

History of Logic from Aristotle to Gödel

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Writings of E. J. Ashworth on the History of Logic. Third Part: Articles from 1989 to 1996

The bibliography is composed of four parts:

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ARTICLES

1. Ashworth, Earline Jennifer. 1989. "La Sémantique Du Xiv Siècle Vue À Travers Cinq Traités Oxoniens Sur Les 'Obligations'." *Cahiers d'Épistémologie*.
2. ———. 1989. "Boethius on Topics, Conditionals and Argument-Forms." *History and Philosophy of Logic* no. 10:213-225.
 "Eleonore Stump's splendid translation of *Boethius's In Ciceronis Topica* (Ithaca and London: Cornell University Press, 1988) is a very welcome companion to her earlier translation of Boethius's *De topicis differentiis* (Ithaca and London: Cornell University Press, 1978). Together the two volumes provide us with a hitherto unequalled opportunity to come to grips with the logical work of an author whose influence on medieval and Renaissance developments in this field was surpassed only by Aristotle himself. Indeed, it was only because of Boethius, his translations and commentaries, that Aristotle was first transmitted to the Latin speaking West. The importance of Boethius's work on the Topics is not purely historical, for it offers us a valuable insight into a type of logic which is aimed not at the production of formal languages or the examination of valid inference forms, but at ways to produce belief in the context of debate and against a background of straightforwardly metaphysical doctrines. In this essay review I shall first make some general remarks about the nature of Topics-logic, with particular reference to *In Ciceronis Topica*. I shall then explore just one Topic, that of incompatibles, which is a particularly interesting Topic for several reasons. First, Boethius's attempt to define incompatibles shows the limitations of any formal approach to the material in hand. Second, Boethius's use of the Topic casts considerable light on his view of conditionals and their basis in metaphysical features of the world. Third, the examination of these issues helps explain Boethius's interpretation of certain key argument forms and their relation to Stoic logic. Finally, I shall make some remarks about Stump's translation and notes." (p. 213)

3. ———. 1990. "Paul of Venice on Obligations. The Sources for Both the *Logica Magna* and the *Logica Parva* Versions." In *Knowledge and the Sciences in Medieval Philosophy. Vol. II*, edited by Knuuttila, Simo, Työrinoja, Reijo and Ebbesen, Sten, 407-415. Helsinki: Yliopistopaino.
- Proceedings of the Eighth International Congress of Medieval Philosophy, Helsinki, 24-29 August 1987.
- "Treatises on obligations formed part of the specifically medieval contribution to logic along with treatises on supposition theory, consequences, and insolubles.(1) Their history may go back as far as the late twelfth century; but the most important early treatise was the *Tractatus de Obligationibus* of Walter Burley, which dates from around 1302. This work presented the theory in a fully developed form, and set the stage for all subsequent discussion. For my purposes, the next leading figure was Roger Swyneshed, who probably wrote between 1330 and 1335, and who held controversial views about the treatment of conjunctions and disjunctions. His doctrines were presented in a favourable light by Martinus Anglicus,(2) Robert Fland and Richard Lavenham, (3) but were otherwise generally rejected. Richard Billingham, who became a fellow of Merton College, Oxford, in 1344, wrote a text on obligations which formed part of the *Logica Oxoniensis*, a loose collection of logic treatises which was popular in the fifteenth century, and which was printed in England as late as 1530. (4) Another Englishman, Ralph Strode, who was a fellow of Merton 1359-1360, wrote a treatise which was especially popular in Italy. (5) At Paris, we find Albert of Saxony, whose discussion of obligations in his *Perutilis Logica* (6) was particularly influential for the 1360 treatise of the Dutchman William Buser (7). In turn, Buser's treatise was heavily used in the treatise by his pupil, Marsilius of Inghen. (8) Two Italian authors must also be mentioned. Peter of Candia, later Pope Alexander V, wrote an obligations treatise perhaps between 1370 and 1380.(9) Peter of Mantua, writing between 1384 and 1392, included a long section on obligations in his *Logica* (10) This is the background against which Paul of Venice must be considered.
- Four independent logic treatises have been attributed to Paul: the *Logica Parva* (11) the *Logica Magna* (12) the *Quadratura*; and the *Sophismata Aurea*. The first two are general texts, each of which contains a section on obligations. There is also some relevant material in the *Quadratura*, but I shall not consider it here. (13) Francesco Bottin has given reasons for dating the *Logica Parva* 1395-96 and for dating the *Logica Magna* 1397-98. (14) However, there is some controversy about the relationship between these works; and it has even been asked whether Paul was the author of both. (15) In this paper I shall first give a brief survey of the sources for the *Logica Magna* treatise on obligations; and I shall then argue that, in light of what I have discovered, there is good reason to attribute both the *Logica Magna* and the *Logica Parva* tracts on obligations to the same author." (pp. 407-409)
- (...)
- "To sum up: the pattern of sources for the *Logica Parva*'s treatment of obligations is exactly the same as the pattern of sources for the *Logica Magna*'s treatment. We find Albert of Saxony, Buser, the *Logica Oxoniensis*, Strode and Peter of Candia. The rules given are generally standard rules, but their organization is idiosyncratic, and common to both the *Logica Magna* and the *Logica Parva*. The sophisms in the *Logica Parva* are nearly all found in the *Logica Magna*. Given these facts, I would be astounded to discover that the same man had not compiled both treatises. Whether similar conclusions can be drawn for other parts of the *Logica Parva* remains to be seen." (p. 415)
- (1) For general discussion of obligations and further references, see E. Stump, "Obligations: A. From the beginning to the early fourteenth century" in *The Cambridge History of Later Medieval Philosophy*, edited by N. Kretzmann, A. Kenny and J. Pinborg (Cambridge etc.: Cambridge University Press, 1982), pp. 315-334; and P.V. Spade, 'Obligations: B. Developments in the fourteenth century', *ibid.*, pp. 335-341.
- (2) See E.J. Ashworth, 'English Obligationes Texts after Roger Swyneshed: The Tracts beginning "Obligatio est quaedam ars"' in *The Rise of British Logic*, edited by P. Osmund Lewry, O.P. (Toronto: Pontifical Institute of Mediaeval Studies, 1985), pp.311-312.
- (3) See Spade, *op.cit.*, pp.334-338. There are some striking similarities between Martinus Anglicus and Robert Fland.
- (4) For Billingham's *Ars Obligatoria* and the subsequent manuscript tradition, see Ashworth, 'English Obligationes Texts'. For the *Logica Oxoniensis*, see L.M. de Rijk, 'Logica Oxoniensis: An Attempt to Reconstruct a Fifteenth Century Oxford Manual of Logic', *Medioevo* 3 (1977), pp.121-164; and E.J. Ashworth, 'The "Libelli Sophistarum" and the Use of Medieval Logic Texts at Oxford and Cambridge in the Early Sixteenth Century', *Vivarium* 17 (1979), pp.134-158.
- (5) I am presently preparing an edition of this text in conjunction with A. Maierù's edition of the rest of Strode's *Logica*. References in this paper are to Ralph Strode, *Obligationes*, in *Consequentie Strodi* etc. (Venetiis, 1517), fol. 78ra - fol. 93rb.
- (6) Albert of Saxony, *Perutilis Logica* (Venice, 1522; Hildesheim, New York: Georg Olms, 1974), fol. 46va-fol. 51vb.
- (7) I have used Oxford, Bodleian Library MS Canon. Class.Lat. 278, fol. 72ra-fol. 78rb. For discussion of Buser, see C.H. Kneepkens, "The Mysterious Buser Again: William Buser of Heusden and the Obligationes Tract Ob Rogatum" in *English Logic in Italy in the 14th and 15th Centuries*, edited by A. Maierù (Napoli: Bibliopolis, 1982), pp.147-166.
- (8) I have used Cracow, Biblioteka Jagiellonska MS 2602, fol. 70r - 101r.

(9) I have used Oxford, Bodleian Library MS Canon.Class.Lat. 278, fol. 65ra - fol. 69rb. For the date, I have used Green-Pedersen's conjecture about the date of Peter of Candia's *Consequentiae*: see N.J. Green-Pedersen, 'Early British Treatises on Consequences' in *The Rise of British Logic*, p.307.

(10) I have used Peter of Mantua, *Logica* (Venice, 1492), sig. G iira -sig. G viiivb. For the dating of his logical works, see T.E. James, 'Peter Alboini of Mantua: Philosopher Humanist', *Journal of the History of Philosophy* 12 (1974), pp.161-170.

(11) Paulus Venetus, *Logica* (Venice, 1472; Hildesheim, New York: Georg Olms, 1970). For a translation of this edition, see A.R. Perreiah, *Paulus Venetus. Logica Parva* (München, Wien: Philosophia Verlag, 1984). I shall use the citation LP, with page references to the 1472 edition. These references are included in Perreiah's translation.

(12) Paulus Venetus, *Logica Magna* (Venetiis, 1499); E.J. Ashworth, editor and translator, *Paul of Venice. Logica Magna. Part II. Fascicule 8. Tractatus de Obligationibus* (printed for the British Academy by the Oxford University Press, 1988). I shall use the citation LM, with folio references to the 1499 edition. These references are included in my edition.

(13) Paulus Venetus, *Quadratura* (Venetiis, 1493): see *Dubium secundum*, cap. 11; *Dubium tertium*, cap. 6, cap. 23, cap. 29.

(14) F. Bottin, 'Logica e filosofia naturale nelle opere di Paolo Veneto' in *Scienza e Filosofia all'Università di Padova nel Quattrocento*, edited by A. Poppi (Contributi alla Storia dell'Università di Padova 15. Trieste: Lint, 1983), pp.87-93.

(15) See F. del Punta and M.M. Adams, edition and translation, Paul of Venice, *Logica Magna. Part II. Fascicule 6. Tractatus de Veritate et Falsitate Propositionis et Tractatus de Significato Propositionis* (Published for the British Academy by the Oxford University Press, 1978), p.xiii: '...while the common authorship of the *Logica Magna*, the *Logica Parva*, the *Sophismata*, and the *Quadratura* is highly probable, it has not been proved with certainty.... We have found that the teachings of the *Logica Parva* are in any event often inconsistent with those of the *Logica Magna*.' Perreiah, op.cit., pp. 327-343, gives the strong impression that he doubts common authorship of the *Logica Parva* and the *Logica Magna*.

4. ———. 1990. "The Doctrine of Signs in Some Early Sixteenth-Century Spanish Logicians." In *Estudios De Historia De La Lógica. Actas Del Ii Simposio De Historia De La Lógica, Universidad De Navarra, Pamplona, 25-27 De Mayo De 1987*, edited by Angelelli, Ignacio and D'Ors, Angel, 13-38. Pamplona: Ediciones Eunat.

"In this paper I intend to discuss the doctrine of signs as it was presented by six Spanish logicians from the first half of the sixteenth century, all of whom except Naveros studied or taught at the University of Paris. I shall consider the *Termini* of Gaspar Lax, whose second edition appeared in 1512; the *Termini* of Juan Dolz, which appeared about 1510; the *Dialecticae introductiones* of Juan de Celaya, published as early as 1511; the *Summulae* of Domingo de Soto, which appeared in 1529 and were heavily revised for their second edition in 1539; the posthumous *Termini peritiles* of Fernando de Enzinas, published in 1533; and the *Praeparatio dialectica* of Jacobo de Naveros, published in 1542. I shall, of course, be mentioning various other authors, particularly from Paris, both to set the stage for the work of the Spanish logicians, and in order to trace subsequent developments.

There are three reasons why I have chosen to focus on the doctrine of signs. First, there is the link with the doctrine of signification. For the early sixteenth-century logician, at least for those writing in the medieval tradition, to signify was to be a sign; and unless we understand how the notion of sign was handled we will be unable to understand such crucial debates as that concerning the question whether words signify concepts or things (1). In particular, we will be likely to fall into the modern trap of translating the word '*significatio*' by the word 'meaning', and thereby misreading large portions of medieval and post-medieval logic and philosophy of language (2). Second, it is in the late fifteenth and early sixteenth centuries that logicians broke away from the medieval trend of discussing signification only in relation to *voces* or utterances (3), and attempted to present the linguistic sign in a much wider framework. Third, recent attention has been focussed on the sign-theory of later authors, particularly the seventeenth-century John of St. Thomas, and I think it is important to reveal the true pioneers in this field (4)." (pp. 13-14)

(1) See E. J. Ashworth, "Jacobus Naveros (fl.ca.1533) on the Question: 'Do Spoken Words Signify Concepts or Things?'" in *Logos and Pragma. Essays on the Philosophy of Language in Honour of Professor Gabriel Nuchelmans*, edited by L. M. de Rijk and H. A. G. Braakhuis, pp. 189-214 (Artistarium, Nijmegen: Ingenium Publishers, 1987); and E. J. Ashworth, "'Do Words Signify Ideas or Things?' The Scholastic Sources of Locke's Theory of Language", *Journal of the History of Philosophy* 19 (1981), pp. 299-326, reprinted as Study VII in E. J. Ashworth, *Studies in Post-Medieval Semantics* (London: Variorum Reprints, 1985).

