

History of Logic from Aristotle to Gödel

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Writings of E. J. Ashworth on the History of Logic. Second Part: Articles from 1977 to 1988

The bibliography is composed of four parts:

- [First: Books authored and edited by E. Jennifer Ashworth; Articles from 1967 to 1976](#)
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ARTICLES

1. Ashworth, Earline Jennifer. 1977. "Thomas Bricot (D. 1516) and the Liar Paradox." *Journal of the History of Philosophy* no. 15:267-280.
Reprinted as essay XI in: *Studies in Post-Medieval Semantics*.
"Preliminary Remarks.
No one interested in the history of the Liar Paradox will gain a just appreciation of the variety and sophistication of the solutions that were offered unless he pays attention to the logicians working at the University of Paris at the end of the fifteenth century and the beginning of the sixteenth.(1) The study of semantic paradoxes, known as *insolubilia*, formed a significant part of the first-year logic curriculum, which was of course the curriculum for all arts students; and those who taught the subject by no means confined themselves to a repetition of earlier views. Although Ockham, Buridan, Paul of Venice and Peter of Ailly certainly were read and discussed, original work was also produced. One of the earliest and most influential of these original treatises was written by Thomas Bricot. First published in 1491, it received its eighth edition in 1511, (3) and was still being read as late as 1529 when Domingo de Soto discussed it in his own work on semantic paradoxes. (4)
(...)
The only original self-contained works of Bricot that I know are his *Tractatus Insolubilium* and his *Tractatus Obligationum*, which were always printed together. In this paper I intend to discuss only the *Tractatus Insolubilium*.
The book's organization is worthy of some preliminary comment. Its main division is into three *Questiones*, each phrased in a similar manner. In the first *Questio* Bricot inquires whether there is a way of saving the possibilities, impossibilities, contingencies, necessities, truths and falsities of self-referential propositions; the second and third *Questiones* ask simply whether there is another Way of saving, that is, justifying, the attribution of these modalities. The first *Questio* contains what is apparently Bricot's own

solution to the problem. In the second *Questio* he discusses the solution that stems from Ockham, and the solution derived from Peter of Ailly is covered in the third. Each *Questio* has exactly the same internal organization. At the beginning, Bricot poses five main questions concerning the proposed solution. He then divides the subsequent discussion into three sections: the first, headed *notabilia*, setting out the main principles of the proposed solution; the second, *conclusiones*, giving a brief list of conclusions; and the third, *dubia*, taking up a series of problems arising from the proposed solution. Each doubt is aimed at one of the *notabilia* and gives rise to a series of arguments against the proposed solution. Once these have been stated, they are refuted one by one.

After all the doubts have been dealt with, Bricot offers replies to the five main questions posed at the beginning of the section. At no point are the separate solutions compared to one another, though arguments drawn from one view may be used in the critical discussion of another view; and at no point does he actually claim that the first solution is his own and hence to be preferred. Bricot is more forthright in a note on *insolubilia* he added to George of Brussels's commentary on *De Sophisticis Elenchis*, where he says that the solution in question is "omnium probabilissimus." (6) The first solution is explicitly attributed to Bricot by de Soto,(7) who himself studied at Paris, and there is also indirect evidence to support de Soto's claim. The first solution does not figure among the fifteen solutions described by Paul of Venice in his *Logica Magna* (8) yet it does appear in the works of Parisian logicians contemporary with or junior to Bricot. For example, Tartaretus discussed it in a treatise on *insolubilia* first published in 1494, (9) and it was also discussed by John Major and David Cranston.(10) Unfortunately these authors followed the normal practice of mentioning names only in a few outstanding cases. The German Trutvetter did both recommend Bricot by name and describe the view I attribute to him, but without specifically linking the two.(11)"

(2) For further details and a bibliography, see E. J. Ashworth, *Language and Logic in the Post-Medieval Period* (Dordrecht Holland and Boston: Reidel, 1974). For the medieval background, see P. V. Spade, *The Mediaeval Liar: A Catalogue of the Insolubilia-Literature* (Toronto: Pontifical Institute of Mediaeval Studies, 1975).

