': sicut per speciem corporis non potest cognosci essentia rei incorporeae. Multo igitur minus per speciem creatam quamcumque potest essentia Dei videri». Thomas does not deny that we can be elevated to knowledge of «insensible things» by means of sensible things, but this knowledge is not essential. See C. STEEL, *Der Adler und die Nachtteule*, p. 10.

29. Even Thomas' master, Albert the Great, did not share his epistemologically pessimistic view. For an overview of Thomas' first defenders and opponents, see C. STEEL, *Der Adler und die Nachtteule*, pp. 30-41.

Andreae (ca. 1280 – ca. 1333)³⁰. These questions were written between 1316 and 1333 to function as a textbook in the philosophical *studia* of the Franciscan Order. They are looked upon as a revision of Scotus' *Quaestiones in Metaphysicam*, interpreted in the light of Scotus' teaching as it can be found in his theological works³¹.

To answer the question as to whether essential knowledge of separate substances, among them God, is possible, Andreae distinguished six degrees of intellective knowledge (*noticia*)³². The first two degrees

30. For a list of manuscripts and editions of Andreae's *Quaestiones*, see M. GENSLER, «Catalogue of Works by or Ascribed to Antonius Andreae», in: *Mediævalia Philosophica Polonorum* 31 (1992), pp. 147-155, esp. 149-150, and C.H. LOHR, «Medieval Latin Aristotle Commentaries. Authors A-F», in: *Traditio* 23 (1967), pp. 364-365. I use the following edition: ANTONIUS ANDREA, *Questiones Antonii Andree super duodecim libros Metaphysicæ* (hereafter *QM*), n.p. 1500, Bibliothèque nationale de France. For more information about Andreae's *Quaestiones in Metaphysicam*, see G. PINI, «Scotistic Aristotelianism. Antonius Andreae's *Expositio* and *Quaestiones* on the Metaphysics», in: L. SILEO, *Via Scoti: methodologica ad mentem Joannis Duns Scoti*, Rome 1995, II, pp. 375-389; G. PINI, «Sulla fortuna delle *Quaestiones super Metaphysicam* di Duns Scoto: le *Quaestiones super Metaphysicam* di Antonio Andrea», in: *Documenti e Studi sulla tradizione filosofica medievale* 6 (1995), pp. 281-361; M. GENSLER, «Antonius Andreae, Scotism's best supporting auctor», in: *Anuari de la Societat Catalana de Filosofia* 8 (1996), pp. 57-79; ID., «Antonius Andreae, Scotism's best supporting auctor (II)», in: *Anuari de la Societat Catalana de Filosofia* 9 (1997), pp. 39-50; and ID., *Antonius' Andreae's Opus Magnum: the Metaphysics Commentary*, Serie tecnològia filosòfica, 18, Barcelona 1998.

31. See G. PINI, «Scotistic Aristotelianism», p. 381, and ID., «Le *Quaestiones super Metaphysicam* di Antonio Andrea», p. 281. Although nowadays Scotus is the more famous philosopher, I use Andreae's *Metaphysics* commentary instead of Scotus' works for this article. The reason for that is twofold. First, I want to focus mainly on philosophical works. Scotus touches only briefly on the question of God's intelligibility in his commentary on the *Metaphysics*, whereas he makes his famous claims as to the intelligibility of God mainly in his commentary on the *Sentences* (See C. STEEL, *Der Adler und die Nachteule*, p. 40). Andreae on the other hand explores the present subject thoroughly in his *Quaestiones in Metaphysicam*, taking the material for his investigation from Scotus' *Ordinatio*. (See G. PINI, «Le *Quaestiones super Metaphysicam* di Antonio Andrea», p. 333). Second, Andreae's *Quaestiones* had an enormous success and are likely to have been a main channel of the spread of Scotus' commentary on the *Metaphysics*. Andreae's commentary on the *Metaphysics* has come to us in no less than 44 manuscripts and 21 editions, an indication that it was widely used (See G. PINI, «Scotistic Aristotelianism», p. 384, n. 33). It is therefore very likely that Buridan and Marsilius were familiar with this text. For an investigation of the relation between Scotus' and Andreae's commentaries on the *Metaphysics* see G. PINI, «Scotistic Aristotelianism», pp. 375-389, and ID., «Le *Quaestiones super Metaphysicam* di Antonio Andrea», pp. 281-361.

32. These degrees of intellective knowledge were analogous to six degrees of sensitive knowledge. See ANDREA, *QM*, II, 3: «Similiter etiam correspondentur dicuntur sex gradus cognitionis intellective». See also M. GENSLER, *Antonius' Andreae's Opus Magnum*, pp. 48-49. The division in six degrees of sensitive and intellective knowledge is also found in JOHN DUNS SCOTUS, *Quaestiones super libros Metaphysicorum Aristotelis*, II, 3, 80-85, Opera

result from the distinction between intuitive and abstractive cognition. Intuitive cognition is knowledge of a thing insofar as it is present in its own existence. An example is the knowledge of the blessed in the afterlife³³. Abstractive cognition is cognition of a thing which is absent. An example is the knowledge of a rose, where that rose is not present³⁴. The third degree is cognition of some opposite or privation, by intuitive knowledge of a thing. Andreae does not provide a specific example, but an example could be the knowledge of 'no light', or darkness, by the intuitive knowledge of light³⁵. The fourth degree is, again, cognition of some opposite or privation, but in this case by abstractive knowledge of a thing, as when I know 'no rose' based upon abstract knowledge of a rose³⁶. The fifth degree is knowledge through a compound concept (*conceptus aggregatus*), e.g., to know that something is a 'necessary sempiternal infinite being'³⁷. The sixth degree is accidental knowledge of a thing (*per accidens*), by virtue of what results from it, for example a substance that is known by deduction from its accidents³⁸.

Philosophica, III, ed. R. ANDREWS *et al.*, New York 1997, pp. 224-225. See also M. GENSLER, *Antonius' Andreae's Opus Magnum*, pp. 39-50, esp. 48-49.

33. See ANDREAE, *QM*, II, 3: «Prima cognitio est intuitiva, que dicitur notitia visionis que est de obiecto presenti, ut presens est in sua existentia. [...] Exemplum primi: cognitio beatorum in patria».

34. See ANDREAE, *QM*, II, 3: «Secunda cognitio est abstractiva, que est obiecti presentis in sua specie genita ab obiecto quod potest esse absens in sua existentia. [...] Exemplum secundi: cum intelligo rosam absentem». For the origin of the distinction between abstractive and intuitive cognition, see J.F. BOLER, «Intuitive and Abstractive Cognition», in: N. KRETZMANN – A. KENNY – J. PINBORG (eds.), *The Cambridge History of Later Medieval Philosophy. From the Rediscovery of Aristotle to the Disintegration of Scholasticism, 1100-1600*, Cambridge 1982, pp. 460-478; see also S.D. DUMONT, «Theology as a Science and Duns Scotus's Distinction between Intuitive and Abstractive Cognition», in: *Speculum* 64 (1989) pp. 579-599.

35. See ANDREAE, *QM*, II, 3: «Tertia est cognitio obiecti oppositi obiecto primi modi. [...] Exemplum tertii: cum intelligo aliquid oppositum contrarie vel privative obiecto intuitive viso, ut cum intelligo non visum obiectum intuitive».

36. See ANDREAE, *QM*, II, 3: «Quarta est cognitio obiecti oppositi obiecto secundi modi. [...] Exemplum quarti: cum intelligitur oppositum contrarie vel privative obiecto abstractive cognitio, puta cum intelligo non-rosam abstractive cognitam».

37. See ANDREAE, *QM*, II, 3: «Quinta est cognitio alicuius ex conceptibus aggregatis. [...] Exemplum quinti: cum intelligo aliquid esse ens infinitum necessarium sempiternum».

38. See ANDREAE, *QM*, II, 3: «Sexta est per accidens cum aliquid cognoscit per speciem illius quod sibi accidit. Exemplum sexti: substantia intelligitur per speciem accidentis secundum unam opinionem».

Andreae argued that quidditative knowledge of separate substances is not possible if by 'knowledge' we mean intuitive knowledge, for this is only possible in the afterlife, when separate substances are immediately present to us. It is also impossible to know them according to the second, third and fourth degree of intellectual knowledge, for such knowledge either requires intelligible species, which we cannot acquire of separate substances in this life, or an intelligible opposite, which they do not have. But we can know them quidditatively according to the fifth degree of intellectual knowledge, through a compound concept, and according to the sixth degree, through their effects. An example of this is knowledge of God through a compound concept that expresses that he is an infinite being, necessary and first³⁹.

Andreae thus believed in the intellect's capacity for knowing God's essence, mediated by concepts that could be abstracted from created beings. Such knowledge could be obtained by proceeding from effect to cause in a demonstration '*quia*', according to the sixth degree of intellectual knowledge. Although many authors before claimed, against Thomas, that the intellect conjoined to the body can know God's quiddity, it was Andreae's semantic approach that anticipated Buridan's and Marsilius' solution to the problem.