(2) For examples of such misreading, see E. J. Ashworth, "Locke on Language", *Canadian Journal of Philosophy* 14 (1984), pp. 45-73, reprinted as Study VIII in *Studies in Post-Medieval Semantics*.

(3) Two medieval exceptions to this trend were Robert Kilwardby and Roger Bacon. For references, see below notes 31 and 32.

(4) See John N. Deely, translator and editor, with Ralph Austin Powell, *Tractatus de Signis. The Semiotic*

of John Poinsett (Berkeley: University of California Press, 1985). See also E. J. Ashworth, "The Historical Origins of John Poinsett's 'Treatise on Signs', *Semiotica* 69 (1988), 129-147.

5. ———. 1990. "Domingo De Soto (1494-1560) and the Doctrine of Signs." In *De Ortu Grammaticae. Studies in Medieval Grammar and Linguistics Theory in Memory of Jan Pinborg*, edited by Bursill-Hall, Geoffrey L., Ebbesen, Sten and Köerner, Konrad, 35-48. Amsterdam-Philadelphia: Benjamins.
- "Doctrines of signs permeated medieval culture, being found in such diverse fields as medicine, rhetoric and theology (Mairù 1981). However, despite Augustine's important insight that words could be treated as one type of sign (Markus 1957; Jackson 1969) it seems true to say that the notion of a sign as such was not of central importance to medieval logicians. Certainly words were spoken of as being signs, but no attempt was made to place them in a wider setting. Peter of Spain in his *Summulae Logicales* had focussed on the notion of a *vox* or utterance, so that the distinction between significative and non-significative was introduced only in a linguistic context (Peter of Spain 1972:1-2) and his commentators were thus given no incentive to go beyond this context. William Ockham did give a general definition of sign in his *Summa Logicae*, but he immediately said that he did not intend to use the word 'sign' in this wider sense (William Ockham 1974:89); and his remarks were later echoed by Albert of Saxony (Albert of Saxony 1522:f.2ra). The only medieval exceptions to this trend in the field of linguistic sciences seem to have been Robert Kilwardby, who discussed signs as such in his grammatical work (Kilwardby 1975:1-7) and Roger Bacon who, when writing on logic, followed Augustine in firmly subordinating the notion of a linguistic sign to the notion of a sign in general (Roger Bacon 1978:81-84; Pinborg 1981:405). One of Jan Pinborg's many achievements was to find and publish Roger Bacon's treatise *De Signis*. Hence, it seems appropriate that in a volume devoted to Pinborg's memory, some attention should be paid to another logician, Domingo de Soto, who attempted to place linguistic signs in a wider context. It must be recognized that Soto was not the first sixteenth century author to focus afresh on the notion of a sign. Humanism had resulted in new attention being paid to the rhetorical concept of sign (cf. Melanchthon 1854:cols.750-751, and Melanchthon 1846:cols.704-706) and various fifteenth and sixteenth century logicians referred to the definitions of sign found in Cicero (Vorsor 1572:f.6v; Raulin 1500:sig.g 5ra) and Quintilian (Sanchez Ciruelo 1519:sig.B 5vb). Another factor which should be taken into account was the renewed interest in medieval metaphysics and theology which characterized many of the great sixteenth and seventeenth century writers. However, of the early sixteenth century writers I know only Pedro Sanchez Ciruelo paid attention to the work on signs found, for instance, in Thomas Aquinas (Sanchez Ciruelo 1519:sig.B 5vb-6ra); and it seems to have been the Jesuits of Coimbra who were responsible for bringing together the rich theological tradition of the Middle Ages with the new logical tradition (Conimbricensis 1607:11 cols.7-33). This new logical tradition, found in such authors as Tomas de Mercado (1571:f.3vb-5va), Alonso de la Vera Cruz (1572:22 A-23 A), Francisco de Toledo (1596:208 A-209 B) and Diego Mas (1621:11 7 B-10 A) stems almost entirely from Domingo de Soto. He it was who classified the subject-matter, and set up the framework within which his successors would discuss the topic of signs. (1)

The main inspiration for Soto's work was obviously the then-standard Parisian doctrine of signification, which was directly derived from Peter of Ailly's *Conceptus et Insolubilia*. In this work, Peter of Ailly (c. 1350-1420) had, without elaboration, remarked that "a term is a sign" (1980:16; cf. Stanyol 1504:sig.a 3r, Sanchez Ciruelo 1519:sig.B 5va, Enzinas 1533:sig.b 3rb); that "to 'signify' is the same as to be a sign of something" (17; cf. Buridan 1977:22) and that something can be a sign in two ways (17). It can itself be an act of knowing a thing, or it can lead to an act of knowing. In the second case, there is a further division to be made, since the act of knowing can be either primary or secondary (18). He also gave a definition of 'signify' which reappeared in text after text "... to 'signify' is to represent (a) something, or (b) some things or (c) somehow, to a cognitive power by vitally changing it" (16). In the hands of various early sixteenth century logicians at Paris, Peter's remarks had been elaborated into a doctrine which Soto found profoundly misleading; and which he therefore set out to rework completely." (pp. 35-36)

(...)

"Once Soto had completed his general classification of signs, he came up against another problem, this time specifically to do with linguistic signs. According to Aristotle, spoken words were signs of concepts; yet there seemed to be an obvious sense in which spoken words were signs not of concepts but of actual things. (7) In order to deal with this issue, Soto introduced a distinction. When I utter the word 'homo' I signify men in the sense of making them known (*facere cognoscere*), and I definitely do not make known my own concept of man. On the other hand, I do express (*exprimer e*) the fact that I have such a concept, and I do so in order to cause my hearers to form similar concepts (Soto 1529:f.6ra). *Facere cognoscere* and *exprimere* are two types of signification, the second being a less general kind which pertains only to written and spoken words (f.6ra). In the later edition of his work Soto put the same point in terms of a distinction between two kinds of instrumental sign, one of which leads the cognitive power to form a concept of a thing, and the other of which expresses the presence of a concept. Thus a vocal sign can represent both a thing and a concept, but in different ways (Soto 1554:f.3rb-va). The whole matter was put more generally by the later author, Francisco de Toledo, who introduced the notion of manifestive and suppositive signs. A manifestive sign, he wrote, is one which leads to the knowledge of another thing.

Thus a sound can be a manifestive sign that reading is to occur. A sign which is both manifestive and suppositive is one which not only manifests another thing, but can be used in place of it. Thus a Viceroy both manifests or makes known the king and acts in his place. Utterances are signs of both kinds. On the one hand, they manifest concepts; on the other hand they both manifest and stand for actual things (Toledo 1596:209 A). Clearly Toledo did not find it awkward that a linguistic sign could perform several significative functions at once. Indeed, he had already pointed out that all utterances signify their utterer in the same way that smoke signifies fire, i.e. as an effect does its cause, so that one and the same sign can have both natural and conventional signification (Toledo 1596:209 A).

These last remarks point to one of the main strengths of the doctrine of signs developed by Domingo de Soto and his immediate successors. While many of the distinctions made seem to be ordinary, common-sense distinctions without much philosophical novelty, they enable one to place the linguistic sign in the context of signs in general. As a result one gets a much better apprehension of the various uses which can be made of a single utterance. At the same time, it is made perfectly evident that the doctrine of signification developed by medieval and post-medieval logicians was not, and should not be confused with, a theory of meaning in the contemporary sense. To say that words signify things is to say that they make things known; to say that words signify ideas is to say that they express ideas; and we are not given any license to identify the meaning of words with either type of significate. (8)" (pp. 44-45)

(1) There is a curious tendency among linguists to attribute Domingo de Soto's achievements to the much later John of St. Thomas (1589-1644). For instance Arens (1984:509) refers to John St. Thomas's "remarkable faculty for systematization" in relation to a series of distinctions about signs taken directly from Domingo de Soto; and Deely (1983:116) calls him "the earliest systematizer of the doctrine of signs." In fact John of St. Thomas's discussion of signs (John of St. Thomas 1930:9A-10A, 646A-722A) draws very heavily not only on Soto but also on the lengthy and more ontologically oriented discussion in the Coimbra commentary. He comes at the end of a tradition, not at the beginning.

(7) For a survey of medieval discussion of the question whether words signify ideas or things, see Ashworth (1981); and for a survey of post-medieval discussion, see Ashworth (1987).

(8) For a fuller discussion of this issue see Ashworth (1984).

References.

- Albert of Saxony. 1522. *Perutilis logica*. Venice. (Repr., Hildesheim: G. Olms, 1974.)
- Arens, Hans. 1984. *Aristotle's Theory of Language and its Tradition. Texts from 500 to 1750*. Amsterdam & Philadelphia: John Benjamins
- Ashworth, E.J. 1981. "'Do words Signify Ideas or Things?'" The scholastic sources of Locke's theory of language." *Journal of the History of Philosophy* 19:299-326.
- Ashworth, E.J. 1982. "The Structure of Mental Language: Some problems discussed by early sixteenth century logicians." *Vivarium* 20. 59-83.
- Ashworth, E.J. 1984. "Locke on Language." *Canadian Journal of Philosophy* 14. 45-73.
- Ashworth, E.J. 1987. "Jacobus Naveros (fl. ca. 1533) on the Question: 'Do Spoken Words Signify Concepts or Things?'" *Logos and Pragma: Essays on the philosophy of language in honour of Gabriel Nuchelmans* ed. by L.M. de Rijk & H.A.G. Braakhuis, 189-214. Nijmegen: Ingenium Publishers.
- Augustine. 1962. *De Doctrina Christiana* (= Corpus Christianorum Series Latina, 32.) Tumbuholt: Brepols.
- Buridan, John. 1977. *Sophismata*. Ed. by T.K. Scott. Stuttgart-Bad Cannstatt: Frommann Holzboog.
- Celaya, Juan de. [1516?]. *Dialecticae Introductiones*. Aureliacii.
- [Conimbricensis], 1607. *Commentarii Conimbricensis in dialecticam Aristotelis*. Cologne. (Repr., Hildesheim: G. Olms, 1976.)
- Deely, John N. 1983. "Neglected Figures in the History of Semiotic Inquiry: John Poincot." *History of Semiotics* ed. by Achim Eschbach & Jürgen Trabant, 115-26. Amsterdam & Philadelphia: John Benjamins.
- Enzinas, Fernando de. 1533. *Termini peritiles et principia dialectices communia*. Toledo.
- George of Brussels. 1504. *Expositio in logicam Aristotelis*. Lyon.
- Hieronymus of St. Mark. 1507. *Compendium preclarum*. Cologne.
- Jackson, B. Darrell. 1969. "The Theory of Signs in St. Augustine's De Doctrina Christiana." *Revue des études augustiniennes* 15:9-49. (Repr. in *Augustine: A collection of critical essays* ed. by R.A. Markus, 92-147. New York: Anchor Books, 1972.)
- John of St. Thomas. 1930. *Cursus Philosophicus Thomisticus*. I. Logica. Ed. by B. Reiser. Turin: Marietti.
- Kilwardby, Robert. 1975. "The Commentary on 'Priscianus Maior' ascribed to Robert Kilwardby." *Selected texts* ed. by Karin Margareta Fredborg, Niels J. Green-Pedersen, Lauge Nielsen & Jan Pinborg. Introd. by Jan Pinborg, "The Problem of the Authorship," by Osmund Lewry. (= CIMAGL, 15) Copenhagen.
- Maierù, Alfonso. 1981. "'Signum' dans la culture médiévale." *Miscellanea Mediaevalia* 13. 51-72.
- Markus, R.A. 1957. "St. Augustine on Signs." *Phronesis* 2:60-83. (Repr. in *Augustine: A collection of critical essays* ed. by R.A. Markus, 61-91. New York: Anchor Books, 1972).
- Mas, Diego. 1621. *Commentaria in Porphyrium et in universam Aristotelis logicam*. Mainz.
- Melanchthon, Philip. 1854. *Compendiaria dialectices in Opera*. (= Corpus Reformatorum, 20.) Brunsvigae. (Repr., New York & Frankfurt am Main, 1963.)