(3) *Tractatus Insoiubilium* (Paris, 1491; reprinted, Paris, 1492; Paris, 1494; Lyons, 1495; Lyons, 1496; Paris, 1498; Paris, 1504; Paris, 1511). I have examined copies of each printing and have prepared an edition of the text, on which I base my discussion.

(4) *Opusculum Insolubilium*, in *Introductiones Dialectice* (Burgis, 1529), fol. cxliii-cxlix vo.

(5) I draw my material from H. Élie, "Quelques maîtres de l'université de Paris vers l'an 1500," *Archives d'histoire doctrinale et littéraire du moyen âge* 18 (1950-1951): 197-200; and A. Renaudet, *Préréforme et humanisme à Paris pendant les premières guerres d'Italie 1494-1517* (Paris, 1916), pp. 96 ff.

(6) George of Brussels, *Expositio in logicam Aristotelis: una cum Magistri Thome bricoti textu de novo inserto nec non cum eiusdem questionibus in cuiusvis fine libri additis* (Lugduni, 1504), fol. cclxxv.

(7) *Opusculum Insolubilium*, fols. cxl vo and cxlvii.

(8) (Venetiis, 1499), fols. 192ff.

(9) Petrus Tartaretus, *Sumularum Petri de hispania explanationes* (Friburgensi, 1494), sign. k v-1 i vo.

(10) John Major, *Insolubilia* (Parrhisiis, 1516); David Cranston, *Tractatus insolubilium et obligationum* [Paris, c. 1512].

(11) Jodocus Trutvetter, *Summule totius logice* (Erphurdie, 1501), sign. UUUvi vo-XXX i vo. Trutvetter's reference is to Bricot's note in George of Brussels, cclxxiii"vo ff.

2. ———. 1977. "Chimeras and Imaginary Objects: A Study in the Post-Medieval Theory of Signification." *Vivarium* no. 15:57-79.

Reprinted as essay III in: *Studies in Post-Medieval Semantics*.

"I. Prefatory Note.

In the following paper I shall be discussing a particular problem of meaning and reference as it was formulated by a group of logicians who studied and/or taught at the University of Paris in the early sixteenth century.(1) In alphabetical order they are: Johannes Celaya (d. 1558) who was in Paris from 1500 or 1505 until 1524; Ferdinandus de Enzinas (d. 1528) who was in Paris from about 15x8 until 1522; John Major (1469-1550) who was in Paris from 1492 or 1493 until 1517 and again from 1525 to 1531; William Manderston who taught at Sainte-Barbe from about 1514 and returned to Scotland in or shortly before 1530; Juan Martinez Siliceo (1486-1556) who left Paris in about 1516; Hieronymus Pardo (d. 1502 or 1505); Antonius f Silvester who taught at Montaigu ; and Domingo de Soto (1494-1560) who left Paris in 1519. I shall also discuss the work of the Spaniard Augustinus Sbarroya and the Germans Jodocus Trutvetter (d. 1519) and Johannes Eckius (1486-1543). Both Sbarroya and Eckius were well acquainted with the works of the Paris-trained logicians. Further material is drawn from the fifteenth-century Johannes Dorp and the anonymous author of *Commentum emendatum et correctum in primum et quartum tractatus Petri Hispani*. The work of the medieval authors Robert Holkot, John Buridan and Marsilius of Inghen will appear as it was described by early sixteenth-century authors.

II. *Introduction*.

One of the main features of late medieval semantics was the attempt to formulate a unified theory of the reference of general terms. It is true that this attempt was not explicitly discussed, but many of the

problems which arose in the context of such topics as signification, supposition, ampliation, appellation, and the logical relations between sentences clearly owed their existence to the assumption that general terms always referred to spatio-temporal individuals; and in the solutions offered to these problems, much ingenuity was employed to ensure that this assumption was modified as little as possible, if at all. I have already shown in two earlier papers how some logicians dealt with reference in the modal context "For riding is required a horse" and in the intentional context "I promise you a horse." (2) At the end of this paper, I shall discuss another intentional sentence, "A man is imaginarily an ass", which was thought to present a difficulty. However, it would be a mistake to think that context was the only complicating factor, for there were general terms which placed an obstacle in the path of those seeking a unified theory, not only by virtue of the contexts in which they appeared, but by virtue of their meaning. The favourite example of such terms was "chimera", but "irrational man", "braying man", and "golden mountain" also served as illustrations. The problem was not merely that they failed to refer, but rather that they were thought to be incapable of referring because the objects which they apparently denoted were impossible just as, for the modern reader, a round square is impossible. The main purpose of the present paper is to explore the way in which the problem was presented, and some of the solutions which were offered." (pp. 57-58)

(...)