39. See ANDREAE, *QM*, II, 3: «Ad propositum dico quod quidditas substantiarum separatarum non intelligitur nec primo, nec secundo, nec tertio, nec quarto, sed quinto modo, scilicet: in conceptu aggregato. Et aliquo sexto modo, scilicet: per effectus suos. Substantie enim separate cognoscuntur per hoc quod multa apprehensa simul concipiuntur, que omnia nunquam alibi inveniuntur et nulli alii conveniunt. Et iste est conceptus aggregatus, puta de Deo quod est ens infinitum, necessarium et primum, etc., que omnia nulli conveniunt simul accepta nisi Deo. Et sic de aliis intelligentiis». Andreae's position strongly reflects that of John Duns Scotus, who famously argued that we can have a proper and quidditative concept of God. Scotus explored the topic in the third distinction of the first book of his *Ordinatio*, in which he argues against his main opponent, Henry of Ghent, on the question whether we can know God naturally in our present state (*ab intellectu viatoris*). For both Henry and Scotus the possibility of such knowledge was beyond dispute. However, Scotus disagreed with Henry's view that we could only know God in a universal way, according to general, analogous concepts, and argued that it is naturally possible, i.e., without help from faith, revelation or divine illumination, to obtain *univocal* concepts by which God is conceived not only generally, but also in himself and quidditatively. See JOHN DUNS SCOTUS, *Ordinatio* I, 3, 25-30, p. 16: «Dico ergo primo quod non tantum haberi potest conceptus naturaliter in quo quasi per accidens concipitur Deus, puta in aliquo attributo, sed etiam aliquis conceptus in quo per se et quidditative concipiatur Deus». For Henry of Ghent's position, see M. PICKAVÉ, *Heinrich von Gent über Metaphysik als erste Wissenschaft. Studien zu einem Metaphysikentwurf aus dem letzten Viertel des 13. Jahrhunderts*, Leiden / Boston 2007, pp. 347-358.

3.2. John Buridan

John Buridan was among those philosophers who favoured the position according to which God's quiddity can be known by means of quidditative concepts. The development of his position is preceded by the following passage, in which Buridan gives his view on the possibility of achieving demonstrative knowledge of God:

I posit the following thesis, which is generally granted by everyone: that we can understand God, and that we can have demonstrative knowledge of Him. For many theses are demonstrated in the twelfth book of the *Metaphysics*, the terms of which stand for (*supponunt*) God. And this is what having demonstrative knowledge of God is⁴⁰.

In this passage, Buridan defines what having demonstrative knowledge of something entails: it is nothing but demonstrating a thesis through a syllogism in which the terms stand for the thing that must be demonstrated. In Buridan's semantics, as in William of Ockham's, these written or spoken terms correspond to mental equivalents, or concepts⁴¹. Hence, according to this passage, we have concepts which stand for God. Nevertheless, Buridan did not yet answer the question of whether we can understand God quidditatively.

In order to answer this question, Buridan entered into a direct discussion with Thomas Aquinas and distinguished two steps in Thomas' view: the first is that we can know God according to his *quia est* or *si est*, or simply according to his mere being (*suum esse*), a view that Buridan expects everyone to endorse⁴². The second is that we cannot

40. See BURIDAN, *QM*, II, 3, fol. 10^b: «Et pono conclusionem communiter ab omnibus concessam, quod ipsum Deum possumus intelligere [primo] et de ipso habere scientiam demonstrativam, quia in duodecimo huius multe conclusiones demonstrantur ubi termini supponunt pro ipso Deo. Et hoc est de ipso Deo habere scientiam demonstrativam».

41. For a brief overview of Buridan's semantic framework, see P.O. KING, «Jean Buridan (b. ca. 1295/1300; d. after 1358)», in: J.J.E. GRACIA, *Individuation in Scholasticism: The Later Middle Ages and the Counter-Reformation, 1150-1650*, New York 1994, pp. 398-399, and G. KLIMA, *John Buridan*, Oxford 2009, *passim*. See also P.V. SPADE, «Ockham's Distinction between Absolute and Connotative Terms», in: *Vivarium* 13 (1975), pp. 55-76, esp. 56-57.

42. See BURIDAN, *QM*, II, 3, fol. 10^{va}: «Et super hoc beatus Thomas ponit duas conclusiones. Prima est quod ipsum Deum intelligimus quantum ad si est, vel quia est, vel quantum ad suum esse. Et ista conclusio bene conceditur ab omnibus». For Buridan there is a distinction between knowledge *quia est* and knowledge *si est*. 'Being' (*esse*) can be taken here as a copula (*esse tertio adiacens*) or as an existential predicate (*esse secundo adiacens*).

know God's essence, since we can only know God *a posteriori*, i.e., through his effects⁴³. This step is considered more problematic. As I have shown, the fact that knowledge of God is never *a priori* or intuitive did not keep Andreae from holding that we can acquire quidditative concepts of God. Likewise, the *a posteriori* character of such knowledge did not prevent Buridan from claiming that we can know God's quiddity⁴⁴.

Buridan argued that God's quiddity is nothing else than God himself, because in general a quiddity or essence is nothing but the thing itself. Hence, to ask whether we can know God's quiddity is simply to ask whether we can know God⁴⁵, and given that God is precisely the same as his essence, it is impossible to know God and at the same time not to know his essence. This opinion was founded on Buridan's view of the distinction between *esse* and *essentia*, according to which, in each and every thing, being and essence really coincide, such that essence does not differ from being and *vice versa*⁴⁶. Although Thomas also acknowledged the unity of being and essence in God, Buridan claims that being and essence do not even differ rationally (*secundum*

These two kinds of being represent knowledge *quia est* and *si est* respectively. Buridan pointed out that Aristotle often confused them. See BURIDAN, *De demonstrationibus* (hereafter *SD*), 8.3.3, ed. L.M. DE RIJK, Groningen / Haren 2001, p. 70: «Et est haec clausula manifesta, si consideremus quod, licet Aristoteles et nos ad placitum vocaremus quaestionem de esse secundo adiacente 'quaestionem si est' et illam de tertio adiacente 'quaestionem quia est', tamen Aristoteles aliquando vocat utramque 'si est' et aliquando utramque 'quia est'».

43. See BURIDAN, *QM*, II, 3, fol. 10^{va}: «Alia conclusio est quod Deum non possumus intelligere quantum ad eius quiditatem. Et istam conclusionem nititur sic probare: quia non possumus Deum cognoscere nisi a posteriori cum non habeat causam priorem se. Sic autem cognoscere non est cognoscere quid est aut propter quid est, immo solum si est vel quia est, ut habetur secundo *Posteriorum*. Igitur, etc.» Cf. ARISTOTLE, *An. Post.*, II, 1, 89b31-34; 2, 90^a15.

44. See BURIDAN, *QM*, II, 3, fol. 10^{va}: «Et iste sunt rationes beati Thome. Quibus non obstantibus credo quod quiditatem Dei nos possumus intelligere et quod ipsum Deum nos possumus quidditative intelligere».

45. Consequently, Buridan's *quaestio* was about quidditative knowledge all along.

46. See BURIDAN, *QM*, IV, 8, fol. 18^{vb}: «Et per essentiam in proposito intelligo ipsam rem.[...] Et ego dico cum illo Linconiensi et Commentatore quod in unaquaque re est idem illa res et eam esse, ita quod non differt essentia ab esse, nec esse ab essentia.» For an outline of Buridan's view on being and essence, see J. BIARD, «La théorie de l'être et de l'essence de Jean Buridan», in: M. PICKAVÉ (ed.), *Die Logik des Transzendentalen: Festschrift für Jan A. Aertsen zum 65. Geburtstag*, Berlin 2003, pp. 383-394. See also L. DE RIJK, «Introduction», in: *Johannes Buridanus. Lectura Erfordiensis*, pp. lv-lvii.

rationem)⁴⁷. Therefore, God can be known by knowing his *quia est*, and accordingly God's essence is known, which is nothing but God himself. In other words, knowledge of God's *quia est* includes knowledge of his essence.

More than Buridan's view on the distinction between *esse* and *essentia*, some features of his semantics are of great importance to the present discussion. According to Buridan, one way to understand a thing quidditatively is to understand it by means of a concept from which a quidditative predicate term is derived⁴⁸. In Buridan's semantics, a quidditative or essential predicate term, which corresponds to an absolute concept, is a term that does not add some extraneous connotation to the subject term, i.e., it stands for nothing in addition to what it is suppositing for in a proposition⁴⁹. Perhaps an example can illustrate this more vividly. In the proposition «Socrates is a man», 'man' is an essential predicate, since it does not add something extraneous to Socrates, i.e., it does not say something about Socrates that pertains to him in a non-essential way. But in the proposition «Socrates is a redhead», 'redhead' is a non-essential predicate, which corresponds to a connotative concept (in Buridan's terminology, an appellative concept); for although it stands for the same being (Socrates), it connotes something in addition to it, i.e., Socrates' redheadedness. A term like 'redhead' is not an essential, but rather a connotative term, since it connotes something that is extraneous to that thing for which it stands⁵⁰.

47. See BURIDAN, *QM*, IV, 9, fol. 19^{va}: «Sed magis venio ad propositum et pono conclusionem quod esse meum et essentia mea non differunt secundum rationem, nec lapis et esse eius, quia impossibile est quod idem differat a seipso, sive secundum rem, sive secundum rationem, vel secundum quodlibet aliud». On the relationship between *esse* and *essentia* in Thomas' writings, see J. WIPPEL, *Metaphysical Themes in Thomas Aquinas*, I, pp. 107-161.

48. See BURIDAN, *QM*, II, 3, fol. 10^{vb}: «Si autem per quidditatem tu velles intelligere predicata quidditativa, adhuc ego possem intelligere Deum quidditative. Quia aliquid intelligere quidditative est ipsum intelligere secundum conceptum a quo sumitur predicatum quidditativum». For a detailed account of Buridan's theory on essential and accidental predicates, see G. KLIMA, «The essentialist nominalism of John Buridan», in: *The Review of Metaphysics* 58 (2005), pp. 739-754, and A. TABARRONI, «Buridan and Marsilius on Accidental Terms».

49. See G. KLIMA, «The essentialist nominalism of John Buridan», p. 742; A. TABARRONI, «Buridan and Marsilius on Accidental Terms», pp. 392-394, and BURIDAN, *De Predicabilibus*, *SD*, 2.1.3.