- Melanchthon, Philip. 1846. *Erotemata dialectices*. in *Opera*. (= Corpus Reformatorum, 13.) Halis Saxonum. (Repr., New York & Frankfurt am Main, 1963.)
- Mercado, Tomas de. 1571. *Commentarii lucidissimi in textum Petri Hispani*. Seville.
- Peter of Ailly. 1980. *Peter of Ailly: Concepts and Insolubles*. Ed. and transi, by Paul Vincent Spade. (= Synthèse Historical Library, 19.) Dordrecht-Boston-London: D. Reidel.
- Peter of Spain. 1972. *Tractatus called afterwards Summule Logicales*, ed. by L.M. de Rijk. Assen: Van Gorcum.
- Jackson, B. Darrell. 1969. "The Theory of Signs in St. Augustine's *De Doctrina Christiana*." *Revue des études augustiniennes* 15:9-49. (Repr. in *Augustine: A collection of critical essays* ed. by R.A. Markus, 92-147, New York: Anchor Books, 1972.)
- Kilwardby, Robert. 1975. "The Commentary on Priscianus Maior' ascribed to Robert Kilwardby." Selected texts ed. by Karin Margareta Fredborg, Niels J. Green-Pedersen, Lauge Nielsen & Jan Pinborg. Introd. by Jan Pinborg, "The Problem of the Authorship," by Osmund Lewry. (= *CIMAGL*, 15) Copenhagen.
- Maierù, Alfonso. 1981. "'Signum' dans la culture medievale." *Miscellanea Mediaevalia* 13. 51-72.
- Markus, R.A. 1957. "St. Augustine on Signs." *Phronesis* 2:60-83. (Repr. in *Augustine: A Collection of Critical Essays* ed. by R.A. Markus, 61-91. New York: Anchor Books, 1972).
- Peter of Spain. 1972. *Tractatus called afterwards Summule Logicales*, ed. by L.M. de Rijk. Assen: Van Gorcum.
- Pinborg, Jan. 1981. "Roger Bacon on Signs: A newly recovered part of the *Opus Maius*." *Miscellanea Mediaevalia* 13:403-412.
- Roger Bacon. 1978. "An Unedited Part of Roger Bacon's *Opus Maius*: 'De signis'." Ed. by Karin Margareta Fredborg, Lars Nielsen & Jan Pinborg. *Traditio* 34:75-136.
- William Ockham. 1974. *Summa Logicae*. Ed. by Philotheus Boehner, Gedeon Gal & Stephen Brown. (= *Opera Philosophica*, 1.) St. Bonaventure, New York: Franciscan Institute.
6. ———. 1991. "Signification and Modes of Signifying in Thirteenth-Century Logic: A Preface to Aquinas on Analogy." *Medieval Philosophy and Theology* no. 1:39-67.
- "My study of Aquinas in the context of thirteenth-century logic has two parts. In the first part, which constitutes the present essay, I shall explore the general theory of language that lies behind theories of equivocation and analogy. I shall explain such key concepts as imposition, signification, and *res significata*, and I shall pay particular attention to the notion of *modi significandi*. In the second part, to be published separately, (*) I shall survey thirteenth-century accounts of equivocation from Peter of Spain to John Duns Scotus. I shall show how the discussion of analogy came to be subsumed under discussions of equivocation and how logicians developed a threefold classification of analogy that has a close relation to Aquinas's own classification in his *Sentences*-commentary.
- In embarking on this study, I am guided by the belief that to understand Aquinas fully we need to know how his words would have been understood by his contemporaries. We need to know which phrases had a standard technical usage and what distinctions were routinely made. I do not intend to argue that we will always find just one correct interpretation, nor do I want to claim that Aquinas was never innovative in his use of material taken from logicians. I am convinced, however, that a careful reading of the logicians will not only show us which interpretations of Aquinas's philosophy of language can be ruled out as fanciful reconstructions, but will also shed light on much that is currently obscure to the twentieth-century reader." (pp. 40-41)
- (...)
- "Conclusion.
- What I have examined in this paper is a theory of language that tends to take words as units, endowed both with their signification and their *modi significandi* before they enter sentences and independently of speaker intention on any given occasion, (123) This attitude was reinforced by Priscian's claim that the noun has priority over other parts of speech, which led logicians to argue that the noun received its imposition first. (124) One might think that equivocal and analogical terms are precisely those whose functioning is best explained through context and use, but although Roger Bacon at least did recognize that any term could be used equivocally, (125) there was a tendency to speak as if equivocal and analogical terms formed special classes that could be identified in advance of use. To the extent that Aquinas's doctrine of analogy is embedded in such a general theory, one may fear that it will share the theory's defects." (p. 67)
- (*) See: *Analogy and Equivocation in Thirteenth-Century Logic. Aquinas in Context*.
- (123) For some references to authors who paid more attention to speaker intention, see Irène Rosier, "Signes et sacrements: Thomas d'Aquin et la grammaire speculative," *Revue des sciences philosophiques et théologiques* 74 (1990): 392-436.
- (124) Priscian, *Institutionum grammaticarum* libri XVIII, in *Grammatici Latini*, edited by Heinrich Keil (Leipzig: Teubner, 1855), reprint ed. (Hildesheim and New York: Georg Olms, 1981), 2:115-121.
- Priscian's remarks were used to show that an equivocal noun could not have a conjunctive signification, since syncategorematic terms were posterior to nouns. See CPDMA 7 [anonymous *Quaestiones super*

Sophisticos Elenchos, edited by Sten Ebbesen, Copenhagen:Gad, 1977), p. 291. Compare Simon of Faversham, *In SE [Sophisticos Elenchos]* p. 68; Duns Scotus, *In SE [Sophisticos Elenchos]*, p. 13A. (125) Karin Margareta Fredborg, Lauge Nielsen, and Jan Pinborg, "An Unedited Part of Roger Bacon's Opus maius: De signis," *Traditio* 34 (1978): 109-110.

7. ———. 1991. "Equivocation and Analogy in Fourteenth-Century Logic: Ockham, Burley and Buridan." In *Historia Philosophiae Medii Aevi. Studien Zur Geschichte Der Philosophie Des Mittelalters. Festschrift Für Kurt Flasch Zu Seinem 60. Geburtstag. Vol. I*, edited by Mojsisch, Burkhard and Pluta, Olaf, 23-43. Amsterdam, Philadelphia: B. R. Grüner.
- "In this paper I shall explore the notions of equivocation and analogy as they were handled by William of Ockham in his logical writings; (1) and I shall compare his position with those adopted by Walter Burley and John Buridan.(2) I realize that Ockham's views on these issues have already been discussed in print, (3) and I shall not be able to point to hitherto unnoticed material in his works. My main intention is to place his views in perspective, by locating them in their historical context. This project is one which has been touched on only indirectly by scholars, (4) yet it is crucial to the proper understanding both of Ockham himself and of later developments in the theory of analogy.
- My study of Ockham is part of a series in which I intend to explore the notions of equivocation and analogy as they were handled by logicians from the mid-thirteenth to the end of the sixteenth century. (5) I became interested in this issue when I noticed that virtually the only logician ever referred to in discussions of Aquinas's theory of analogy is Cajetan, despite the fact that he wrote over two centuries later, and had a rather different philosophical agenda. In fact, there are a number of striking dissimilarities between logicians contemporary with Aquinas and such sixteenth-century logicians as Domingo de Soto. Some of these are of minor importance. For instance, sixteenth-century logicians had access to more of the Greek commentators on Aristotle's *Categories*, and they tended to discuss analogy in the context of commentary on the *Categories* rather than in the context of commentary on the *Sophistici Elenchi*. Others affect the general approach: here I have in mind the different theories of signification which were predominant in the two periods, and the more-or-less complete abandonment of the grammatical doctrines of *modi significandi*. Yet others are crucial to the details. In the thirteenth century, the analogy of attribution was the important kind, and the analogy of proportionality was barely mentioned. The reverse is true after Cajetan. In the thirteenth century, the key notion was that of signification *per prius et posterius*, and the implications of this were spelled out partly in terms of concepts (whether one or more), but especially in terms of common natures. In the sixteenth century the focus was on concepts, whether one imprecise concept matched with more than one precise concept, or one formal concept matched with more than one objective concept. In addition, sixteenth-century logicians worried about the differences between intrinsic and extrinsic denomination, not an issue which had concerned late thirteenth-century logicians.
- The fourteenth century had two big contributions to make to the changes in doctrine that I have just outlined. First, John Duns Scotus's arguments about the univocity of being seem to have persuaded logicians that it makes sense to postulate just one concept of being, even if one goes on to reject the claim that *<ens>* is a univocal term. Second, Ockham and his followers diverted attention from common natures, which they rejected, to words and concepts. Sixteenth-century discussions of analogy have to be understood in terms of a reaction to these fourteenth-century developments, and not just in terms of a reaction to the writings of Thomas Aquinas. I shall leave the elucidation of Scotus and his influence to others; but it must be remembered that in concentrating on Ockham and the logicians I am telling only part of the story." (pp. 23-25)
- (...)
- "Conclusion.
- In this brief paper I have not been able to address the issue of how Ockham handled religious language (85) or the issue of how he handled the notion of ens. (86) Nor have I been able to pursue Burley's theory of analogy in the depth and detail which it clearly deserves. However, I have shown the place analogy occupies in relation to equivocation in the logic of both Ockham and Buridan - and a very modest place it is." (p. 43)
- (1) William of Ockham, *Summa Logicae*, edited by P.Boehner, G.Gál, S.Brown, Opera Philosophica I (St.Bonaventure, N.Y.: St.Bonaventure University, 1974); *Expositio in librum Praedicatorum Aristotelis*, edited by G. Gal in Opera Philosophica II (St.Bonaventure, N.Y.: St.Bonaventure University, 1978); *Expositio super libros Elenchorum*, edited by F. del Punta, Opera Philosophica III (St.Bonaventure, N.Y.: St.Bonaventure University, 1979). I shall also refer to the following theological writings: *Scriptum in librum Primum Sententiarum Ordinatio. Distinctiones II-III*, edited by S. Brown with G.Gál, Opera Theologica II (St.Bonaventure, N.Y.: St.Bonaventure University, 1970); *Quaestiones in librum Tertium Sententiarum (Reportatio)*, edited by F.E. Kelley and G.I. Etkorn, *Opera Theologica VI* (St.Bonaventure, N.Y.: St. Bonaventure University, 1982); *Quodlibeta Septem*, edited by J.C. Wey, Opera Theologica IX (St. Bonaventure, N.Y.: St.Bonaventure University, 1980).
- (2) Much research remains to be done on both Burley and Buridan. I shall draw most of my material relating to Burley from his 1337 commentary on the *Categories* in *Burlei super artem veterem Porphyrii*