"VI. Conclusion.

This survey of the way some early sixteenth century logicians treated the problem of chimeras reveals very clearly the alternatives faced by any philosopher who wants to give a unified theory of the reference of general terms. If one adopts a purely extensionalist interpretation of propositions, and allows only ordinary spatio-temporal entities into one's universe of discourse, then one is faced with the choice between rejecting as false many sentences, such as "I imagine a chimera", which one would wish to accept as true, and accepting as true many sentences, such as "Chimera signifies an ass", which one would wish to reject as false. If one extends one's universe of discourse to include imaginary objects which are not just ordinary objects regarded in a certain way, one faces grave ontological problems. On the other hand, to appeal to appellation theory is to acknowledge that no purely extensionalist interpretation of all propositions can be given and that no unified theory of reference is possible; and to adopt Holkot's solution is to admit that sentences which seem to be structurally similar are not in fact similar and that some sentences which appear to be about objects in the world are in fact about the contents of our own minds. On the whole my sympathies lie with those who abandoned the belief that both general terms and subject-object sentences can be given a uniform treatment, but I have great respect for the subtlety and sophistication with which arguments for a uniform treatment were presented. Post-medieval logicians were by no means mindless followers of their medieval predecessors." (p. 79)

(2) E. J. Ashworth, 'For Riding is Required a Horse': A Problem of Meaning and Reference in Late Fifteenth and Early Sixteenth Century Logic, in: *Vivarium* 12 (1974), 94-123; E. J. Ashworth, 'I Promise You a Horse': A Second Problem of Meaning and Reference in Late Fifteenth and Early Sixteenth Century Logic, in: *Vivarium* 14 (1976), 62-79, 139-155." (pp. 57-58)

3. ———. 1977. "An Early Fifteenth Century Discussion of Infinite Sets." *Notre Dame Journal of Formal Logic* no. 18:232-234.

"In the opening years of the fifteenth century, or perhaps a little earlier, John Dorp (1) wrote a commentary on Buridan's *Compendium Totius Logicae* (2) and it is here that one finds a discussion of infinite sets which is not only quite unexpected (3) but which suggests that other thinkers of that period were interested in the same topic.

The question of infinite sets arose in the context of the theory of reference. Medieval logicians assumed that affirmative sentences were true only if the subject and object terms had reference, but this assumption conflicted with their intuitions about such sentences as "I imagine a chimera" and "The word 'chimera' refers to a chimera". These sentences seem to be true, but "chimera" cannot refer to actual or possible chimeras, since a chimera is an impossible object, just as a round square is an impossible object. The question then arose of how such sentences were to be treated, and one obvious answer was to postulate a class of imaginary objects which included impossible objects and to which reference could be made in intentional contexts. (4) In his discussion of this answer, Dorp presented several arguments against the claim that one could refer to impossible objects." (p. 232)

(...)

"Historians of logic must always be wary of taking isolated passages out of context and reading modern developments into them. However, in the case of Dorp there do seem to be good grounds for claiming that he was aware of something describable as a non-denumerably infinite set. It is a great pity that he does not give us more detail about the reasoning that lay behind his assertions, but it is to be hoped that further research into late fourteenth and early fifteenth century mathematics will reveal it to us." (p. 233)

(1) Dorp received his M.A. from the University of Paris in 1393 and he was last heard of at the University of Cologne in 1418. The dates of his birth and death are not known.

(2) Johannes Buridanus, *Compendium Totius Logicae*, Venedig (1499). Facsimile edition: Frankfurt/Main, Minerva G.m.b.H. (1965). This edition contains Dorp's commentary.