50. According to Ockham's semantics, connotative terms not only signify primarily, i.e., they do not only signify exactly that of which the term is truly predicable (at this

Now, according to Buridan we have several essential predicate terms for God, since we all know that God is a substance, that he is God and that he is a being or a something. Buridan argues that if we know that God is God, we also know what God is: God is God and nothing else than God⁵¹. In other words, a quidditative predicate like 'God' or 'being' provides a propositional answer to the question «quid est Deus?», i.e., the answer «Deus est Deus», or «Deus est ens», or «Deus est substantia», or «Deus est aliquid». Essential predicates of God thus bring us knowledge of his being «such and so» (*quia est*), and also of his essence, for these are *essential* predicates, which denote nothing extraneous to God. Hence, the knowledge of God's *quid est* is included in the knowledge of his *quia est*, by means of a quidditative concept⁵².

Subsequently, Buridan claimed that these quidditative concepts are simple, which stood him in contrast to Thomas' interpreters (*exponere volentes sactum Thomam*), who argued that we cannot obtain such a concept in our present state. They thought that the term 'God' is not attributed according to a simple concept, but rather through a complex one, for it is precisely equivalent to the expression 'first being', or 'the first cause of everything' or similar expressions⁵³. Buridan's

moment, or in the past or future, or even possibly), but they also signify something secondarily, i.e., something of which they cannot be truly predicated. For a further exploration of this theory, see P.V. SPADE, «Ockham's Distinctions between Absolute and Connotative Terms», pp. 61-76; For Buridan's doctrine of connotation, see L.M. DE RIJK, «On Buridan's Doctrine of Connotation», in: J. PINBORG (ed.), *The Logic of John Buridan*, Copenhagen 1976, pp. 91-100; A. MAIERÜ, «*Significatio et Connotatio* chez Buridan», in: J. PINBORG, *The Logic of John Buridan*, pp. 101-114; and G. KLIMA, *John Buridan*, Oxford 2009, pp. 56-57.

51. See BURIDAN, *QM*, II, 3, 10^{vb}: «Sed sic iam possem intelligere Deum, quia intelligo et scio quod Deus est substantia, quod Deus est Deus, quod Deus est ens vel aliquid. Et ista sunt predicata quidditativa, quia si ego scio quod Deus est Deus, scio quid Deus est, quia Deus est Deus et non est aliud quam Deus». How we acquire such essential predicate terms will become clear below.

52. See R. SCHÖNBERGER, *Relation als Vergleich. Die Relationstheorie des Johannes Buridan im Kontext seines Denkens und der Scholastik*, Leiden 1994, p. 303. *Quia est* is taken according to its meaning as being as a copula (*esse tertio adiacens*), and not as an absolute or existential predicate (*esse secundo adiacens*). This becomes clear from Buridan's examples: not «God is», but «God is God» and «God is a substance». See also footnote 42.

53. See BURIDAN, *QM*, II, 3, fol. 10^{vb}: «Unde exponere volentes sanctum Thomam dicunt quod ipse per notitiam quidditativam intendebat conceptum simplicem pro Deo et pro nullo alio supponentem; et talem, ut dicunt, non possumus habere, quia non possumus ad notitiam eius devenire nisi per ista inferiora, circumloquendo eum per aliqua

concepts, on the other hand, were not concepts of which the aggregate of the constituent parts denote God, but *simple* concepts, without constituent parts, which nevertheless denote God, i.e., concepts that stand for God absolutely and not in any way in relation to something else⁵⁴. In this respect Buridan also stood against Andreea, who only allowed compound concepts to supposit for God quidditatively.

To prove his point, Buridan had to explain how we can obtain a simple and absolute concept of God *a posteriori*. He argued that we can ascend to such a concept with the help of the intellect. The intellect is able to bring about a simple concept of God, by which it understands him in an absolute way and separately from everything else. To clarify this, Buridan compared a simple concept of God with a simple concept of substance. This comparison was thought to be appropriate because knowledge of substance, like knowledge of God, is always mediated (by sensible accidents). We can neither know God nor substance immediately. Still, the intellect is able to know substance, and to form a simple concept of it, through abstraction. In the same way the intellect can form a simple concept of God, and it is through this simple concept that we can know God, even though this knowledge is always mediated by his effects⁵⁵.

predicata secundum convenientiam vel disconvenientiam ad ista inferiora; et talis circumlocutio non est secundum conceptum simplicem. Unde dicunt quod hoc nomen 'Deus' non est impositum secundum conceptum simplicem, immo complexum, quia tantum valet precise sicut hec oratio 'primum ens' vel 'prima causa omnium', aut aliqua talis oratio». As regards Thomas' interpreters, Buridan might have had in mind Henry of Gent and William of Ockham, who denied the possibility of simple, essential predicates of God. See J. BIARD, «God as first principle and metaphysics as a science» in: R. FRIEDMAN – L. NIELSEN (eds.), *The Medieval Heritage in Early Modern Metaphysics and Modal Theory, 1400-1700*, Dordrecht 2003, p. 90. The discussion and refutation of arguments from Thomas' interpreters that occurs here was missing from the earlier version of Buridan's *Questions on the Metaphysics*; see L.M. DE RIJK, «Introduction», in: ID., *Johannes Buridanus. Lectura Erfordiensis*, p. lv.

54. Buridan's semantics did not allow him to argue differently, for essential predicates, contrary to non-essential predicates, always correspond with absolute concepts, and absolute concepts are always simple. See G. KLIMA, «The essentialist nominalism of John Buridan», pp. 746-748.

55. See BURIDAN, *QM*, II, 3, 10^{vb}: «Tamen quicquid sit de hoc, credo quod ista conclusio non sit demonstrata. Unde quamvis non possimus intelligere substantias nisi mediantibus accidentalibus sensibilibus, tamen intellectus potest substantiam abstrahere ab accidentibus et cognoscere sive formare conceptum simplicem substantie. Et ita etiam possemus dicere quod ex istis inferioribus ascendimus ad cognitionem Dei, et secundum convenientiam vel disconvenientiam attribuimus ipsi diversa predicata et multa, tamen

Since Buridan compares the obtaining of a simple divine concept with the obtaining of a simple substantial concept, one must examine how the intellect can form a simple substantial concept in order to understand how the formation of a simple concept of God comes about⁵⁶. In his questions on the *Physics*, Buridan claims that every complex substantial concept is a compound of several simple substantial concepts⁵⁷. For suppose that such a complex concept consists of three simple concepts: *a*, *b* and *c*. If *a*, *b* and *c* were accidental concepts, then the complex concept would be a complex *accidental*

intellectus tandem potest elicere conceptum simplicem quo intelligit ipsum absolute et separate ab aliis».

56. Buridan elaborated his view about simple substantial concepts in the fourth question of the first book of his *Questions on the Physics* and in the sixth question of the first book of his *Questions on the soul*. See BURIDAN, *Quaestiones super octo libros Physicorum Aristotelis* (hereafter: *QP*) I, 4; and BURIDAN, *Quaestiones in De Anima* (hereafter: *QDA*), I, 6; For the text of Buridan's *Physica secundum ultimam lecturam* I use a still unpublished edition by J. Thijssen. For the text of his *De anima secundum ultimam lecturam* I use an edition by P. Bakker, forthcoming in: P. BAKKER, *Accidentia magnam partem conferunt ad cognoscendum quod quid est. La tradition des commentaires du De Anima d'Aristote (XIII^e-XVII^e siècles). Textes et études*. Gyula Klima gives a clear and concise interpretation of Buridan's vision of substantial concepts on the basis of his commentaries on the *Physics* and *De anima*, in: G. KLIMA, «John Buridan on the Acquisition of Simple Substantial Concepts», in: R.L. FRIEDMAN – S. EBBESEN (eds.), *John Buridan and Beyond: Topics in the Language Sciences, 1300-1700*, Copenhagen 2004, pp. 17-32. See also G. KLIMA, «The Essentialist Nominalism of John Buridan», pp. 739-754. Klima used an edition of *De anima secunda primam lecturam*, which was attributed to Buridan, but is most probably unauthentic: BURIDAN, *Le Traité de l'âme de Jean Buridan (de prima lectura)*, ed. B. PATAR, Louvain-la-Neuve 1991. Cf. S. EBBESEN, «Le traité de l'âme de Jean Buridan (de prima lectura)», in: *Dialogue. Canadian Philosophical Review* 33 (1994), pp. 758-761.

57. That we have substantial concepts, i.e., concepts that supposit for substances without connoting their accidents, is evident, according to Buridan. An example is the concept 'man'. This concept, from which we take the substantial term 'man', supposits for the substance man and for nothing else. If on the other hand it supposited for or connoted something else, e.g., an accident or the composition of accident and substance, man would not be a substance, which is apparently false. See BURIDAN, *QP* I, 4 [ed. J. THIJSSSEN], fol. 6th: «Secunda conclusio est quod de substantia habemus conceptum simplicem, quia conceptus hominis, a quo sumitur iste terminus substantialis 'homo', est conceptus substantiae, si homo est substantia; et ille conceptus non supponit nisi pro substantia, quia si supponeret pro accidente vel pro composito ex accidente et substantia, tunc non esset verum quod homo est substantia, quia nec accidens est substantia nec compositum ex substantia et accidente est substantia, sed praecise substantia est substantia. Et etiam ille conceptus supponendo pro substantia non connotat aliquod accidens aliud ab ipsa substantia, quia tunc non esset de praedicamento substantiae, sed accidentis, sicut iste terminus 'albus' vel 'magnus' vel 'pater' et cetera. Illi enim termini ita supponunt pro substantia et non pro alio, sicut ille terminus 'homo', sed exeunt a praedicamento substantiae propter connotationem».

concept instead of a complex *substantial* concept. Consequently, any complex substantial concept must be composed of simple substantial concepts⁵⁸.