- et Aristotelis* (Venetiis, 1497). For Buridan I have used *Iohannes Buridanus. Quaestiones in Praedicamenta*, edited by J. Schneider (Munich: Verlag der Bayerischen Akademie der Wissenschaften, 1983) and extracts from his *Summulae* in S. Ebbesen, *The Summulae. Tractatus VII. De Fallaciis* in *The Logic of John Buridan*, edited by Jan Pinborg (Copenhagen: Museum Tusulanum, 1976), pp.139-160.
- (3) The most recent and best discussion is found in M. McCord Adams, *William Ockham* (Notre Dame, Indiana: University of Notre Dame Press, 1987), Vol. II, pp.903-960, especially pp.952-960. See also G. Leff, *William of Ockham: The Metamorphosis of Scholastic Discourse* (Manchester: Manchester University Press, 1975) pp.149-164 for a detailed but very confused discussion. A much earlier work, containing some useful material, is M.C. Menges, *The Concept of Univocity Regarding the Predication of God and Creature According to William Ockham* (St. Bonaventure, New York: The Franciscan Institute, Louvain: E. Nauwelaerts, 1952).
- (4) For a bibliography of works on fallacies, which of course include equivocation, and some discussion, see S. Ebbesen, *The way fallacies were treated in scholastic*, Cahiers de l'institut du moyen-âge grec et latin 55 (1987), 107-134.
- (5) See E. J. Ashworth, *Analogy and Equivocation in Thirteenth-Century Logic: A New Approach to Aquinas*. I am currently writing a paper on equivocation and analogy in sixteenth-century logicians. Full documentation of my claims about thirteenth and sixteenth-century logic will be found in these papers.
- (85) See e.g. Quodlibet IV q. 4, Ockham, *Quodlibeta*, pp. 123-128.
- (86) See e.g. Quodlibet IV q.12, Ockham, *Quodlibeta*, pp. 352-359.
8. ———. 1991. "Nulla Propositio Est Distinguenda: La Notion D' Equivocatio Chez Albert De Saxe." In *Itinéraires D'albert De Saxe. Paris-Vienne Au Xiv Siècle. Actes Du Colloque Organisé Les 19-22 Juin 1990 Dans Le Cadre Des Activités De L'ura 1085 Du Cnrs À L'occasion Du 600 Anniversaire De La Mort D'albert De Saxe*, edited by Biard, Joël, 149-160. Paris: Vrin.
- "Le célèbre statut édicté à l'université de Paris le 29 décembre 1340 exige que personne ne dise qu'aucune proposition ne doit être le sujet d'une distinction — « quod nullus dicat quod nulla propositio sit distinguenda » (1). Cette interdiction est liée à la conviction qu'il y a d'importantes propositions, surtout dans la Bible, qu'on peut regarder comme fausses de *virtute sermonis*, c'est-à-dire au sens littéral des mots, tout en étant vraies d'après les intentions de leurs auteurs (2). Le statut condamne ceux qui nient tout simplement de telles propositions, au lieu de les accepter ou de faire une distinction entre leurs divers sens (3). Dans le passé, les historiens de la philosophie médiévale ont souvent soutenu que Guillaume d'Ockham était la cible de ce décret, mais Katherine Tachau et William Courtenay ont récemment attaqué cette prétention (4). Je ne reprendrai pas leur argumentation, que je trouve assez convaincante, mais je me concentrerai sur un aspect que Tachau et Courtenay n'ont pas considéré en profondeur: le lieu que les distinctions entre les divers sens d'une proposition occupait dans la logique du XIVe siècle. Je choisis ce thème à cause de son rapport avec la pensée d'Albert de Saxe. Assez curieusement, dans sa *Perutilis logica* (5) ainsi que dans ses *Quaestiones in logicam* (6), Albert adopte une position tout à fait contraire à celle du statut. Il dit carrément qu'aucune proposition ne doit être le sujet d'une distinction: « nulla propositio est distinguenda ». En disant cela, il attaque implicitement Aristote, au moins l'Aristote des logiciens du Moyen Âge (7), et en même temps il attaque explicitement « Ockham et socios eius » (8). Cela peut nous surprendre, étant donné qu'en général Albert suit Ockham de très près, mais il faut reconnaître que Guillaume d'Ockham était, entre les logiciens sinon les théologiens, le défenseur prééminent des distinctions (9).
- (1) Le texte du statut est donné par W. J. Courtenay et K. H. Tachau dans « Ockham, Ockhamists, and the English-German Nations at Paris, 1339-1341 », in *History of Universities*, 2 (1982), p. 84, n. 17.
- (2) Pour une discussion récente, voir W. J. Courtenay, « Force of Words and Figures of Speech: The Crisis over Virtus Sermonis in the Fourteenth Century », in *Franciscan Studies*, 44 (1984), pp. 107-128.
- (3) Cf. Tachau et Courtenay, *loc. cit.*: « quod nulli (...) audeant aliquant propositionem famosam illius actoris cuius librum legunt, dicere simpliciter esse falsam, vel esse falsam de virtute sermonis, si crediderint quod actor ponendo illam habuerit verum intellectum; sed vel cederent eam, vel sensum verum dividant a sensu falso [...] », Il faut constater que dans sa traduction des *Réfutations sophistiques*, Boèce utilise le mot « dividers » où l'on pourrait s'attendre qu'il utilise le mot « distinguere »: voir surtout I, 17-19, 175 a 31-177 a 32. dans *Aristoteles latinus*, VI, 1-3: *De sophisticis elenchis*, éd. B. G. Dod, Leiden: E. J. Brill, Brussels: Descjée de Brouwer, 1975, pp. 36-41.
- (4) Voir n. 1.
- (5) Albert de Saxe, *Perutilis logica*, Venise, 1522, reproduction photomécanique Hildesheim, New York: Georg Olms, 1974.
- (6) Ms. Cité du Vatican, Biblioteca apostolica vaticana, Urb. Lat. 1419, f0s 1ra-31vb. Pour « nulla propositio est distinguenda », voir fo 24va-vb.
- (7) Voir par exemple Jean Duns Scot, *In libros Elenchorum quaestiones*, in *Opera omnia*, II, Paris: Vivès, 1891, p. 14 A : « Item, si sic esset, propositio multiplex non esset distinguenda. Consequens est falsum, ut palet per Philosophum ». Cf. S. Ebbesen, « Can Equivocation be Eliminated? » in *Studia Mediewistyczne*, 18 (1977), p. 104.
- (8) P. L. fo 37vb.

9. ———. 1991. "A Thirteenth-Century Interpretation of Aristotle on Equivocation and Analogy."

Canadian Journal of Philosophy no. Supplementary volume 17:85-101.

"This paper is a case study of how a few short lines in two of Aristotle's logical works were read in the thirteenth century. (1) I shall begin with a quick look at Aristotle's own remarks about equivocation in the *Categories* and the *Sophistical Refutations*, as they were transmitted to the West by Boethius's translations. (2) I shall continue with an analysis of the divisions of equivocation and analogy to be found in an anonymous commentary on the *Sophistical Refutations* written in Paris between 1270 and 1280. (3) I have chosen this author's work to focus on, because it offers a remarkably full account which brings together the elements found in many other logical works from the second half of the thirteenth century. In the course of my analysis I shall attempt to show the part played by four different sources: (I) the Greek commentators of late antiquity; (II) the new translations of Aristotle's *Physics* and *Metaphysics*; (III) the reception of Arabic works, particularly the commentaries of Averroes; and (4) new grammatical doctrines, notably that of *modi significandi*. At the same time, I hope to throw some light on the development of the doctrine of analogy as it was understood by late thirteenth-century logicians." pp. 85-86

(1) For full bibliographies and more information on the matters touched on here, see E.J. Ashworth, 'Signification and Modes of Signifying in Thirteenth-Century Logic: A Preface to Aquinas on Analogy,' *Medieval Philosophy and Theology* 1 (1991) 39-67; E.J. Ashworth, 'Analogy and Equivocation in Thirteenth-Century Logic: Aquinas in Context,' *Mediaeval Studies* (1992); E.J. Ashworth, 'Equivocation and Analogy in Fourteenth Century Logic: Ockham, Burley and Buridan,' *Historia Philosophiae Medii Aevi. Studien Zur Geschichte der Philosophie des Mittelalters*, B. Mojsisch and O. Pluta, eds. (Amsterdam: B.R. Gruner 1991).

(2) *Aristotelis Latinus I 1-5. Categoriae vel Praedicamenta*. L. Minio-Paluello. Leiden: E.J. Brill 1961 and *Aristotelis Latinus VI 1-3. De Sophisticis Elenchis*. B.G. Dod. Leiden: E.J. Brill, Brussels: Desclée de Brouwer 1975.

(3) *Incerti Auctores, Quaestiones super Sophisticos Elenchos*, S. Ebbesen, ed. *Corpus Philosophorum Danicorum Medii Aevi* VII. Copenhagen: Gad 1977. Of the two sets of questions edited by Ebbesen I shall use only the first (the SF commentary).

10. ———. 1991. "Logic in Late Sixteenth-Century England: Humanist Dialectic and the New Aristotelianism." *Studies in Philology* no. 88:224-236.

"In this paper I intend to look at the kind of logic that was taught at Oxford and Cambridge in 1590, and that was central to the undergraduate curriculum. I shall begin with a survey of the authors who were studied during the sixteenth century; then I shall consider the contents of their texts, with particular emphasis on the interplay between logic, dialectic and Aristotelianism. My main purpose is to explain what humanist dialectic might have been, and what it actually became in the hands of the textbook writers.

Suppose we start by considering the logic texts known to have been published in England between 1580 and 1590, or more accurately, between 1580 and 1589, since no logic text survives from the year 1590 itself. (1) There are in all 25 titles, and of these titles five are in English.

Thomas Wilson's *Rule of Reason* appeared in 1580. It was first published in 1551, and was the most popular of all the English vernacular texts. (2)

The second English text is a translation of Petrus Ramus's *Dialectica*, (3) and the last three, all dated 1588, are variants of Abraham Fraunce's *The Lawiers Logike*, which is basically a Ramist text. (4) Turning to the Latin titles, there are four printings of John Seton's *Logica* which had first appeared in 1545, and went through 14 editions by the end of the century. (5) It was by far the most popular of the English non-vernacular texts. Next there is the first edition in 1584 of John Case's important work on Aristotle's logic, the *Summa Veterum Interpretum*, which received the accolade of five editions in Frankfurt. (6) Of the remaining works, two are Latin versions of Ramus's *Dialectica* and thirteen are about Ramus's logic. There is a good deal we can learn from this list, both with respect to the languages used and with respect to what is absent from it." (pp. 224-225)

(...)

"I find the English logic scene in 1590 somewhat depressing. We are faced with elementary manuals which have lost sight of the important medieval developments in logic, and which have failed to make anything theoretically interesting of the humanistic innovations. (53) What we are left with is basically simplified Aristotle with some Ciceronian flourishes." (p. 236)

(1) A useful chronological list of logic books printed in England before 1620 is given by Charles B. Schmitt, *John Case and Aristotelianism in Renaissance England* (Kingston and Montreal: McGill-Queen's University Press, 1983), 225-29. For discussion of English

logic during the sixteenth century, see E. J. Ashworth, *Introduction*, in Robert Sanderson, *Logicae Artis Compendium*, edited by E. J. Ashworth (Bologna: Editrice CLUEB, 1985), especially xxiii-xxxii; Luce Giard, "La production logique de l'Angleterre au xvie siècle,"

Les Etudes Philosophiques 3 (1985) :303-24; Lisa Jardine, "The Place of Dialectic Teaching in Sixteenth-Century Cambridge," *Studies in the Renaissance* 21 (1974):31-62. No attention should be paid to W. S.

Howell, *Logic and Rhetoric in England, 1500-1700* (Princeton: Princeton University Press, 1956), since its account of logical developments, particularly during the medieval period, is inaccurate, and this vitiates the judgments the author makes about the texts he describes.

(2) See Thomas Wilson, *The Rule of Reason Conteyning the Arte of Logique*, edited by Richard S. Sprague (Northridge, California: San Fernando Valley State College, 1972).

(3) For a modern edition of a translation of Ramus, see Catherine M. Dunn, ed., *The Logike of the Moste Excellent Philosopher P. Ramus Martyr Translated by Roland MacIlmaine (1574)* (Northridge, California: San Fernando Valley State College, 1969).

(4) Probably the appearance of three variants in one year represents the work's lack of success, since the reissue of a work with a new title page and reference to a new bookseller was a way of getting rid of unsold stock: see Giard, 319. For some discussion of Fraunce's work, see Lisa Jardine, "Humanistic Logic" in *The Cambridge History of Renaissance Philosophy*, ed. Charles B. Schmitt (Cambridge: Cambridge University Press, 1988), 190-91.

(5) John Seton, *Dialectica* (Londini, 1584).

(6) John Case, *Summa veterum interpretum in universam dialecticam Aristotelis* (Londini, 1584). For a discussion of Case's work and significance, see the book by Schmitt cited above. For editions of the text, see Schmitt, 261.

(53) I would like to thank Lisa Jardine and Eleonore Stump who, over the years, have persuaded me that formal logic is not the whole story. I would also like to thank the organizers of the "London, 1590" conference for inviting me to present this paper.

11. ———. 1992. "Analogy and Equivocation in Thirteenth-Century Logic. Aquinas in Context." *Mediaeval Studies* no. 54:94-135.

"One of the outstanding features of the extensive literature on Aquinas's doctrine of analogy is the complete absence of any attempt to set him in the context of thirteenth-century logic. (1) Certainly frequent reference is made to Cardinal Cajetan; but Cajetan wrote over two centuries later, and he had his own philosophical agenda, which in many ways owed more to fourteenth-century developments than it did to Aquinas himself. (2) In this paper I intend to provide some essential background to Aquinas by examining how equivocation was handled by logicians, including the young Duns Scotus, between ca. 1230 and ca. 1300. I shall show how analogy entered the logic texts in the context of equivocation; and I shall argue that the emphasis on analogy *per attributionem*, the absence of the analogy of proportionality, and the development of a threefold classification of analogy all throw considerable light on Aquinas's own discussion of analogy, particularly as found in the passage from his *Sentences* commentary which was the focus of Cajetan's attention. While I do not wish to claim that paying attention to Aquinas's historical situation will by itself provide us with a definitive interpretation of his doctrines, I do believe that such an endeavour will enable us to rule out certain interpretations as inappropriate or unlikely, and that it will enable us to make sense of otherwise obscure remarks.