- (3) For another medieval reference to infinite sets, see I. Thomas, "A 12th century paradox of the infinite," *The Journal of Symbolic Logic*, vol. 23 (1958), pp. 133-134.
- (4) For further discussion and references, see E. J. Ashworth, "Chimeras and Imaginary Objects: A Study in the Post-Medieval Theory of Signification" [1977].
4. ———. 1978. "A Note on Paul of Venice and the Oxford Logica of 1483." *Medioevo* no. 4:93-99.
5. ———. 1978. "Multiple Quantification and the Use of Special Quantifiers in Early Sixteenth Century Logic." *Notre Dame Journal of Formal Logic* no. 19:599-613.
Reprinted as essay X in: *Studies in Post-Medieval Semantics*.
"I have three reasons for writing this paper. In the first place, I want to explain the early sixteenth century practice of using the letters 'a', 'b', 'c', and 'd' as special signs governing the interpretation of terms within sentences. In the second place, I want to investigate the analysis which logicians in the medieval tradition gave of such sentences as "There is somebody all of whose donkeys are running", "Everybody has at least one donkey which is running", and "At least one of the donkeys which everybody owns is running". (2) In the third place, I want to show that, despite what Geach has suggested, (3) logicians in the medieval tradition were capable of offering good reasons for rejecting such inferences as "Every boy loves some girl, therefore there is some girl that every boy loves". My discussion will be based mainly on the work of a group of logicians who were at the University of Paris in the first two decades of the sixteenth century, in particular Fernando de Enzinas, Antonio Coronel, and Domingo de Soto." (p. 599)
(...)
"Although the logicians whose work I have examined display considerably more flexibility and subtlety than scholastic logicians have usually been credited with, their discussion reveals two important weaknesses. In the first place, they can only cope with the relations expressed in certain kinds of sentences, particularly those containing genitives; and in the second place, they do not give adequate instructions for distinguishing the case in which one is speaking of all members of a class such as donkeys from the case in which one is speaking only of the members of a subclass, such as the donkeys belonging to a particular man. On the other hand, they are clearly sensitive to the different facets of such relationships as donkey-ownership, and they are also sensitive to the kinds of inference which have to be debarred. A complete account of these strengths and weaknesses will have to await further research." (pp. 610-611)
(2) Cf. P. T. Geach, *Reference and Generality*, Ithaca, New York (1962), p. 15 ff.
(3) P. T. Geach, "History of a fallacy" in *Logic Matters*, Oxford (1972), pp. 1-13.
6. ———. 1978. "Theories of the Proposition: Some Early Sixteenth Century Discussions." *Franciscan Studies* no. 38:81-121.
Reprinted as essay IV in: *Studies in Post-Medieval Semantics*.
"I. Prefatory Notes
In his excellent book, *Theories of the Proposition. Ancient and Medieval Conceptions of the Bearers of Truth and Falsity*, (1) Gabriel Nuchelmans carries the story up to Paul of Venice, who died in 1429. In this paper I intend to consider the discussions of propositional sense and reference found in the works of a group of authors connected with the University of Paris in the last decade of the fifteenth century and the first three decades of the sixteenth century. I confine myself to this group not only because it is a group, but because I know of few other sustained discussions of the problem by logicians after Paul of Venice. Two fifteenth century authors, Stephanus de Monte and Andreas Limos raised the matter in the context of insolubilia; (2) the Italian Agostino Nifo (1470-1538) discussed it in two places; (3) and various other authors, such as the German Jodocus Trutvetter, mentioned the topic only in passing. (4) Nor is the matter pursued in any of the early printed *Sentence Commentaries* I have examined, including those written by such authors as Celaya and Major. (5)
The authors I shall discuss are first the two Frenchmen, Thomas Bricot (d. 1516) who did his main logical work in the last decade of the fifteenth century, and Jean Raulin (1443-1514) who entered the Benedictine Order at Cluny in 1497. Second, there is one German, Gervase Waim (c. 1491-1554) who began his studies at Paris in 1507 and was Rector of the University in 1519. Third, there is one Belgian, Pierre Crockaert (Peter of Brussels) (d. 1514) who became a Thomist. Fourth, there are two Scotsmen, John Major (1469-1550) who was taught by Bricot and Pardo before teaching at Paris himself from 1505 to 1517 and again from 1525 to 1531, and George Lokert (d. 1547) who was a pupil of Major. Fifth, there are five Spaniards, Hieronymus Pardo (d. 1505), Juan Celaya (d. 1558), Antonio Coronel, Juan Dolz and Fernando de Enzinas. Finally, there is Hieronymus de Sancto Marco about whom I know little except that he was at one time connected with Oxford, and that he studied theology at Paris. (6)
The contexts in which theories of the proposition were discussed varied. Bricot and Major discussed the matter in their works on *insolubilia*, (7) though what Major had to say was reprinted, somewhat amplified, as a separate section in complete editions of his works. (8) This context was a natural one, since in order to solve the problem of semantic paradoxes it was necessary to ask what it was that was true or false, and how these properties were to be defined. Dolz inquired about the total significante of the proposition in his treatise on Terms, (9) while Coronel and Pardo asked the same question in more