That said, the question remains as to how the intellect is able to extract simple substantial concepts from accidents. Klima summarizes Buridan's thoughts on the acquisition of substantial concepts, which he expressed in his *De anima*, in two principles. The first is the principle of the activity of the intellect, viz. the fact that the intellect is not just a passive receiver of sensory information, but also a cognitive faculty actively processing this information. In other words, the intellect extracts substantial contents that the senses could not extract from the external objects. The second, strongly related to the first, is the principle of the substantial content of sensory information, viz. the fact that information received by the senses contains information not only about the sensible qualities of the object, but also about its substance⁵⁹. In order to allow the intellect to perform its active 'extraction' of substantial information, the sensory faculty must already contain this information, i.e., information about the substance bearing these qualities, besides information about its qualities. After all, the intellect can only abstract information that is already available.

58. See BURIDAN, *QP* I, 4 [ed. J. THIJSSSEN], fol. 5^{va-vb}: «Item. Si conceptus substantialis hominis sit complexus, ponatur quod hoc sit ex tribus simplicibus, scilicet *a*, *b*, *c*. Tunc, si nullus conceptus substantiae est simplex, *a* non erit nisi conceptus accidentis, et similiter nec *b* nec *c*. Igitur totum complexum ex eis non erit conceptus nisi accidentium et non substantiae, cum totum nihil sit praeter partes. Sed hoc est absurdum, scilicet quod conceptus substantialis hominis non sit nisi conceptus accidentium; igitur etcetera».

59. See G. KLIMA, «John Buridan on the Acquisition of Simple Substantial Concepts», p. 30; and BURIDAN, *QDA*, I, 6 [ed. P. BAKKER]: «Omnes concedunt quod noticie accidentium multum faciunt ad habendum notitiam substantiarum. [...] Sed modus per quem hoc fiat est bene dubitabilis. Aliqui enim ponunt talem modum. Supponunt primo quod intellectus ad intelligendum indiget moueri a phantasmate, et phantasia a sensu, et sensus ab obiecto exteriori. Et est suppositio uera. Secundo supponunt quod sensus et phantasia non sunt nisi accidentium. Vnde Commentator secundo *huius* dicit quod sensus non apprehendit quidditates rerum. [...] Sed michi uidetur quod secunda suppositio istorum erat falsa, scilicet quod sensus et phantasia non apprehendunt substantias [...]. Et credo quod, cum accidens et subiectum sint unita, facilius est confuse simul cognoscere accidens et subiectum quam accidens distincte a subiecto, uel e contra. [...] Alius modus dicendi est quod sensus, sicut dictum est, apprehendit confuse et simul substantiam et accidens; intellectum autem habet naturam et potentiam abstrahendi ex ista confusione conceptus proprios et distinctos, quorum uno concipit substantiam sine accidente et alio accidens sine substantia».

In the *Metaphysics*, Buridan's comparison of obtaining a simple concept of God with obtaining a simple substantial concept suggests that quidditative concepts of finite perfections in the same way include (by connotation) that which is abstracted from them: a concept of God. Buridan confirms this in his *Quaestiones in De anima*. An accident bears the similitude of a substance, just as any effect bears the similitude of its cause, such that an accident can represent its substance (and *vice versa*), just as an effect can represent its cause. Hence, a substance is known from its accidents, just as a separate substance, and ultimately God, is known from its effects⁶⁰.

In summary, Buridan taught that concepts of God are simple and absolute, just as substantial concepts are. But to obtain such a concept, it must be abstracted by the intellect from God's effects, just as a substantial concept can be abstracted from accidents. The parallelism of these processes that Buridan underlines in his questions both on the *Metaphysics* and on the *De anima* entails that the principle of the substantial content of sensory information also applies, *mutatis mutandis*, to knowledge of God. Buridan's abstraction theory thus requires a principle of the *causal* (or *divine*) content of sensory information, in order to abstract simple, absolute concepts of God. As I will argue below, this is the most controversial part of Buridan's theory of the knowability of God's essence. Marsilius of Inghen, one of Buridan's influential adherents, rejected precisely this part of Buridan's reasoning.

3.3. Marsilius of Inghen

As already stated, there is a great resemblance between Marsilius of Inghen's and Buridan's questions on the *Metaphysics*. This is also true of the *quaestio* whether knowledge of God is possible in this life, found in the second book of Marsilius' commentary on the *Metaphysics*. For

60. See BURIDAN, *QDA*, I, 6 [ed. P. BAKKER]: «Tertius modus dicendi est quod res cognoscitur et representatur per suam similitudinem; effectus autem gerit in se quendam cause similitudinem, ymo est quedam participata similitudo cause; ideo effectus potest representare causam, et causa effectum, propter quod innatum est utrumque cognosci per reliquum hoc quia est, illud propter quid est; substantia autem et accidentia habent se ad inuicem sicut causa et effectus; sic ergo per accidentia cognoscuntur substantie, *et per inferiora substantie separate et tandem Deus, et e converso*» (italics are mine).

example, Marsilius, like Buridan, departed from Thomas' two propositions: that we can know God according to his *quia est*, and that since we can only know him from his effects, we cannot know his quiddity⁶¹. However, in spite of some striking similarities, Marsilius' attitude concerning the separation between philosophical and theological knowledge forced him to distance himself from Buridan's point of view, as I will argue below.

Like Buridan, Marsilius answered the question of whether natural knowledge of the first cause or God is possible affirmatively. He was convinced of the fact that even a pagan philosopher (such as Aristotle) could be granted such knowledge⁶². To decide whether this knowledge is quidditative or not, Marsilius distinguished four ways in which Thomas understood the notion 'God's quiddity'. According to the first, God's quiddity is the 'thing' that is God's quiddity, according to the second it is a quidditative concept of God common to God and others, according to the third it is an *a priori* notion of God and according to the fourth it is a notion of God through a quidditative, essential and proper concept. Marsilius further indicated that he considers only the first three ways in the second book of his *Metaphysics*, postponing the fourth until the twelfth book⁶³. I will follow the order of his division here, by briefly summarizing Marsilius' treatment of the first three ways, before moving on to consider his remarks in the twelfth book, which are more interesting for the purposes of this paper.

61. See MARSILIUS, *QM*, II, 3, fol. 16^{rb-va}: «Ad secundum articulum sciendum est quod positio beati Thome in duobus videtur consistere. Prima sua propositio est quod possumus cognoscere Deum cognitione quia est. Patet quia cognitio quam habemus de ipso est ab effectibus ad causam et non e contra, cum Dei nulla sit causa. Talis autem vocatur cognitio quia est, primo *Posteriorum*. Secunda propositio eius est quod quidditatem Dei cognoscere non possumus, quam probat multipliciter. Primo ratione precedenti, quia non habemus cognitionem de Deo nisi ab effectu ad causam [...].»

62. See MARSILIUS, *QM*, II, 3, fol. 15^{ra}: «Et sic manet sensus tituli: utrum aliquis in puro lumine naturali possit habere cognitionem Dei seu prime cause. Et tunc est conclusio responsalis quod in puro lumine naturali etiam philosophus infidelis potest habere cognitionem Dei.»

63. See MARSILIUS, *QM*, II, 3, fol. 16^{va}: «Et ideo pro completius intelligendo illa distinguendum est de quidditate Dei, quia vel beatus Thomas per 'quidditatem Dei' intelligit rem que est quidditas Dei, vel conceptum quidditativum communem Deo et aliis, vel tertio modo notitiam Dei a priori, vel quarto modo notitiam Dei conceptu quidditativo essentiali et proprio. De quo nunc nichil dicam, sed gratia Dei duodecimo *huius*». All four ways were also mentioned in Buridan's commentary, although not as systematically.

According to Marsilius, we are capable of knowing God according to the first two modes. We can know him according to the first, for the 'thing' that is God's quiddity is nothing but God himself, i.e., the thing of which the essence is sought. According to Thomas' first proposition, we know God's *quia est*, and therefore we know God (and consequently his quiddity)⁶⁴. We can also acquire quidditative concepts of God that are common to him and others. 'Substance' is such a concept, for it is predicated of God and other substances alike⁶⁵. Finally, Marsilius denied that we can have *a priori* knowledge of God, given that to know God *a priori* is to know him through a proper cause, and that God does not have a cause⁶⁶. So far, Buridan and Marsilius agreed.

In the twelfth book, Marsilius discussed whether God's existence (*Deum esse*) can be evident or known in a purely natural light⁶⁷. The second article of this *quaestio* is devoted to proper and absolute concepts of God⁶⁸. Earlier, Marsilius refined his distinction of propositional cognitions (*notitia propositionalis*) of God into complex and incomplex ones, of which the former presuppose the latter. These cognitions can be threefold: firstly common to God and others, like the concept 'substance'; secondly, proper to God but accidental, like 'first

64. See MARSILIUS, *QM*, II, 3, fol. 16^{va}: «Qua distinctione premissa sit prima conclusio hec. Homo potest quidditatem Dei primis duobus modis cognoscere. Patet de primo, quia Deum potest cognoscere per primam propositionem beati Thome; et ipse est sua quidditas; igitur».

65. See MARSILIUS, *QM*, II, 3, fol. 16^{va}: «Patet de secundo, quia homo potest cognoscere Deum esse substantiam duodecimo *huius* modo, substantia videtur esse predicatum quidditativum commune Deo et aliis».