The present paper is the second part of a two-part study of Aquinas in relation to thirteenth-century logic. In the first part I discussed the general theory of language which provides the context for doctrines of equivocation and analogy. (3) In particular, I explained such key terms as *significatio*, *res significata*, and *modi significandi*. I also discussed the effects of context on equivocal and analogical terms. While the present paper stands by itself, reading it in conjunction with the other will lead to a fuller understanding of some of the details that I can mention here only in passing." (pp. 94-95)

(1) An exception to this remark is provided by a paper which has just appeared: A. de Libera, "Les sources gréco-arabes de la théorie médiévale de l'analogie de l'être," *Les études philosophiques* [special issue on analogy] (1989): 319-45. De Libera, however, is more concerned with metaphysical than with logical issues. For a very interesting use of speculative grammar to interpret Aquinas on the language of the sacraments, see I. Rosier, "Signes et sacrements: Thomas d'Aquin et la grammaire spéculative," *Revue des sciences philosophiques et théologiques* 74 (1990): 392-436.

(2) For some details, see E. J. Ashworth, "Equivocation and Analogy in Fourteenth Century Logic: Ockham, Burley and Buridan" in *Historia Philosophiae Medii Aevi: Studien zur Geschichte der Philosophie des Mittelalters*, ed. B. Mojsisich and O. Pluta (Amsterdam, 1991). I am currently working on a study of Cajetan in relation to some fifteenth and sixteenth-century Thomist logicians. Recent studies by Bruno Pinchard make some attempt to place Cajetan in his philosophical and theological context but have little to offer so far as relating him to fifteenth-century logic and semantics is concerned. See B. Pinchard, *Métaphysique et sémantique* (Paris, 1987); idem, "Du mystère analogique à la 'Sagesse des Italiens,'" *Les études philosophiques* (1989): 413-27. See also the critical notice of Pinchard's book by O. Boulnois, *ibid.*, 517-26.

(3) See E. J. Ashworth, "Signification and Modes of Signifying in Thirteenth-Century Logic: A Preface to Aquinas on Analogy," *Medieval Philosophy and Theology* 1 (1991): 39-67.

12. ———. 1992. "Analogical Concepts: The Fourteenth-Century Background to Cajetan." *Dialogue Canadian Philosophical Review* no. 31:399-413.

"In 1498 Cajetan published a short book, *On the Analogy of Names*, which is often regarded as a masterly summary of Aquinas's doctrine of analogy. It opens in the very first paragraph with an attack on three

views of the concept of being (*ens*): first, that it is a disjunction of concepts; (1) second, that it is an ordered group of concepts; and third, that it is a single, separate concept which is unequally participated by substances and accidents. A number of questions immediately spring to mind. Why are concepts being discussed when analogy is said by Cajetan to be a theory of language? What is meant by 'concept'? Who held the views under attack and why? So far as I can tell, the extensive literature on both Aquinas and Cajetan offers no satisfactory answers to these questions.

In this paper I shall locate the views mentioned by Cajetan in some fourteenth-century sources. I shall limit myself in two ways. First, I shall focus on those authors, particularly Peter Aureol (d. 1322), Hervaeus Natalis (d. 1323), and John of Jandun (d. 1328), whose views were discussed by Cajetan's immediate predecessors, (2) and whose works were to be influential during the Renaissance. Second, I shall for the most part ignore the Scotists, who held that 'being' was univocal, and the nominalists, who did not accept common natures, and did not appeal to the distinction between formal and objective concepts.

I hope not only to cast some light on developments in the theory of analogy between Aquinas and Cajetan but also on medieval theories of signification. The doctrine that *ens* is an analogical term provides us with a useful test case, for given the beliefs that a noun signifies a concept, and that a concept captures a common nature, we are faced with an obvious problem. On the one hand, *ens* does not seem to be straightforwardly equivocal, in the sense of being subordinated to more than one concept, since we at least have the illusion of being able to grasp *ens* as a general term; on the other hand, there does not seem to be any common nature involved. The issue is further complicated by beliefs about the nature of mental language. If the language of thought is an ideal language, at least to the extent of containing no equivocal terms, then one can ask what room there is in it for analogical concepts. Such terms as 'healthy' (*sanum*) are capable of analysis into a complex of concepts (e.g., a food is healthy because it contributes to the health of those animals that eat it), but the most important analogical terms, those used of God, are precisely the terms which do not seem susceptible of replacement by a complex whose parts are fully clear.

The theory of analogy as presented by medieval philosophers is also gravely affected by the belief that each word is endowed with its signification, including its grammatical features or consignification, as a unit. Such an assumption is not easy to reconcile with the thought that language is flexible, and that one and the same word can have different shades of meaning in different contexts without thereby becoming a different lexical item. This is not the place, however, to cast doubt on the viability of the whole enterprise, and I shall content myself with asking how some of the parts of the enterprise were thought to fit together." (pp. 399-400)

(...)

"Conclusion

This short paper merely scratches the surface of fourteenth- and fifteenth-century accounts of analogical concepts. Nonetheless, I hope I have said enough to show that Cajetan needs to be read in the light of his more immediate predecessors, rather than as a man wrestling in solitude with the works of Aquinas." (p. 413)

(1) See Bruno Pinchard, *Métaphysique et sémantique. Autour de Cajetan*. Étude [texte] et traduction du "De Nominum Analogia" (Paris: Vrin, 1987), p. 114. The text has "in-disiunctionis," but this has to be wrong: cf. p. 133, par. 71, where Cajetan once more lists the three views, beginning with "conceptum disiunctum." Pinchard wrongly suggests (p. 152, par. 1, n. 5) that the latter text should be emended.

(2) Notably Johannes Capreolus (d. 1444), Dominic of Flanders (d. 1479), and Paulus Soncinas (d. 1494).

13. ———. 1992. "New Light on Medieval Philosophy: The *Sophismata* of Richard Kilvington." *Dialogue. Canadian Philosophical Review* no. 31:517-521.
"The fourteenth-century English philosopher and theologian Richard Kilvington (1302/5–61) presents a useful correction to popular views of medieval philosophy in two ways. On the one hand, he reminds us that to think of medieval philosophy in terms of Aquinas, Duns Scotus and Ockham, or to think of medieval logic in terms of Aristotelian syllogistic, is to overlook vast areas of intellectual endeavour. Kilvington, like many before and after him, was deeply concerned with problems that would now be assigned to philosophy of language; philosophical logic and philosophy of science. He discussed topics in epistemic logic, semantic paradoxes, problems of reference, particularly those connected with the interplay between quantifiers and modal or temporal operators, and problems arising from the use of infinite series in the analysis of motion and change. On the other hand, this very account of his work raises the important issue of conceptual domain. I have spoken as if Kilvington's work can be neatly classified in terms of contemporary interests; and the temptation to read medieval philosophy in modern terms is only strengthened when one recognizes Kilvington as the first member of the group of Oxford calculatores, men such as William Heytesbury and Richard Swineshead, whose discussions of mathematics and physics have caused them to be hailed as forerunners of modern science."
14. ———. 1992. "The *Obligaciones* of John Tarteys: Edition and Introduction." *Documenti e Studi sulla Tradizione Filosofica Medievale* no. 3:653-703.

15. ———. 1992. "Logic in Late Medieval Oxford." In *The History of the University of Oxford, Vol. II: Late Medieval Oxford*, edited by Catto, Jeremy C. and Evans, Ralph, 35-64. Oxford: Clarendon Press. Co-author Paul Vincent Spade.
 "This chapter discusses three main periods in the history of Oxford logic that occurred approximately between 1330 and 1500. It talks about three Merton authors who were accountable for the course of much subsequent medieval logical theory — Thomas Bradwardine (1295–1349), William Heytesbury (1313–1372 or 1373), and Richard Billingham. This chapter also evaluates the logical activities that occurred during the late medieval period in Oxford by looking at the collections of texts that circulated in manuscript and were eventually printed as the two libelli sophistarum. It argues that the libelli sophistarum shows a disappointing picture of English logic in the fifteenth century. However, Oxford logic was excellent for it reached a level of sophistication and insight that was not gained anywhere else until the end of the seventeenth century with Leibniz, and not surpassed until the middle of the nineteenth century."
16. ———. 1993. "Ralph Strode on Inconsistency in Obligational Disputations." In *Argumentationstheorie. Scholastische Forschungen Zu Den Logischen Und Semantischen Regeln Korrekten Folgerns*, edited by Jacobi, Klaus, 363-386. Leiden: Brill.
 "Treatises on obligations represent one of the interesting new developments of medieval logic.(1) They set out the rules which were to govern a certain kind of disputation, the obligational disputation. Truth was not at issue in such disputations, since their starting point was normally a false proposition;(2) nor was any particular subject-matter explored. Instead, according to Strode, their purpose was both to provide exercise for beginning students in handling logical inferences; and to prepare them to reason from truths in real-life situations.(3) He compared these disputations to the military exercises which young soldiers had to undergo before they could participate in real battles.(4) Obviously both the acceptance of falsehoods and the application of rules in isolation from a given subject-matter have their dangers; and one of the features of obligations treatises is the way they explore the different kinds of inconsistency which can arise in a disputational setting. In this paper I intend to discuss Ralph Strode's reaction to earlier attempts to amend the rules so as to avoid some of these kinds of inconsistency. So far as Strode's predecessors are concerned, my main focus will be on Roger Swyneshed (5) and on an anonymous author whose treatise on obligations was preserved in a Merton College manuscript, (6) though I shall also pay some attention to Richard Kilvington. (7)" (pp. 363-364)
 (1) For bibliography and discussion, see Paul of Venice, *Logica Magna*. Part II Fascicle 8. [*Tractatus de Obligationibus*] ed./trad. E. J. Ashworth, published for the British Academy by the Oxford University Press, 1988. Two papers which are particularly relevant to the theme of this paper are: P. V. Spade, 'Three Theories of Obligations: Burley, Kilvington and Swyneshed on Counterfactual Reasoning', *History and Philosophy of Logic* 3, 1982, 1-32; and E. J. Ashworth, "Inconsistency and Paradox in Medieval Disputations: A Development of Some Hints in Ockham", *Franciscan Studies* 44, 1984, 129-139.
 (2) Some authors, including Strode, explicitly allowed the possibility of a true *positum*: see Paul of Venice, op. cit., p. 33; Ralph Strode, *Obligationes*, Oxford Bodleian Library MS Canon. misc. 219, fol. 37"; Spade, op. cit., p. 12 (for a discussion of Burley on this point).
 (3) Strode, *ibid.*, fol. 37", fol. 37va. The second point is made even more clearly by the anonymous Merton author who refers to jurists and moral philosophers in this context: see N. Kretzmann and E. Stump, 'The Anonymous De Arte Obligatoria in Merton College MS. 306', in *Mediaeval Semantics and Metaphysics. Studies dedicated to L.M. de Rik*, ed. E. P. Bos, Nijmegen: Ingenium, 1985, pp. 243 sq., § VI. (Short title: *Anon. Merton*). It should be noted that I use the phrase 'anonymous Merton author' for convenience, and not because we know that he was actually a Mertonian. In Paul of Venice, op. cit., I referred to him as Pseudo-Dumbleton.
 (4) Strode, op. cit., fol. 37ra.
 (5) Swyneshed's treatise was probably written between 1330 and 1335. For discussion and an edition of the text, see P.V. Spade, "Roger Swyneshed's Obligationes: Edition and Comments", *Archives d'histoire doctrinale et littéraire du moyen age* 44, 1977, 243-285. (Short title: *Swyneshed*).
 (6) See note 3 above. This treatise was probably written during the period 1335-1349: see Anon. Merton., p. 239.
 (7) Since I wrote this paper, *The Sophismata of Richard Kilvington*, edited and translated by Norman Kretzmann and Barbara Ensign Kretzmann, has appeared in two volumes: translation, introduction and commentary, Cambridge: University Press, 1990; edition, Oxford: University Press for the British Academy, 1990. However, I have drawn my material from Spade, op. cit., pp. 19-28, and from E. Stump, "Roger Swyneshed's Theory of Obligations", *Medioevo* 7, 1981, 143-153.
17. ———. 1994. "Obligationes Treatises: A Catalogue of Manuscripts, Editions and Studies." *Bulletin de Philosophie Médiévale* no. 36:118-147.
 "Obligationes treatises, which deal with the rules to be followed in a certain kind of logical disputation, still form perhaps the least wellunderstood part of medieval logic. Although a number of texts have been edited in recent years, and although various theses about the nature and purpose of obligational disputations have been put forward, we are unlikely to achieve a proper understanding of the issues until

the larger part of the surviving material has been edited and assessed. I have decided to publish the following catalogue of manuscripts, editions and studies in the hope that it will speed up this process of edition and assessment.