general logic treatises. (10) In a commentary on Peter of Spain, Enzinas asked whether a proposition was true or false by indicating and if so, what it indicated. (11) Similar questions were posed by Raulin and Hieronymus de Sancto Marco. (12) Enzinas also asked about the total significate of a proposition in his work on mental propositions, and Waim asked the same question in his *Tractatus Noticiarum*. (13) Lokert raised the matter in his *Tractatus Noticiarum* by asking about the object of judgment. (14) Bricot, Celaya and Coronel asked about the objects of science, judgment and assent in their commentaries on the *Analytica Posteriora*. (15) Finally, Pierre Crockaert asked about the truth of a proposition in the second *quodlibet* attached to his commentary on Peter of Spain. (16) Presumably because of the nature of a *quodlibet* his discussion is a good deal more elliptical and allusive than that found in the other sources." (pp. 81-83)

(...)

"Conclusion.

One of the main features of late medieval logic was the heavy emphasis placed on the notion of reference. Another feature was the ontological parsimony which led logicians to reject impossible and imaginary objects, including *complexe* and *incomplexe significabilia* of the sort proposed by Gregory of Rimini. When we consider the theory of terms, we can see these two influences joining to produce a series of attempts to explain the reference of terms in intentional and modal contexts without abandoning either the view that entities must not be multiplied beyond necessity or the view that a unified theory of the reference of general terms is possible. Similar attempts were directed toward the explanation of the reference of such terms as "chimera," which were thought of as having no possible extension. In other places I have argued that one of the main virtues of Parisian logicians of the early sixteenth century was their recognition that the views mentioned above were irreconcilable, and that a purely ex-tensionalist approach to the signification of terms would have to be abandoned.¹⁶⁵ Their achievements with respect to the theory of the proposition itself are very similar. A number of them saw that both the attempt to postulate special objects of reference for propositions and the attempt to argue that propositions referred to things in the world had failed; and they also saw that the way of escape lay in the acknowledgement that the referential role of propositions is not after all primary. Their function is not to name or to refer, but to make an assertion which can only be further described by a that-clause or a paraphrase. In the last resort, one can only see what the meaning of a proposition is by understanding what claim has been made; pointing to an object or group of objects will never serve as an answer." (pp. 120-121)

(1) Gabriel Nuchelmans, *Theories of the Proposition. Ancient and Medieval Conceptions of the Bearers of Truth and Falsity* (Amsterdam/London: North Holland Publishing Company 1973). This work should be consulted for discussion, references and bibliography pertaining to Buridan, Ockham, Gregory of Rimini, and other medieval authors. For further bibliography see E. J. Ashworth, *The Tradition of Medieval Logic and Speculative Grammar from Anselm to the End of the Seventeenth Century: A Bibliography from 1836 Onwards* (Toronto: Pontifical Institute of Mediaeval Studies, 1978). [Note added to the reprint: "Since I wrote this paper, Nuchelmans's book dealing with the period from 1450 to 1650 has appeared, see Gabriel Nuchelmans, *Late-Scholastic and Humanist Theories of Proposition*,. Amsterdam: North-Holland, 1980.]"