66. See MARSILIUS, *QM*, II, 3, fol. 16^{va}: «Secunda conclusio. Homo non potest cognoscere quidditatem Dei tertio modo. Patet per rationem beati Thome primam, cum Dei nulla sit causa».

67. See MARSILIUS, *QM*, XII, 13, fols. 156th-160th: «Utrum in puro lumine naturali possit esse evidens sive notum Deum esse». A «purely natural light» is defined by Marsilius in *QM*, XII, 13, fol. 157^{vb}: «Ad primum est sciendum quod lumen naturale voco notitiam veritatis surgentem ex per se notis, vel notis per experientiam, vel ex hiis duobus simul; vel que est notitia alicuius talium, scilicet per se notorum principiorum probabiliorum quam suum oppositum. [...] Vel dicitur quod lumen naturale dicitur notitia veritatis ad quam homo potest devenire sine revelatione divina speciali». I would like to thank Han Thomas Adriaenssen, Paul Bakker, Sander de Boer, Wouter Goris and Suzanne Metselaar, all participants of *Lectura Mediaevalis*, a seminar of young Dutch researchers in medieval philosophy, for their useful comments on this particular *quaestio*.

68. See MARSILIUS, *QM*, XII, 13, fol. 157^{vb}: «In questione primo respondetur ad quesitum. Secundo videtur utrum possibile sit nobis in lumine naturali habere conceptus proprios et absolutos Dei».

principle' and 'independent being'; thirdly, proper to God and absolute, of which he gives no example⁶⁹. The first kind was already discussed in the third question of the second book. In the twelfth book, Marsilius also considered the second kind, the proper accidental concepts of God, which he also calls proper connotative concepts. These are easy to obtain, for instance by adding a negation to a concept that is proper to dependent things (like 'immobile', which is obtained from 'mobile'), or by combining such concepts (e.g. 'first' and 'substance'), so that the complex term suppositis solely for God ('first substance'). Finally they can be obtained by forming a concept like 'simple', which is derived from created things, but truly (*secundum veritatem*) only suits God⁷⁰.

Ultimately, Marsilius argued, some philosophers adhere to the belief that it is possible in a purely natural light to have a proper, natural concept of God, which is essentially predicable of Him⁷¹. He attributed this *opinio antiqua* to Averroes and added that it was also held by some important modern doctors (*moderni doctores solempnes*). Although he did not ascribe it to some particular contemporary philosopher⁷², it is clear that Buridan was one of the *moderni doctores*

69. See MARSILIUS, *QM*, XII, 13, fol. 157^{vb}: «Secundo notandum quod de Deo potest haberi notitia complexa propositionalis et etiam incomplexa. Complexa enim incomplexam presupponit et potest esse triplex: quedam communis Deo et aliis, sicut conceptus 'substantie'; alia propria Deo et accidentalis, ut esse 'primum principium', 'ens independens'; et tertia propria Deo essentialis et absoluta. Et de illa dicetur in secundo articulo». Why Marsilius does not give an example of the third kind will become clear below.

70. See MARSILIUS, *QM*, XII, 13, fol. 158^{ra}: «Tertia conclusio. In lumine naturali facilis est nobis conceptus Dei proprius et connotativus. Patet, nam facilis est conceptus dependentis; et ergo addita negatione supponit solum pro Deo, quia ipse solus est independens. Item. Conceptus primi est facilis, et etiam conceptus substantie; et ergo combinando illos terminos, scilicet dicendo 'prima substantia', ut hoc complexum soli Deo convenit. Item. Conceptus mobilis est facilis, adde negationem dicendo 'immobilis', et illud predicatum soli Deo convenit, quia ipse solus est immutabilis et immobilis secundum veritatem. Item. Conceptus 'simplex' secundum veritatem nulli convenit nisi Deo».

71. By «a natural concept of God», Marsilius indicated that these concepts denote their *significata* naturally, or according to their specific properties. This reading is supported by the following passage, which says that a concept receives its power of representation only according to its specific properties, in the same way as magnets attract iron because of their nature. See MARSILIUS, *QM*, XII, 13, fol. 158^{vb}: «Ex hiis dicit illa opinio, quod conceptus habet vim representativam solum ratione sue proprietatis specificae sicut forte adamas habet attrahere ferrum, quia est talis nature».

72. See MARSILIUS, *QM*, XII, 13, fol. 158^{va}: «Ad secundum est advertendum quod sit opinio antiqua, et aliqui moderni doctores solempnes tenent eam, quod in lumine naturali

that Marsilius had in mind, for one of the first conclusions that Marsilius drew from this opinion was that of Buridan, i.e., that a proper connotative concept of God, acquired from created things (God's effects), can be turned into a proper, absolute concept of God by the intellect, which can withdraw or abstract from it all connotations, such that a proper, essential concept of God remains⁷³.

In denying the possibility of obtaining a proper, essential concept of God in a purely natural light⁷⁴, Marsilius argued, for instance, against the possibility of stripping proper connotative concepts of their connotations. First, he admitted that *if* a proper connotative concept of God could be obtained in a purely natural light, then it would be through the abstraction of all connotations from perfections that partly extend to dependent things. However, he denied this possibility. The acts of knowledge (*noticie*) from which this concept is abstracted are either of an infinite number themselves, or are just one

possit haberi conceptus proprius naturaliter Dei predicabilis essentialis. Et hec opinio sumitur a Commentatore secundo *huius* [...]». The term *moderni* was usually used to refer to contemporary thinkers and not, as was long thought, to a particular group of philosophers or theologians, or to the followers of Ockham. After 1310, *moderni* was not only used to refer to philosophers who were actually teaching at that moment, but also to earlier fourteenth-century philosophers. E.g., at the end of the fourteenth century, Scotus was referred to as *antiquus*, whereas Ockham was referred to as *modernus*. See M. HOENEN, *Marsilius of Inghen*, p. 14; and W.J. COURTENAY, «The Reception of Ockham's Thought in Fourteenth-Century England» in: A. HUDSON – M. WILKS (eds.), *From Ockham to Wyclif*, Oxford 1987, pp. 89-107.

73. See MARSILIUS, *QM*, XII, 13, fols. 158^{vb}-159^{ra}: «Hiis premissis, est prima conclusio ad illud propositum: stat quod aliquis in lumine naturali puro habeat *proprium conceptum essentialem et simplicem* Dei. Istud declarant sic: stat quod intellectus in lumine naturali habeat rerum dependentium conceptus proprios, eo modo quo sunt veri et perfecti, etc.; et ex illis potest habere conceptum proprium et essentialem Dei; igitur. Consequentia tenet. Et maior patet, nam intellectus in lumine naturali de rebus potest scire quod sunt bone, perfecte, iuste, per se existentes et sic de aliis predicatis, ut notum est. Minor patet primo quod proprium, quia si quis habet conceptum de bono viro in rebus dependentibus et alias perfectiones ipse invenit quod in nulla aliarum est aliquod illorum perfecte, sed in quolibet imperfecte, ergo necessario concludit quod sit unum aliud in quo illa sunt perfecte, scilicet: prima essentia, summa bonitas et prima veritas etc., quia omne imperfectum habet aliquid eo perfectius. Illo concluso habet conceptus proprios Dei et inde supponentes pro Deo, sed sunt connotativi. Modo, *intellectus videns illos conceptus connotativos potest omnes connotationes sequestrare et abstrahere*. Et tunc illis sequestratis et abstractis, illi conceptus essentialiter supponunt pro Deo sine omni connotatione».

74. See MARSILIUS, *QM*, XII, 13, fol. 159^{ra}: «Hiis premissis, contra eius opinionem et conclusionem ponitur conclusio responsalis: in lumine pure naturali non est possibile alicui conceptus proprius et essentialis Dei».

single act. Now, the former is impossible, since the human intellect cannot know the infinite. But the latter is impossible too, for from a single act of knowledge, or from a single concept, can only be abstracted what is found *in* it. According to Marsilius, the concept of a finite thing does not include a proper, essential concept of an infinite thing in any way, for in a human soul it only represents the thing for which it stands (or which it connotes) in a limited way⁷⁵. Every concept of a perfection in the human soul represents only finite things and does not include the same perfections in an infinite way. Abstraction will, therefore, not result in a proper concept of God. Marsilius thus precisely argued against what I earlier called Buridan's principle of the causal (or divine) content of sensory information.

As was noted above, this principle was based on Buridan's analogy between the obtaining of a simple divine concept and that of a simple substantial concept. Just as an accident bears the similitude of a substance, any effect bears the similitude of its cause, and just as an accident can represent its substance, an effect can represent its cause. If Marsilius indeed denied the principle of the causal content of sensory information, one would expect him to object to this analogy. However, Marsilius seems to defend the same opinion in his commentary on *De anima*. There he argued that a substance is known by its accidents, just as an effect is known by its cause, and that the intellect is able to abstract a proper concept of substance from its accidents, since a vague, singular concept (which is obtained from sensation) includes in a confused way a concept of both accident and substance⁷⁶. But unlike Buridan, Marsilius limited this analogy of

75. See MARSILIUS, *QM*, XII, 13, fol. 159^b: «Quarto sic: si possit haberi conceptus proprius et essentialis de Deo maxime in lumine naturali, esset per abstractionem connotationum a perfectionibus partialiter inventarum in rebus dependentibus, ut dicit alia opinio; sed ab illis non potest sumi, quia vel ille notitie a quibus abstraherentur essent infinite in multitudine, et hoc non, cum intellectus naturaliter non potest infinita cognoscere, vel est una sola talis notitia, et hoc etiam non, nam ab unico conceptu non plures possunt abstrahi quam includit vel in quantum in ipso est; modo, conceptus rei finite conceptum proprium essentialem rei infinite nullo modo includit, cum ille conceptus in anima tua, tam quoad suppositum quam quoad connotatum, limitate illud representat [...]».