I am reasonably confident that my bibliographies of edited texts, studies and translations are complete and accurate. I am also reasonably confident that my bibliography of early printed editions is more-or-less complete and accurate. I have indicated those few cases in which I have not been able to see a book for myself. So far as medieval manuscripts are concerned, I am less confident, either of completeness or of accuracy. In the catalogue of manuscripts I have indicated whether or not I have seen the manuscript in whole or in part, but unfortunately some of the microfilms I have seen were virtually illegible, owing to their poor technical quality. In the catalogue of medieval authors, I have indicated what I know about current editorial projects. My own editions of John Tarteys, Paul of Venice and Ralph Strode have been completed, and I am now trying to come to grips with the series of obligationes treatises associated with Oxford and Cambridge. Needless to say, I shall be grateful for any comments on, corrections of, or additions to the lists which follow.

I have to thank those people who have already helped me with information and advice, including Louis J. Bataillon, Egbert P. Bos, Julian Deahl, Angel d'Ors, Sten Ebbesen, Gedeon Gal, Alfonso Maierù, John Murdoch, Paul Spade, and Rega Wood. I also owe a great debt of gratitude to the Killam Program of the Canada Council for awarding me the Kfilam Research Fellowship which enabled me to do much of the work recorded here.

The material is arranged under the following headings:

1. Catalogue of medieval authors.
2. Catalogue of manuscripts.
3. Early printed editions.
4. Edited texts.
5. Studies and translations." (pp. 118-119)

18. ———. 1994. "Les Manuels De Logique À L'université D'oxford Aux Xiv Et Xv Siècles." In *Manuels, Programmes De Cours Et Techniques D'enseignement Dans Les Universités Médiévales*, edited by Hamesse, Jacqueline, 351-370. Louvain-la-Neuve: Université Catholique de Louvain, Publications de l'Institut d'Etudes Médiévales.

"Quand j'ai commencé mes recherches pour cette communication, je me suis posé deux questions: Qu'est-ce qu'un manuel; et quels sont les rapports entre l'écrit et l'oral dans l'enseignement de la logique? A première vue, la notion de manuel semble tout à fait claire. Dans Le Petit Robert, on lit « Manuel: ouvrage didactique présentant, sous un format maniable, les notions essentielles d'une science, d'une technique, et les connaissances exigées par les programmes scolaires ». D'après cette définition, on peut exclure de cette catégorie les textes de base, les commentaires, et les monographies destinées aux autres professionnels. Malheureusement, quand on commence à étudier l'enseignement à la faculté des arts à Oxford, on constate très vite que les commentaires étaient utilisés de la même manière que les autres genres de littérature, et qu'il n'est pas possible de faire une distinction nette entre les monographies et les manuels. Qui plus est, on ne peut pas comprendre le contenu ni le but des manuels sans connaître les textes de base et les techniques d'enseignement.

Ma deuxième question n'a pas de réponse plus claire que la première, car il faut faire face à deux problèmes. Tout d'abord, il y a la tension entre l'écrit et l'oral dans l'enseignement lui-même. D'un côté, cet enseignement était carrément fondé sur l'étude des textes. On prenait les textes d'Aristote, on les lisait, on les commentait, on les apprenait par coeur (1). De l'autre côté, la dispute jouait un rôle central dans l'enseignement, et, par sa structure et son contenu, a stimulé la production d'une grande partie de la littérature médiévale sur la logique. Deuxièmement, il y a la question du rapport entre les textes écrits et les disputes ou les leçons. Est-ce que les textes dont nous disposons, surtout les collections de *sophismata*, reproduisent ce qui se passait dans la salle de classe, ou est-ce qu'on les a écrits pour aider la discussion de ce qui devait se faire dans la salle de classe?

Je vous ai donné ce bref aperçu de mes questions initiales afin de vous expliquer pourquoi je vais parler de l'enseignement en général, avant de me concentrer sur les manuels de logique dans l'acception stricte de ce terme. Dans la première partie de ma communication, je présenterai le programme d'études en logique tel qu'on le trouve à Oxford, mais aussi à Cambridge. Afin de vous donner quelques points de repère, j'expliquerai le contenu de la *Logica vetus* et la *Logica nova*, et j'examinerai les commentaires qu'on associe avec les universités anglaises. Ensuite, je parlerai des manuels de logique, et j'essayerai de montrer comment ils sont liés, et aux silences d'Aristote, et à la dispute comme méthode d'enseignement." (pp. 351-352)

(...)

Pour terminer, je voudrais revenir à mes deux premières questions: Qu'est-ce qu'un manuel? Quels sont les rapports entre l'écrit et l'oral dans l'enseignement de logique? Je pense que la réponse à la première question est tout simplement qu'un manuel est une oeuvre écrite, distincte des textes de base, que l'on utilise dans l'enseignement. Donc, un commentaire des textes de base peut constituer un manuel pour les étudiants, et un exemple d'un autre genre littéraire en logique peut être une monographie. Quant à la

deuxième question, il n'y a pas de réponse facile. Considérons les *sophismata* écrits. Quelques-uns, y compris les *Sophismata* de Kilvington et Heytesbury, étaient écrits comme tels (85); d'autres sont la *reportatio* ou la *determinatio* d'une dispute (86). Ce qu'on peut dire, c'est qu'il y a un grand nombre de *sophismata* que l'on trouve dans tous les textes d'un certain genre. Donc, s'il s'agissait là de *reportationes* de disputes au début, je pense que ces *sophismata* sont très vite devenus de purs exemples écrits, sans référence évidente à une dispute ayant réellement eu lieu (87)." (pp. 369-370)

(1) Comme Alain de Libera l'a très bien dit, « La philosophie s'enseigne aujourd'hui comme au Moyen Age: il a des *auctores* et des *textus*; bref, comme auparavant à Athènes, à Alexandrie et à Bagdad, on lit et on commente ». A. De Libera, *Penser au Moyen Age*, Paris, 1991, p. 144.

(85) E. Sylla, *The Oxford calculators*, dans *The Cambridge History of Later Medieval Philosophy*, éd. N. Kretmann, A. Kenny, et J. Pinborg, Cambridge, 1982, p. 546.

(86) Voir A. Maierù, *The sophism « Omnis propositio est vera vel falsa » by Henry Hopton (Pseudo-Heytesbury's « De Veritate et Falsitate Propositionis »)*, dans S. Read (éd.) *Sophisms in Medieval Logic and Grammar*, Dordrecht - Boston - London, 1993, p. 103-115.

(87) Je voudrais remercier Luce Giard d'avoir revu ma grammaire et beaucoup amélioré mon style.

19. ———. 1995. "Suarez on the Analogy of Being. Some Historical Background." *Vivarium* no. 33:50-75. "In his *Disputationes Metaphysicae*, published in 1597, the great Scholastic philosopher Francisco Suárez offered an account of the analogy of being that has long been the focus of attention. (1) However, little attempt has been made to situate his account historically, despite the wealth of references to earlier authors given by Suárez himself. (2) Certainly Suárez is seen as reacting to his predecessors, but only two of these, John Duns Scotus and Thomas de Vio, Cardinal Cajetan, are thought to be of any real importance. In relation to Cajetan, Suárez is criticized (or praised) for allowing the analogy of attribution to embrace both intrinsic and extrinsic denomination, and for refusing to assign the analogy of proportionality any role outside the area of metaphor. In relation to Scotus, Suárez is accused of following Scotus so closely in emphasizing the unity of the concept of being that little if any room is left for genuine analogy. Jean-Luc Marion, for instance, has claimed that Suárez tried to construct a new model of analogy which would allow an escape from univocity at the verbal level while admitting its conceptual presuppositions. (3) I intend to argue that Suárez is best read as part of a tradition which predates Cajetan with respect to the classification of types of analogy, and which to some extent predates Scotus in its insistence on a concept of being which is both one and analogical. I add "to some extent" because the fullest working out of the theory of a single analogical concept is found in later works which make full use of Scotus' s own arguments. (4) I shall draw most of my material from three fifteenth century philosophers and theologians, Johannes Capreolus (d. 1444), Dominic of Flanders (d. 1479) and Paulus Soncinas (Paolo Barbo da Soncina, d. 1495). (5) I shall also draw on the sixteenth-century Spaniard Domingo de Soto (d. 1560). (6) All of these authors were cited by Suárez, and all had a clear influence on him. My paper is divided into two parts. In Part I, I consider how different types of analogy were distinguished and described. In Part II, I turn to the discussion of *ens* itself, and the question of whether it is possible for humans to have a single, separate concept of being. Because my purpose is to place Suárez in his historical context, I shall not consider his actual arguments in any depth; nor shall I consider the philosophical difficulties inherent in his theories. (7)" (pp. 50-51)
- (1) For the text, see Francisco Suárez, *Disputationes Metaphysicae* in *Opera omnia*, vols. 25 and 26, Paris 1866; repr. Hildesheim 1965. I shall refer to these volumes as DM I and II. For discussion of Suárez, see John P. Doyle, 'Suárez, on the Analogy of Being', in: *The Modern Schoolman*, 46 (1969), 219-49, 323-41; and Walter Hoeres, Francis Suarez and the Teaching of John Duns Scotus on "Univocatio Entis" ,in: *John Duns Scotus, 1265-1965*, ed. John K. Ryan and Bernardine M. Bonansea, Washington, D.C. 1965, 263-90 (Studies in Philosophy and the History of Philosophy, 3).
- (2) Lyttkens does relate Suárez to Petrus Fonseca, who is certainly an important near contemporary source: see Hampus Lyttkens, *The Analogy between God and the World: An Investigation of Its Background and Interpretation of Its Use by Thomas of Aquino*, Uppsala 1953, 234-6. However, Fonseca is too close to Cajetan to serve my current purposes.
- (3) Jean-Luc Marion, *Sur la théologie blanche de Descartes*, Paris 1981, 82: "Loin de conclure à l'univocité, Suárez, va entreprendre de construire un nouveau modèle d'analogie, qui permette à la fois d'échapper verbalement à l'univocité, et d'en admettre les présupposés conceptuels".
- (4) Olivier Boulnois has recognized the importance of the absorption of Scotist arguments by Thomists: see Boulnois in Jean Duns Scot, *Sur la connaissance de Dieu et l'univocité de l'étant*, introduction, traduction et commentaire par Olivier Boulnois, Paris 1988, 36: "Mais l'univocité triomphe de façon plus éclatante encore à l'endroit où elle est le plus violemment combattue, dans l'école thomiste, car elle s'impose comme le fonds commun sur lequel s'engage la polémique. - Cajetan est ici un cas exemplaire, lui qui entendait défendre l'esprit thomiste contre l'enseignement scotiste", For some discussion of analogical concepts, see E. J. Ashworth, *Analogical Concepts: The Fourteenth-Century Background to Cajetan*, in: *Dialogue*, 31 (1992), 399-413.

- (5) For discussion of Capreolus, see Johannes Hegyi, *Die Bedeutung des Seins bei den klassischen Kommentatoren des heiligen Thomas von Aquin: Capreolus-Sylvester von Ferrara Cajetan*, Pullach bei München 1959. Hegyi has nothing to say about Capreolus on analogy. Some useful biographical material about Dominic of Flanders and Soncinas, as well as a compendium of passages about analogy, can be found in Michael Tavuzzi, Some Renaissance Thomist Divisions of Analogy, in: *Angelicum*, 70 (1993), 93-122.
- (6) For discussion of Soto, see E. J. Ashworth, Domingo de Soto (1494-1560) on Analogy and Equivocation, in: Ignacio Angelelli and Maria Cerezo (eds.), *Proceedings of the Third Pamplona Conference on the History of Logic*, New York-Berlin (Walter deGruyter), forthcoming [1996].
- (7) For these matters, the reader can safely be referred to the two articles mentioned in note 1.
20. ———. 1995. "Late Scholastic Philosophy. Introduction." *Vivarium*:1-8.
- "This issue of *Vivarium* is devoted to late scholastic philosophy, by which I understand a type of philosophy that coexisted with humanism, Renaissance philosophy, and early modern philosophy roughly from the late fifteenth to the late seventeenth century.(1) I shall not attempt to characterize early modern philosophy, other than by pointing out that Descartes's *Meditations* and Locke's *Essay concerning human understanding* may be taken as typical works, but a few remarks about humanism and Renaissance philosophy will help to indicate the types of contrast I wish to draw. So far as humanism is concerned, I follow Kristeller in seeing it as primarily "a cultural and educational program which emphasized and developed an important but limited area of studies." (2) The studies referred to included grammar, rhetoric, poetry, history, and moral philosophy, as opposed to the strictly philosophical disciplines of logic, natural philosophy, and metaphysics, thought here was obviously an overlap in the case of moral philosophy." (p. 1)
- (1) For slightly different characterizations, see J. Trentman, 'Scholasticism in the seventeenth century', in: N. Kretzmann, A. Kenny, J. Pinborg (eds.), *The Cambridge History of Later Medieval Philosophy*, Cambridge 1982, 818; and E. Keßler, 'The intellectualive soul', in: C.B. Schmitt and Q. Skinner (eds.), *The Cambridge History of Renaissance Philosophy*, Cambridge 2 P.O. Kristeller, 1988, 507.
- (2) P.O. Kristeller, *Renaissance Thought and Its Sources*, ed. M. Mooney, New York 1979, 22.
21. ———. 1995. "La Doctrine De L'analogie Selon Quelques Logiciens Jésuites." In *Les Jésuites À La Renaissance. Système Éducatif Et Production Du Savoir*, edited by Giard, Luce, 107-126. Paris: Presses universitaires de France.
- Traduction de Lucie Giard.
- "Je voudrais présenter, sur l'exemple de quelques auteurs de la Compagnie, la doctrine logique de l'analogie dont j'ai entrepris l'histoire du XIII^e à la fin du XVI^e siècle (1). Jusqu'ici on s'était en général intéressé à la question de l'analogie telle qu'elle se présente chez les grands métaphysiciens, notamment Thomas d'Aquin, Jean Duns Scot et Francisco Suárez, auxquels on ajoutait, pour son court traité *De nominum analogia* (1498), un seul logicien, Cajetan (Thomas de Vio) (2). Si ces choix textuels sont compréhensibles, je les crois pourtant trompeurs. D'un côté, l'importance donnée aux arguments de Duns Scot en faveur de l'univocité de l'être a masqué l'existence d'une longue tradition qui acceptait que des termes analogiques correspondent à un seul concept, lui-même analogique. De l'autre, on a présenté Cajetan comme s'il donnait à la fois un résumé des doctrines médiévales et une interprétation de Thomas d'Aquin, restée pure de tout développement postérieur à l'Aquinat, en dépit d'un intervalle de plus de deux siècles entre lui et Cajetan. Je suis persuadée qu'en lisant les logiciens de plus près on aboutira à un jugement plus équilibré sur les positions de Cajetan et de Suárez par rapport à leurs prédécesseurs et qu'ainsi on pourra même mieux comprendre Thomas d'Aquin.
- Dans ce chapitre, mon objectif sera limité. Je partirai de la classification des types d'analogie proposée par Francisco de Toledo (1532-1596), un logicien jésuite, et j'en expliquerai les origines à partir des théories médiévales de l'équivocité. Ensuite, en examinant de plus près l'analogie de proportionnalité proprement dite, je comparerai les thèses de Toledo sur ce point à celles d'autres jésuites, notamment Pedro da Fonseca (1528-1599) et Antonio Rubio (1548-1615). Je voudrais déterminer comment les logiciens de la Compagnie ont répondu aux demandes de Cajetan. Sans qu'il soit discuté véritablement de Suárez, ce qui suit sera directement applicable à l'intelligence de son rejet de l'analogie de proportionnalité proprement dite au bénéfice de l'analogie d'attribution." (pp. 107-108)
- (1) On trouvera des bibliographies et des informations sur ce thème dans une série d'études que je lui ai consacrées: Signification and Modes of Signifying in 13th c. Logic: A Preface to Aquinas on Analogy, *Medieval Philosophy and Theology*, 1, 1991, p. 39-67; Analogy and Equivocation in 13th c. Logic: Aquinas in Context, *Mediaeval Studies*, 54, 1992, p. 94-135; Equivocation and Analogy in 14th c. Logic: Ockham, Burley and Buridan, in B. Mojsisch et O. Pluta (eds), *Historia Philosophiae Medii Aevi. Studien zur Geschichte der Philosophie des Mittelalters*, Amsterdam, 1991, t. 1, p. 23-43; Analogical Concepts: The 14th c. Background to Cajetan, *Dialogue*, 31, 1992, pp. 399-413.
- (2) Bruno Pinchard, *Métaphysique et sémantique. Autour de Cajetan (...)*, Paris, 1987.
22. ———. 1996. "Analogy, Univocation, and Equivocation in Some Early Fourteenth-Century Authors." In *Aristotle in Britain During the Middle Ages. Proceedings of the International Conference at Cambridge*

8-11 April 1994 Organized by the Société Internationale Pour L'etude De La Philosophie Médiévale, edited by Marenbon, John, 233-247. Turnhout: Brepols.

"In this paper I am going to consider how the definitions of equivocal and univocal terms from Aristotle's *Categories*, together with other texts from his *Physics* and *Metaphysics* were employed by some logicians and theologians in the early fourteenth century. My main concern is with the theory of analogy, but I shall also be concerned with the relationship between words, concepts, and things.

To begin, we need to consider certain standard features of the late thirteenth-century doctrine of signification (1). One important assumption is that words are endowed with signification by an original act of imposition. However this act occurs, each word is endowed not only with its central signification but also with its grammatical features or modes of signifying as a unit, independently of and prior to any sentential context. We can note in passing that such an assumption is not easy to reconcile with the thought that language is flexible, and that one and the same word can have different shades of meaning in different contexts without thereby becoming a different lexical item. A second assumption, closely related to the first, is that words fall into specifiable groups. In particular, they are univocal or equivocal; and although equivocal words have to have univocal uses, it was certainly not thought to be the case that every univocal word could have an equivocal use. Third, there is the assumption, based on *De Interpretatione* 16 a3, that words signify concepts primarily and through them things. As we shall see, the precise nature of the concepts signified by analogical terms came to loom large in discussions of analogy. In order to understand how and why this was so, we need to look at the opening words of Aristotle's *Categories*. Following Boethius's translation, these are (2):

Those that have only a name in common but a different *substantiae ratio* in accordance with that name are said to be equivocals, e.g., 'animal' <in relation to> man and what is painted [...]

Those that have both a name in common and the same *substantiae ratio* in accordance with that name are said to be univocals, e.g., 'animal' <in relation to> man, ox.

The meaning assigned to *ratio substantiae* is crucial to the understanding of these definitions. It was agreed that the *ratio substantiae* of a name included all that in some way expressed the essence or quiddity of a substance or accident; but when further clarification was sought, difficulties arose. In the thirteenth century there had been disagreement between those who saw the *ratio substantiae* as an Avicennian nature and those who, like Aquinas, identified it with the inner word (3). In the fourteenth century, when the *ratio substantiae* was normally identified as a concept (4), this disagreement came to be expressed in terms of the difference between the formal concept, or the act of knowing, and the so-called objective concept, or the object insofar as it is known and apprehended by the formal concept (5). Whatever the vocabulary used, there was a second disagreement, more important to my present purposes, which concerned the number and type of the concepts, natures, or rationes involved. Given Aristotle's initial definition, there is no problem: a univocal term is associated with one concept, nature or ratio; an equivocal term with more than one. However, this simple dichotomy was complicated by the claim that equivocation can be subdivided, and by the relationship between these subdivisions and analogy." (pp. 233-235)

(...)

"To conclude, I would like to remark that one result of these arguments for the equivocality of the term 'ens' is that the burden of analogy cannot be carried by single words or single concepts. A term cannot be used to express priority and posteriority and attribution, and yet these notions are expressed in language. The obvious solution is to give up the attempt to categorize terms as equivocal, univocal or analogical, and to look instead at how they behave in different contexts and in relation to different sentential structures (41). Unfortunately, this solution seems to have been incompatible with medieval approaches to language." (pp. 246-247)

(1) For discussion and references, see E.J. Ashworth, « Signification and Modes of Signifying in Thirteenth-Century Logic : A Preface to Aquinas on Analogy », in *Medieval Philosophy and Theology*, 1 (1991), pp. 39-67.

(2) Aristotle, *Categories*, I a1-15 (Aristoteles Latinus, I, 1-5). *Categoriae vel Praedicamenta*, ed. L. Minio-Paluello, Leiden, 1961, p. 5 : « Aequivoca dicuntur quorum nomen solum commune est, secundum nomen vero substantiae ratio diverse, ut animal homo et quod pingitur. [...] Univoca vero dicuntur quorum et nomen commune est et secundum nomen eadem substantiae ratio, ut animal homo atque bos [...]».

(3) For discussion, see E.J. Ashworth, « Analogy and Equivocation in Thirteenth-Century Logic: Aquinas in Context », in *Mediaeval Studies*, 54 (1992), p. 105.

(4) See, e.g., William of Ockham, *Summa Logicae*, eds. P. Boehner, G. Gál and S. Brown (*Opera Philosophica*, I), N.Y., St. Bonaventure, 1974, p. 45; William of Ockham, *Expositio in librum Praedicamentorum Aristotelis*, ed. G. Gál (*Opera Philosophica*, II), N.Y., St. Bonaventure, 1978, p. 143, p. 144 ; John Buridan, *Iohannes Buridanus. Quaestiones in Praedicamenta*, ed. J. Schneider, München, 1983, p. 4.

(5) For discussion, see E.J. Ashworth, « Analogical Concepts: The Fourteenth-Century Background to Cajetan », in *Dialogue*, 31 (1992), pp. 403-404.

(41) See J. F. Ross, *Understanding Analogy*, Cambridge, 1981.

23. ———. 1996. "Domingo De Soto (1494-1560) on Analogy and Equivocation." In *Studies on the History of Logic. Proceedings of the Third Symposium on the History of Logic*, edited by Angelelli, Ignacio and Cerezo, Maria, 117-132. Berlin: Walter de Gruyter.

"In 1543 the Spanish logician, Domingo de Soto, published a commentary on Aristotle's *Categories*. (1) As one might expect, Soto offers a detailed discussion of the opening lines in which Aristotle presents a definition of equivocal terms, but his discussion also includes an analysis of analogical terms, together with an account of the conceptual correlates of such terms. The purpose of this paper is to show how Soto's analysis fits into a long tradition of commentary on the *Categories*. In particular, I wish to show that although Soto betrays the influence of Thomas de Vio, Cardinal Cajetan, whose short book, *On the Analogy of Names*, was published in 1498, it is a great mistake to suppose that the history of analogy from the thirteenth to the sixteenth century should be read through the eyes of Cajetan. At the same time, I hope to throw some light on the background to Suarez, for it seems to me that there is a close relationship between the doctrines found in Soto and those developed by Suarez.

My paper is divided into three parts. In the first part, I shall look at the notion of equivocation and how it came to be related to analogy. In the second part, I shall describe Soto's divisions of analogy and how they are related to those of Cajetan. In the third part, I shall discuss what Soto had to say about the imposition of analogical terms and about their relationship to concepts and natures." (p. 117)

(...)

"3. Analogy, Imposition, and Concepts.

The mention of concepts brings us to the last section of my discussion, in which I shall consider Soto's explanation of the way analogical terms were related to conventional signification on the one hand, and to concepts on the other. For Soto, as for other medieval and post-medieval logicians, spoken words were endowed with their signification by arbitrary imposition. Some logicians, including the sixteenth-century Spaniard Antonio Coronel, argued that deliberate equivocation involves two acts of imposition, (39) but Soto followed Dominic of Flanders in affirming that only one act of imposition is involved for analogical terms. (40) In the case of such analogical terms as 'homo', used of painted men, 'ridere', used of fields, and 'sanum', used of urine, there is a transference of signification, and what is imposed to signify one thing, comes to signify another. In the case of 'ens', however, there is no transference. This word was originally imposed to signify *id quod est*, and so it signifies substance and accidents, God and creatures, without any need for a specially extended use. (p. 124)

(...)