76. See MARSILIUS, *Quaestiones super librum De Anima* (hereafter *QDA*), I, 5 [ed. P. BAKKER]: «[...] effectus naturalis gerit in se similitudinem sue cause, vel est met similitudo sue cause; igitur si accidentia sunt effectus substantiarum, etiam gerunt similitudinem cum sua causa, et sic ducunt nos in cognitionem substantiarum. [...] Ratione sic quia effectus habet esse a sua causa; et per consequens ducit nos in cognitionem sue cause».

causes and substance to natural causation only. The examples of both authors are telling: whereas Buridan argues that a substance is known through its accidents, just as God is known through his effects, Marsilius claimed that a substance is known from its accidents, just as a hand is known from its writing⁷⁷. Moreover, in his commentary on *De anima*, Marsilius referred his students to the twelfth book of the *Metaphysics* for the question of how separate substances can be known⁷⁸.

According to Marsilius, a concept of God in the human soul could only be a connotative concept, for although it bears the similitude of its cause, it does not include God's perfections in an infinite way. As a consequence, he considered the concept 'God' to be an encoding of proper, connotative concepts like 'first being' and 'independent being'⁷⁹. Marsilius also brought up another argument that is of interest for us: suppose that an essential, proper concept of God could be obtained,

and: «Respondetur quod est ratione naturalis similitudinis, nam conceptus talis accidentis singularis vagus confuse includit in se simul conceptum substantie et accidentis. Quam confusionem intellectus potest abstrahere, scilicet abstrahendo conceptum substantie a conceptu accidentis». Cf. M.E. REINA, Hoc hic et nunc. *Buridano, Marsilio di Inghen e la conoscenza del singolare*, Firenze 2002, pp. 288-299.

77. Cf. BURIDAN, *QDA*, I, 6: «sic ergo per accidentia cognoscuntur substantie, et per inferiora substantie separate et tandem Deus, et e converso»; and MARSILIUS, *QDA*, I, 5 [ed. P. BAKKER]: «Exemplo patet, quia tu cognoscis manum per scripturam alicuius; et sic ille effectus ducit te in cognitionem illius qui scripsit».

78. See MARSILIUS, *QDA*, I, 5 [ed. P. BAKKER]: «Sed si fiat questio de cognitione substantiarum separatarum, dicitur quod non est presentis negotii, sed spectat ad duodecimum *Metaphysice*».

79. See MARSILIUS, *QM*, XII, 13, fol. 158^{rb}: «Quinta conclusio: hec propositio 'Deus est' quoad conceptum illum quem generat in mente hominis catholici est demonstrabilis et probabilis in lumine naturali. Patet, nam illa propositio in mente catholici simplicis hominis non plus significat quam 'primum ens esse' vel 'ens independens esse'. An interesting objection to this view is the question of what happens if someone 'decodes' the concept of God wrongly, e.g., because he thinks, as Aristotle did, that God is the first mover, who is not free by freedom of opposition (*primus movens non liber libertate oppositionis*). Should not we say then that all mental knowledge about God is impossible for this person? After all, the proposition «God is the first principle» would be decoded by this person as «the first mover who is not free by freedom of opposition is the first principle», which is false. This objection is attributed by Marsilius to Hugolino of Orvieto. Nevertheless, Marsilius dismissed the objection, arguing that it is possible to know one true proposition about God in a purely philosophical light, and at the same time to know several false ones. Aristotle for example knew that God is the highest good, the first cause and the first mover, and yet he thought that God was not free by freedom of opposition. This is a *general* defect of natural light compared to the light of faith. See MARSILIUS, *QM*, XII, 13, fol. 158^{rb-va}.

then it should represent God according to his essence or nature. In other words, it should represent God exactly as he is according to his nature, i.e., as three and one. But this is clearly impossible in a purely natural light⁸⁰. Without divine revelation, such a concept surely cannot be obtained. Whereas Buridan argued that an absolute essential concept of God is a concept not adding any extraneous connotations to God, Marsilius thinks of a proper essential concept as a concept that grasps God's nature and essence completely. However, God's essence contains many things that cannot be known in a natural light.

From this, it seems as if the disagreement between Buridan and Marsilius stems from different conceptions of God. Whereas Buridan's conception of God was strictly philosophical, and separated from all theological properties, Marsilius' conception of God was mainly theological, and contained theological properties such as God's trinity. Consequently, this could not be grasped in a purely natural light, unlike Buridan's more philosophical conception. Thus, even though both arts masters kept the disciplines of metaphysics and theology strictly separated, Buridan was far more optimistic about the possibility of obtaining knowledge of God within a philosophical realm.

4. *Buridan on knowledge propter quid of God*

Buridan's philosophical optimism is strengthened by the fact that he seems to argue in favour of the possibility of knowing God's quiddity *propter quid*, as I will show below. If true, this point of view was unique, for a demonstration *propter quid* about God was generally regarded as impossible. Since a demonstration *propter quid* is a demonstration *per causam*, and God is uncaused, knowledge *propter quid* of God was simply ruled out. Concerning the meaning of the concept

80. See MARSILIUS, *QM*, XII, 13, fol. 159^{ra}: «Tertio arguitur sic: nulla est clarior notitia incomplexa preter intuitivam quam essentialis et propria Dei; et ergo debet representare Deum sicut est quantum ad essentiam eius, sicut et conceptus proprius et essentialis hominis representat hominem sicut est secundum suam naturam; et ergo conceptus proprius et essentialis Dei debet eum representare sicut est secundum suam naturam. Et ergo representat Deum ut est trinus et unus, cum secundum suam naturam Deus sit trinus et unus. Modo, ille conceptus nulli est possibilis in lumine naturali». Marsilius believed that there are many things that need a supernatural light to be grasped, and God's trinity surely is one of these things. See M. HOENEN, *Marsilius of Inghen*, p. 18.

of *propter quid*, Buridan granted that a demonstration properly called *propter quid* asks about the cause of the thing in question, i.e., it is a demonstration answering the question for what reason a thing is⁸¹. On the other hand, he more than once highlighted the fact that *quid est* and *propter quid est* are actually the same⁸². From this point of view, it may not come as a surprise that Buridan rescued the possibility of a demonstration *propter quid* of God, in spite of his uncaused nature. After all, Buridan also acknowledged the possibility of knowing God's quiddity, as I noted above.

In order to defend the possibility of a demonstration *propter quid* of God, Buridan had to make a reasonable case for the possibility of a demonstration *propter quid*, while lacking a proper cause. For this purpose he used an analogy of mathematical demonstrations: just as there are demonstrations *propter quid* in mathematics, so too we can have knowledge *propter quid* of God⁸³. For example, one could demonstrate by means of a *propter quid* demonstration that «a triangle has three angles equal to two right angles, because the exterior angle equals its two opposite angles», without accepting any real cause in this demonstration. Neither the triangle itself nor its exterior angle can count as such a cause, for given that if it (i.e., the exterior angle) had been annihilated, a triangle would still have three angles equal to two right angles, because the exterior angle equals the two opposite

81. See BURIDAN, *SD*, 8.3.2, p. 63: «Vel quaerit de quidditate causae rei expressae in quaestione, et hanc vocamus 'quaestionem propter quid est', ut si quaero 'propter quid homo est?' vel 'propter quid homo est risibilis?', ego non quaero quid homo est vel quid est hominem esse risibilem, sed quaero quae sit causa essendi hominem vel essendi hominem risibilem».

82. See BURIDAN, *SD*, 8.3.3, p. 71: «Et Aristoteles etiam ad eius manifestationem ponit illam propositionem 'in omnibus enim his manifestum est quod idem sit «quod quid est» et «propter quid est» et hoc est dictum quod omnis definitio causalis significat causam propter quam est quod significatur per definitum». See also Marsilius of Inghen, who argued similarly in: MARSILIUS, *QM*, II, 3, fol. 16^{va}: «[...] cum idem sit quid et propter quid secundo *Posteriorum*». Cf. ARISTOTELES, *An. Post.*, II, 2, 90a14-15.

83. See BURIDAN, *QM*, II, 3, fol. 10^{vb}: «Sed utrum habeamus de Deo scientiam propter quid. Dicendum est indubitanter quod non de ipso sic habemus propter quid, cum hoc sit per notitiam alicuius causae Dei, quia causam non habet. Sed sicut in mathematicis sunt demonstrationes propter quid, ita et de Deo». The *Lectura Erfordiensis* lacks this passage. It reads instead: «Et quando dicitur quod notitia a posteriori non sit nisi *si est vel quia est*, dico quod verum est de notitia demonstrativa, quia notitia quidditativa non est de necessitate notitia demonstrativa, unde *quid est* scitur non per demonstrationem, sed per diffinitionem» (in: *Johannes Buridanus. Lectura Erfordiensis*, ed. L.M. DE RIJK, p. 49).

angles⁸⁴. The fact is that we cannot accept a real cause in a mathematical demonstration, for there are no such causes *ex parte rei* in mathematics⁸⁵. That is because mathematical truths do not need real mathematical objects in order to be true. Consequently, causality in mathematics only extends to concepts. Concepts that are prior, simpler and better known substitute for real causes in these demonstrations. In exactly the same way there are demonstrations *propter quid* about God: through prior, simpler and better known concepts⁸⁶.