"In his *Categories* commentary, Soto was more forthright. After giving a lengthy account of Scotus's arguments for the univocity of the word 'ens', he put forward four theses. (46) The first thesis was that there is one formal concept of being, a view which Soto supported both by reference to Scotus's arguments and by extra reasons of his own. One of these had to do with imposition. Whoever first imposed the word 'ens' could not have been thinking specifically of God or of creatures, of substance or of accidents, any more than do those Latin-speakers who are ignorant of philosophy. So far as the first thesis was concerned, Soto saw no difference between Scotus and Aquinas. His second thesis postulated just one objective concept. Even though many Thomists deny this, he said, 'ens' signifies one formal ratio in the object, abstracted by reason from substance and accidents. Nonetheless, in his third thesis he stated that 'ens' signifies substance and accidents not univocally but analogically. This is because the ratio is not found simply but *proportionabiliter* in its significates, principally in one and through attribution in the others. In his fourth thesis, Soto turned to God and creatures, stating that 'ens' is also said analogically of them, even though the case is not strictly comparable to that of substance and accidents. Indeed, he remarked, we can understand why Aquinas said different things in different places if we realize that theological analogy, as Alain de Libera has called it, (47) involves both similarity to and difference from philosophical analogy. On the one hand, there is a similarity to analogy because of the dependence relation between God and creatures. This is why Aquinas, in *Summa theologiae* Ia q.13 a.5, compared 'ens' said of God and creatures with 'sanum'. As urine is a sign of an animal's health, so the perfections of creatures are nothing other than expressions of perfections in God. On the other hand, there is a difference from analogy in that ens is said simpliciter of both God and creatures, and this is why in *De Veritate* q.2 a. 11 Aquinas said that there was an analogy of proportionality between God and creatures. As God exists through the esse formally in him, so do creatures exist through the esse formally in them. In his conclusion, and without saying more about proportionality, Soto remarked that the analogy of being between God and creatures is called univocation because it is nearer to univocation than is the analogy of being between substance and accidents.

4. Conclusion.

Soto's four theses point the way to the subtle and intensive analysis of ens given by Suarez in his *Disputationes Metaphysicae*. While Suarez's doctrine is not precisely that of Soto, there are clear parallels between the two great Spaniards, and Suarez cites Soto's commentary on the *Categories* a number of times. A more precise account of how Suarez made use of Soto's arguments, and how Soto ranks in comparison to Suarez's other sources will, however, have to await another occasion."

(1) I shall use the facsimile edition of the 1587 edition: Domingo de Soto, *In Praedicamentorum*, in Soto, *In Porphyrii Isagogen, Aristotelis Categorias, librosque de Demonstratione Absolutissima Commentaria*,

Venice 1587 /reprinted 1967 Frankfurt: Minerva).

(39) Antonius Coronel, *Magistri Antonii coronel Secobiensis super librum Predicamentorum Aristotelis secundum utriusque vie realium scilicet et nominalium principia commentaria*. Parrhisii. 1518, fol. ii va.

(40) Dominic of Flanders, *In D. Thomae Aquinatis Commentaria super Libres Posteriorum Analyticorum Aristotelis, nec non et in eiusdem Fallaciarum opus. Quaestiones Perutiles, Pauli quoque Soncinatis eiusdem ordinis, lucida et subtilis Expositio in Porphyrii Isagogen, et Aristotelis Praedicamenta, cum suis quaestionibus in unaquaque expositione Militer disputatis*. Venetiis 1600, p. 177B; 1499 sig. i 3vb. On sig. i 3va he writes "analogum debet significare unam principaliter et aliud secundaria, una impositione ex parte ipsius imponentis." (I have corrected the text slightly.) Soto 1587, p. 119a-b.

(46) Soto 1587, pp. 129a-133a.

(47) Alain de Libera, *Albert le Grand et la philosophie*, Paris: J. Vrin 1990, p. 96.

24. ———. 1996. "Autour Des Obligations De Roger Swyneshed: La Nova Responsio." *Etudes Philosophiques* (3):341-360.

"D'après l'opinion reçue, les *Obligations* de Roger Swyneshed, redigées entre 1330 et 1335, signalent deux nouvelles directions dans les débats sur les régies qu'on est obligé de suivre dans un certain type de dispute logique, la dispute obligationnelle (1). D'un côté, ils nous offrent une analyse des diverses formes de réflexivité beaucoup plus approfondie que celle de Gauthier Burley, dont les *Obligations* de 1302 sont caractéristiques de la théorie standard (2). De l'autre côté, ils donnent une *nova responsio* sous la forme de deux règles assez surprenantes du point de vue de la logique: 1 /On peut nier une proposition conjonctive après avoir concédé ses deux parties. 2 /On peut concéder une proposition disjonctive avant de nier ses deux parties (3).

Récemment, Angel D'Ors, tout en acceptant l'originalité de Swyneshed à propos des formes de réflexivité, s'est proposé de détruire le mythe de la *nova responsio* de Swyneshed (4). Il prétend que, malgré les apparences, Swyneshed suivait Burley, et qu'il n'y avait qu'une théorie des obligations durant le XIV^e siècle (5).

D'Ors est surtout motivé par son incapacité de comprendre pourquoi Swyneshed aurait présenté une *nova responsio* aussi dépourvue de sens logique (6). Donc, au lieu de chercher une explication des deux règles, il cherche plutôt une explication du fait qu'on attribue ces règles à Swyneshed. Dans ses récents articles, il se concentre sur deux textes auxquels Spade, entre autres, a fait appel afin d'expliquer Swyneshed. Tout d'abord, il prétend que les *Obligations* de Richard Lavenham (mort après 1399) (7) ont été mal comprises par ses récents lecteurs. Au lieu de suivre la supposée *nova responsio* de Swyneshed, Lavenham s'intéresse à la différence entre le dialogue d'une dispute obligationnelle et le métadialogue dans lequel on discute les raisons pour lesquelles les réponses étaient ou bonnes ou mauvaises, et les règles auxquelles on aurait dû faire appel (8). En ce qui concerne Robert Fland, un autre Anglais qui a écrit entre 1335 et 1370 (9), D'Ors et son collaborateur, Miguel Garcia-Clavel, admettent qu'il parle d'une *nova responsio*, mais ils prétendent que Fland a inventé cette réponse à cause d'un malentendu, et que personne n'a jamais adopté cette réponse (10). Tout comme les lecteurs de Lavenham, Fland n'a pas réussi à comprendre que Swyneshed parle à deux niveaux, le niveau du dialogue de base, et le niveau du métadialogue.

L'hypothèse de la nature mythique de la *nova responsio* est audacieuse et provocatrice. Malheureusement, quand on la regarde de plus près, elle se révèle fautive, le fruit d'un malentendu de la part de D'Ors lui-même (11). Dans cet article, je vais expliquer pourquoi Fland n'a rien inventé, et pourquoi il est possible de considérer Lavenham comme un disciple de Swyneshed.

Mon article se divise en quatre parties. Premièrement, j'aborderai le problème des textes eux-mêmes. Je suis entièrement d'accord avec D'Ors quand il dit que le texte de Fland (qui existe dans un seul manuscrit) est souvent peu fiable, et qu'il y a plusieurs façons de lire le texte de Lavenham. En général, les textes qui traitent des *obligationes* ne sont pas faciles à comprendre. Il y a trop de détails que nous ignorons; les auteurs écrivaient trop vite, sans donner des explications en profondeur; les copistes y ont ajouté trop d'erreurs. C'est précisément à cause de ces problèmes qu'il faut s'appuyer sur une base textuelle aussi étendue que possible, sans se limiter à deux ou trois œuvres. Je montrerai qu'il y avait d'autres auteurs que Fland et Lavenham qui parlaient d'une *nova responsio*, et qui discutaient des deux règles de Swyneshed. Deuxièmement, je donnerai un bref aperçu de la théorie standard des *obligationes*, et je ferai une comparaison entre cette théorie et celle de Swyneshed telle qu'elle est présentée par au moins dix auteurs, à part Fland et Lavenham. En troisième lieu, j'examinerai de plus près les définitions alternatives de la notion clef de propositions non pertinentes, et les différentes règles qui gouvernaient les réponses à ces propositions. Pour terminer, j'expliquerai le rapport entre les règles de Swyneshed et la théorie d'inférence que nous offre un auteur anonyme. C'est ici que l'on trouve enfin le raisonnement qui mena Swyneshed à adopter sa *nova responsio*." (pp. 341-343)

(...)

"Conclusion.

En somme, il faut accepter l'opinion reçue à propos de Swyneshed. Il y avait une *nova responsio* qui se basait sur une théorie d'inférence très restreinte. Malheureusement pour ceux qui aimeraient interpréter les *obligationes* en fonction des contre factuels ou des mondes possibles, cette théorie restreinte a ses

racines dans un manque de compréhension des arguments que l'on retrouve chez Burley. Les enjeux étaient moins intéressants qu'on aurait voulu croire." (pp. 359-360)

(1) Paul Vincent Spade, Roger Swyneshed's *Obligationes*: Edition and Comments, *Archives d'histoire doctrinale et littéraire du Moyen Age*, 44 (1977), p. 243-285. Pour une bibliographie complète, voir E. J. Ashworth, *Obligationes* Treatises: A Catalogue of Manuscripts, Editions and Studies, *Bulletin de philosophie médiévale*, 36 (1994), p. 118-147.

(2) Romuald Green, *The Logical Treatise «De Obligationibus»: An Introduction with Critical Texts of William of Sherwood and Walter Burley*, dissertation présentée pour l'obtention du grade de docteur en philosophie, Université de Louvain, 1963.

(3) Swyneshed, p. 257 §32: « Propter concessionem partium copulativae non est copulativa concedenda nec propter concessionem disjunctivae est aliqua pars ejus concedenda ».

(4) Angel D'Ors, Sobre las *Obligationes* de Richard Lavenham, *Archives d'histoire doctrinale et littéraire du Moyen Age*, 58 (1991), p. 253-278 (pour l'opinion reçue, voir p. 255); Angel D'Ors, Sortes non currit vel Sortes movetur (Roger Swyneshed, *Obligationes*, § 137-138), *Archives d'histoire doctrinale et littéraire du Moyen Age*, 60 (1993), p. 165-172 (pour l'opinion reçue, voir p. 165); Angel d'Ors y Manuel García-Clavel, Sobre las *Obligationes* de Robert Fland, Antiqua et nova responsio, *Revista de Filosofía*, 7 (1994), p. 51-88 (pour l'opinion reçue, voir p. 51).

(5) Ici, je laisse de côté les problèmes présentés par les *Sophismata* de Richard Kilvington et le texte anonyme de Merton College ms. 306. Pour discussion et références, voir Mikko Yrjönsuuri, *Obligationes*, 14th Century Logic of Disputational Duties, *Acta Philosophica Fennica*, vol. 55 (Helsinki, Societas Philosophica Fennica, 1994), un excellent guide aux *Obligationes* jusqu'en 1335. Yrjönsuuri pense que le texte anonyme date de 1321 environ, et que son auteur critique Burley plutôt que Swyneshed: voir p. 77.

(6) D'Ors y García-Clavel, op. cit., p. 55: «... la nova responsio en la forma en que Fland nos la presenta: no parece obedecer a ninguna razón, no parece que pueda encontrarse una razón que explique tal propuesta de cambio », cf. p. 56.

(7) Paul Vincent Spade, *Richard Lavenham's Obligationes*. (Edition and Comments by Paul Vincent Spade), *Rivista critica di storia della filosofia*, 33 (1978), p. 225-242.

(8) D'Ors, Sobre las *Obligationes* de Richard Lavenham, p. 274-278; D'Ors y García-Clavel, op. cit., p. 84-85, 87.

(9) Paul Vincent Spade, Robert Fland's *Obligationes*. An Edition, *Mediaeval Studies*, 42 (1980), p. 41-60.

(10) D'Ors y García-Clavel, op. cit., p. 53: «... la obra de Fland no puede servir como guía para la interpretación del auténtico sentido de la doctrina de Swyneshed ; o lo que es lo mismo, que la nova responsio de la que nos habla Fland, como tal, no ha existido nunca, es decir, que no se corresponde con ninguna doctrina que alguien, sea éste quien sea, haya alguna vez realmente defendido, sino que es simplemente el fruto de una mala interpretación de la doctrina cuyo mis ilustre representante es Swyneshed», cf. p. 69.

(11) Bien que je ne sois pas d'accord avec D'Ors en ce qui concerne Swyneshed, j'ai néanmoins beaucoup appris de lui et de ses œuvres.

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