Unfortunately, Buridan's reasoning results in a contradiction. For in the first *quaestio* of the second book of his questions on the *Metaphysics*, he maintained that a cause, when it is known through its effects, is known only according to its being (*quia est*)⁸⁷. Keeping this in mind, if God is known only according to his effects, as Buridan admits, this knowledge cannot be *propter quid* according to his reasoning. In order to understand Buridan's remarks in the *Metaphysics*, one must look closer at his concept of *propter quid* found in other texts, to begin with, his *Summulae de Dialectica*.

4.1. Demonstrations *propter quid* in mathematics

Buridan distinguished two kinds of demonstrations: *propter quid* and *quia*⁸⁸. Since every demonstration that is not properly called *propter*

84. See BURIDAN, *QM*, II, 3, fol. 10^{vb}: «Si ego demonstro quod triangulus habet tres angulos equales duobus rectis, propter hoc quod angulus extrinsecus equivalet duobus intrinsicis sibi oppositis, sine dubio, ego non demonstro propter quid per causam trianguli nec per causam angulorum suorum, quia iste angulus extrinsecus non est causa talium. Dato enim quod esset annihilatus, adhuc triangulus haberet tres angulos equales duobus rectis».

85. In mathematics, perfect knowledge of a conclusion depends on whether the knowledge is obtained by demonstrations, where conclusions are drawn in an evident manner from evident premisses, i.e., perfect knowledge of a mathematical conclusion can be had *per modum conclusionis*, without any knowledge of the cause of a triangle. See J. THIJSEN, «Buridan on mathematics», in: *Vivarium* 23 (1985), p. 59.

86. See BURIDAN, *QM*, II, 3, fol. 10^{vb}: «Unde ex parte rei in mathematicis non est causa et causatum, sed ibi solum causalitas attenditur penes conceptus priores, simpliciores et notiores. Et ita de Deo sunt demonstrationes propter quid, ut in duodecimo *Metaphysice*».

87. See BURIDAN, *QM*, II, 1, fol. 9^{rb}: «Similiter causa scitur per effectum quantum ad quia est, quia effectus gerit quandam similitudinem cause. Ideo potest causam representare una cum naturali inclinatione intellectus ad veritatem». According to this passage, an effect is a sign of its cause in that it bears a similarity to it.

88. See BURIDAN, *SD*, 8.7.10, pp. 163-164: «De distinctione «propter quid» et «quia»», and 8.8.6, pp. 180-184: «De Demonstrationibus Mathematicis». All the English translations are from G. KLIMA in: JOHN BURIDAN, *Summulae de Dialectica*, New Haven, London 2001.

quid is a demonstration *quia*, Buridan thought it necessary to define only the demonstration *propter quid*. To be *propter quid* a demonstration has to meet two requirements: first, it has to provide knowledge of the conclusion *because of what* a thing is, and second, it has to provide this knowledge by means of the thing's proper cause⁸⁹. Such a cause is a middle term saying what a thing is (*medium dicens quid est*), provided that this is understood in a broad sense, i.e., not as a purely quidditative definition, but as a causal definition. Every cause that is sought in a demonstration *propter quid* must pertain to the causal definition of the thing concerned, and therefore the causal definition is an appropriate middle term in a demonstration *propter quid*⁹⁰.

This can be more easily explained by means of an example. In a demonstration *propter quid* about man, the middle term is not a strictly quidditative definition of 'man', which indicates what the thing is, like «man is a rational animal»; rather it is a causal definition, which adds a causal term (in an oblique case) determining the essential predicate. An example of such a causal term is «having a rational soul» in the definition «man is an animal having a rational soul». This is a causal definition since it indicates the formal cause of «being a rational animal», i.e., the possession of a rational soul⁹¹.

89. See BURIDAN *SD*, 8.7.10, p. 163, 24: «Demonstrationem autem 'propter quid' voco satis stricte illam quae facit scire conclusionem propter quid ita est, etiam appropriate, et illam oportet esse per causam propriam». According to an earlier passage in *De Demonstrationibus*, the *esse* in the question «because of what reason a thing is» can be interpreted as *esse secundo adiacens* (an existential or absolute predicate) or as *esse tertio adiacens* (a copula), for someone can demonstrate because of what reason a duck is and because of what reason it is quacking. In the first case, it is asked because of what reason a duck is absolutely (*simpliciter*), and in the second case, only with a qualification (*secundum quid*), i.e., as regards its quacking. Buridan considered both to be demonstrations *propter quid*. See BURIDAN, *SD*, 8.3.3, p. 70, 25: «[...] notandum est quod cum dico 'causam essendi', possum intelligere dupliciter: aut simpliciter aut secundum quid. Per «esse simpliciter» intelligo 'esse secundo adiacens' in propositione, et per 'esse secundum quid' intelligo 'esse tertio adiacens'. Cum ergo quaero propter quid homo est, quaero causam essendi hominem simpliciter. Sed cum quaero propter quid homo est risibilis, ego non quaero causam essendi hominem simpliciter, sed causam essendi ipsum risibilem».

90. See BURIDAN, *SD*, 8.3.3, p. 71, 5: «Sed cum dicitur in minori quod ista causa est medium dicens quid est homo, sic intelligo quod, sic large loquendo, vocamus 'definitionem dicentem quid est' non solum definitionem pure quidditativam, sed etiam definitionem causalem. Et omnis causa quae quaeritur in demonstratione propter quid pertinere potest, et debet, ad definitionem causalem illius de quo quaeritur; quae quidem definitio causalis est conveniens medium in demonstratione propter quid».

91. See BURIDAN, *SD*, 8.2.5, p. 52, 16-19: «Prima est descriptione definitionis causalis. Solet autem prima pars definitionis causalis poni in recto et esse genus vel subiectum

Buridan also raised the question whether mathematical demonstrations should be called *propter quid*⁹². He argued that if this is the case, then one should understand both *propter quid* and ‘formal cause’ less strictly⁹³. One of Buridan’s examples of mathematical demonstrations *propter quid* in the *Summulae* is the same one that we have seen already in the *Metaphysics*: every triangle has three interior angles equal to two right angles, because the external angle equals the two internal angles opposite to it. According to Buridan, Aristotle, among others, called these kinds of mathematical demonstrations *propter quid*; and to a certain extent he agrees with him. However, Buridan underlines that we do not call this a demonstration *propter quid* properly speaking (*proprie loquendo*), for despite the fact that in this demonstration knowledge of the premises is definitely the cause of our knowledge of the conclusion, this is not enough to distinguish it from a demonstration *quia*⁹⁴. In order to be properly called *propter quid*, not only must the knowledge of the premises be the cause of the knowledge of the conclusion. In addition, the causal term in the premises must

termini definiti, ut indicet aliquo modo quid est esse rei, et subsequuntur termini causales in obliquo, determinantes communitatem primae partis, donec definitio reddatur convertibilis cum definito».

92. See J. BIARD, «John Buridan and the Mathematical Demonstration», in: V. HIRVONEN – T.J. HOLOPAINEN – M. TUOMINEN (eds.), *Mind and Modality. Studies in the History of Philosophy in Honour of Simo Knuuttila*, Leiden 2006, pp. 198-215.

93. It was a common idea that mathematical demonstrations only proceed by the formal cause. See J. BIARD, «John Buridan and the Mathematical Demonstration», p. 206. See BURIDAN, *SD*, 8.8.6, p. 180, 8: «Et iuxta praedicta ab Aristotele de mathematicis dubitatur utrum ut in plurimum demonstrationes mathematicae debeant dici ‘propter quid’ et per causam formalem, sicut dici consuetum est. Et videtur esse dicendum quod si hoc teneatur, oportet minus proprie accipere ‘demonstrationem propter quid’ et minus proprie etiam accipere ‘causam formalem’».

94. See BURIDAN, *SD*, 8.8.6, p. 180, 15: «Et apparet quod Aristoteles et alii communiter dicunt quod sic. Tamen videtur mihi quod hoc non est, proprie loquendo, quia, licet in eis scientia praemissarum sit bene causa scientiae conclusionis, tamen dictum fuit quod hoc non sufficit, quia nec hoc distinguit inter demonstrationem ‘quia’ et demonstrationem ‘propter quid’». See also BURIDAN, *SD*, 8.8.6, p.181, 19: «Similiter, si demonstro quod omnis triangulus habet tres angulos intrinsecos aequales duobus rectis per hoc quod unus angulus extrinsecus est aequalis duobus angulis intrinsecis sibi oppositis, non est ibi causalitas ex parte rerum, quoniam angulus extrinsecus nullam habet causalitatem super istum triangulum, nec super angulos eius intrinsecos, nec super aequalitatem eorum ad duos rectos, quia nihilominus haec omnia essent, destructo illo angulo et omni magnitudine extrinseca illi triangulo annihilata».

signify the cause of the things' being⁹⁵. However, this is impossible in mathematics, where there are no real causes, as Buridan explained.

Even though, in order to be properly called *propter quid*, the causal term in the premises must signify the cause of the things' being, this only applies to sciences in which the cause is different from that which is caused. Yet in mathematics, there is no true distinction between the cause and what is caused. Consequently, it is only the priority of the knowledge of the premises over the knowledge of the conclusion that leads to the speaking about demonstration *propter quid*⁹⁶. The same can be said about demonstrations of God, for what mathematical demonstrations have in common with demonstrations about God, is the fact that natural causality is inappropriate to them⁹⁷.

4.2. Mathematics and God: a comparison

The similarity between Buridan's discussion of demonstrations *propter quid* in *De demonstrationibus* and his remarks in the *Metaphysics* are striking⁹⁸. Let us examine whether the discussion in *De demonstrationibus* sheds some light on Buridan's remarks in his questions on the *Metaphysics*. To put it succinctly, Buridan argued that mathematical demonstrations are usually called *propter quid*, although not

95. See J. BIARD, «John Buridan and the Mathematical Demonstration», p. 202.

96. See BURIDAN, *SD*, 8.8.6, pp. 182-183: «In quibus autem scientiis cum hac prioritate et causalitate consideratur differentia et prioritas causae ad causatum ex parte rerum significatarum, demonstrationes non dicuntur 'propter quid' nisi procedant utroque modo ex prioribus et causis ad posteriora et causata. Sed in quibus, scilicet in mathematicis, omnino non observatur aliqua differentia vel prioritas causae ad causatum ex parte rerum significatarum, demonstrationes solent vocari 'propter quid' ex illa sola prioritate et causalitate quae est praemissarum ad conclusionem secundum suum scire». See also J. BIARD, «John Buridan and the Mathematical Demonstration», p. 205.

97. See J. BIARD, «John Buridan and the Mathematical Demonstration», p. 213.

98. Sten Ebbesen points out that Buridan is very consistent in his doctrine. What he says about one subject is usually consistent with what he says about any related subject. See S. EBBESEN, «Proof and its Limits According to Buridan», in: Z. KALUZA – P. VIGNAUX (eds.), *Preuve et raisons à l'Université de Paris. Logique, ontologie et théologie au XIV^e siècle*, Paris 1984, pp. 97-110, esp. 97. The argument regarding demonstrations *propter quid* in mathematics is also found in the first book of the questions on the *Physics*. See Buridan, *QP*, I, 4 [ed. J. THIJSSSEN]: «Et vocamus demonstrationem propter quid quae procedit ex propositionibus naturaliter evidentioribus et magis scitis ad propositiones demonstrabiles et innatas sciri per illas magis scitas. Et sic est in mathematicis».

properly speaking. When Buridan used the phrasing «just as there exist demonstrations *propter quid* in mathematics, so also of God» he probably meant to say «not properly speaking» (*improprie loquendo*). This would explain why Buridan seems to say the opposite in the first *quaestio* of the second book of *Metaphysics*, at which point he writes that we can only know a cause through its effect to the extent that it exists, i.e., *quia est*⁹⁹. Since Buridan admitted that we can only know God through his effects, it would follow that we can only know him to the extent that he exists in a demonstration *quia*. Nevertheless, not properly speaking, we can also know him *propter quid*, for in order to make a demonstration *propter quid* about God, as in mathematics, one is able to use concepts that are prior, simpler and better known to us, although they are not prior, simpler and better known in themselves.

It remains unclear, however, just how these concepts can function as ‘causes’ in a demonstration *propter quid*. There is one passage in *De demonstrationibus* that might help elucidate this. In this passage, Buridan argued that quidditative predicates, or terms in a definition, can function as formal causes in mathematical demonstrations. Referring to Plato and Aristotle, Buridan gave the term ‘form’ a slightly different signification, viz. that of quidditative predicates or definitions¹⁰⁰. Since a form in a strict sense is a cause, a quidditative predicate can be considered a cause. Therefore, it is appropriate to say that mathematical demonstrations proceed from formal causes, since the main tools of mathematicians are definitions¹⁰¹. Interestingly, Buridan added that it is not only mathematicians that use these peculiar ‘formal causes’, for the same occurs in other sciences in which attributes are demonstrated of their subjects by means of their definitions¹⁰².

99. See BURIDAN, *QM*, II, 1. See also footnote 87.

100. See BURIDAN, *SD*, 8.8.6, p. 184, 8-12.: «Sed propter opinionem Platonis ponentis praedicata quidditativa significare primo formas separatas, quas dicebat esse quidditates substantiarum singularium, transsumptum fuit nomen ‘formae’ ad significandum praedicata quidditativa. Sic enim dicit Aristoteles, secundo *Physicorum* et septimo *Metaphysicae*, quod partes definitionis, quae sunt genus et differentia, sunt formae». Cf. ARISTOTLE, *Phys.*, II, 3, 194b26-29; *Metaph.*, VII, 11, 1036a27-29.

101. See J. BIARD, «John Buridan and the Mathematical Demonstration», p. 209.

102. See BURIDAN, *SD*, 8.8.6, p. 184, 12-25: «Et ulterius elargita fuit haec transsumptio, scilicet ad significandum omnes terminos definitionum, quicumque sint illi, nisi manifeste termini definitionis et terminus definitus significant differenter causas

This reference to other sciences might include demonstrations *propter quid* of God in metaphysics, since demonstrations about God proceed from quidditative predicates, as Buridan explained.

In order to accept quidditative concepts as causes in a demonstration *propter quid*, Buridan was forced to alter his understanding of a demonstration *propter quid* such that it became only a stronger version of a demonstration *quia*. Consequently, the notion of a demonstration *propter quid* was robbed of its strength, and, predictably, its importance was weakened. Buridan himself was unconcerned with this, for the name *propter quid* is used by convention, as he explained in *De demonstrationibus*¹⁰³. His approach could not have been successful without his logico-semantic approach to science in general and to metaphysics in particular. Buridan and his contemporaries shifted their attention to concepts and propositions as the main objects of scientific knowledge. They focused on propositional features like concepts instead of real things. It was this approach that allowed Buridan to replace the real cause in a demonstration of the reasoned fact with a proper, essential predicate.

Unfortunately, Marsilius did not react to Buridan's exploration of the demonstration *propter quid* about God, besides a single remark in one of the *rationes*; saying that *quid est* and *propter quid est* are practically the same according to the *Posterior Analytics*¹⁰⁴. Whether he thought that Buridan's answer was superficial or even inappropriate, or whether his silence on this issue actually implies an acceptance of Buridan's view, will remain a matter of speculation.

et causata. Et quia omnes definitiones mathematicae sunt huiusmodi, ideo omnes definitiones mathematicas dicimus esse per formam vel per formas. Et quia forma proprie dicta est causa, ideo adhuc remotiori intentione solemus dicere quod omnes illae definitiones mathematicae sunt datae per causas formales. Et sic ultimate, quia mathematicus demonstrat per illas definitiones et reducit in eas, nos dicimus quod ipse demonstrat per causas formales. Immo sic non solum in mathematicis sed etiam in multis aliis scientiis in quibus demonstrantur passiones de suis subiectis per definitiones earum vel eorum, si termini non significant differenter causas et causata, Aristoteles omnes demonstrationes tales solet vocare 'per causas formales' et omnes definitiones quidditativas 'definitiones formales'.

103. See BURIDAN, *SD*, 8.7.10, p. 164, 17: «Sed quia nominibus possumus uti ad placitum, transeat quod istam solam vocemus 'propter quid' quae est per causam propriam».

104. See MARSILIUS, *QM*, II, 3, fol. 16^{va}: «[...] cum idem sit quid et propter quid secundo *Posteriorum*». Cf. ARISTOTLE, *An. Post.*, II, 2, 90a15.

5. *Conclusion*

John Buridan and Marsilius of Inghen answered the question of whether the intellect has a natural capacity for knowing God's essence affirmatively, and thus joined the multitude of philosophers who mitigated Thomas Aquinas' opinion, according to which the intellect, in its present state, lacks this capacity. Buridan argued that we can acquire natural knowledge about God's quiddity through an absolute, quidditative concept of God. At first sight, his solution might seem radical. Yet, Buridan is very clear about the fact that we can know God's essence only by his effects (*per effectum*) and not by his essence (*per quidditatem*), which is a very traditional view. More remarkable is his conclusion that quidditative knowledge of God can be acquired through a demonstration *propter quid*, for this was usually taken as a demonstration by the cause. It must be noted, however, that Buridan's use of the demonstration *propter quid* eroded the notion and importance of such a demonstration, for it could not be properly distinguished anymore from a demonstration *quia*. Buridan did not consider this problematic, as the term *propter quid* is used by convention.

Unfortunately, Marsilius did not respond to Buridan's remarks on demonstrations *propter quid* of God in any way. On the other hand, he did respond to his views on the intellect's capacity for knowing God's quiddity. Marsilius followed Buridan to a large extent, but he rejected one of his key arguments, viz. that our intellect is able to abstract simple, absolute, quidditative concepts of God. According to Marsilius, such concepts could only be connotative. To strengthen his opinion, he points to the limits of what philosophy is able to. Since absolute, quidditative concepts of God would reflect God's complete nature, including his trinity, they cannot be grasped in a natural light. Marsilius did not return to a Thomistic reasoning, which blocked the way to knowledge of God's quiddity completely, but he restricted the capacity of the human intellect for acquiring a concept that stands for God and God alone, without connotation.

Again, we came across an interesting doctrinal contrast between John Buridan and Marsilius of Inghen in their commentaries on the *Metaphysics*. Was their disagreement once again caused by different perspectives on the role of theology in metaphysics? It seems not, since both masters separated strictly between the natural and supernatural

order. Still, Marsilius must have been afraid that Buridan's point of view loosened this separation. The disagreement rooted in their various conceptions of God, viz. Buridan's strictly philosophical conception vis-à-vis Marsilius' more theological conception. Buridan, using a strictly philosophical conception of God, could claim without difficulties that the intellect is naturally capable of grasping God's essence, for an absolute, essential concept of God is nothing but a concept that does not add any extraneous connotations to God. Marsilius on the other hand thought that such a concept must grasp God's nature and essence completely. Consequently, he had to deny that metaphysicians could form such a concept, in order not to imply that our natural knowledge includes doctrines of revelation, like God's trinity. As a consequence, the theologian Marsilius was forced to temper the philosopher Buridan regarding his optimism about the intellect's natural capability of grasping God's essence.

Femke Johanna KOK
Center for the History of Philosophy and Science
Faculty of Philosophy
Radboud University Nijmegen
P.O. Box 9103
6500 HD Nijmegen
The Netherlands
F.Kok@phil.ru.nl