(2) Andreas Limos, *Dubia in Insolubilibus* (Parisiis 1499) sig. a ii rb-b iv vb. Stephanus de Monte, *Ars Sophistica* [Paris, c. 1490?] sign, a vi r-b i r.

(3) Agostino Nifo, *Dialectica Ludicra* (Venetiis, 1521) fo. 50V-53V, cited as DL. Agostino Nifo, *Super Libros Priorum Aristotelis* (Venetiis 1554), fols. 6v-7r. Nifo follows Pseudo-Scotus very closely, especially in the latter source: cf. *Super Librum I Priorum Quaestio VIII* in John Duns Scotus *Opera Omnia* (Parisius, L. Vivès, 1891) II, 98-101.

(4) Jodocus Trutvetter, *Summule Totius Logice* (Erphurdie, 1301) sign. AA vi r.

(5) In the earlier editions of his commentary on *Sentences I*, John Major gives a very brief discussion of some of the main views about objects of faith and knowledge, but he declines to discuss *complexe significabilia* on the grounds that they are "voluntarie ficta et sine auctoritate et sine ratione." John Major, *In Primum Senlentarum* (Parisiis 1519) fol. xvi ra. However in the Paris 1530 edition even this brief discussion has been excluded. He explains in the preface that he has revised the work so as to exclude many Arts topics such as the intension and remission of forms, and he refers to the struggle against Lutheranism as a reason for concentrating on theology.

(6) I draw my information from the title and end pages of Hieronymus de Sancto Marco, *Opusculum de Universali Mundi Machina ac de Metheoricis Impressionibus*, s.l. [1505?], which also tells us that he was a Franciscan.

(7) Thomas Bricot, *Tractatus Insolubilium* (Parisius, 1492), cited as TI. John Major, *Insolubilia* (Parrhisiis, 1516).

(8) John Major, *Inclytarum Artium ac Sacre Pagine Doctoris Acutissimi Joannis Maioris Scoti Libri Quos in Artibus in Collegio Montis Acuti Parisius Regentando in Lucem Emisit* (Lugduni, 1516). All references will be to this edition.

(9) Juan Dolz, *Termini* (Parisius [c. 1511]).

(10) Antonio Coronel, *Prima Pars Rosarii* (Paris, s.a.), cited as PPR. Hieronymus Pardo, *Medulla Dyalectices* (Parisius, 1505).

- (11) Fernando de Enzinas, *Primus Tr[actatus Summularum]* (Compluti, 1523) cited as PT.
 (12) Jean Raulin, *In Logicam Aristotelis* (Parisiaca Urbe, 1500). Hieronymus de Sancto Marco, *Compendium Preclarum quod Parva Logica seu Summule Dicitur* (Impressum in alma Coloniensi universitate, 1507). All references are to this work.
 (13) Fernando de Enzinas, *Tractatus de Compositione Propositionis Mentalis* (Lugduni, 1528) cited as PM. Gervase Waim, *Tractatus Noticiarum* ([Paris] 1519).
 (14) George Lokert, *Scriptum in Materiam Notitiarum* (Parisius, 1524).
 (15) Thomas Bricot, *Logicales Questiones Subtiles ac Ingeniose super Duobus Libris Posteriorum Aristotelis* (Parisius, 1504) cited as AP. Juan Celaya, *Expositio in Libros Priorum Aristotelis* [Paris, c. 1516]. Antonio Coronel, *Expositio super Libros Posteriorem Aristotelis* (Parisius [1510]), cited as AP. Since completing this paper, I have discovered a similar discussion in the Aristotle commentary of another Scotsman, David Cranston: *Questiones super Posteriorum* ([Paris], 1506) sign, g iv ra-h iii ra. He mentions by name Andreas de Novo Castro, Buridan, Gregory of Rimini, Andreas Limos, Peter of Mantua and Hieronymus Pardo.
 (16) Pierre Crockaert, *Summularum Artis Dialectice Utilis Admodum Interpretatio... una cum Fructuosis Quibusdam Quotlibetis ab Eodem Fratре Petro Compilatis in Conventu Parisiensi* (Parisius, 1508).
 (165) See Ashworth, "Chimeras and Imaginary Objects: A Study in the Post-Medieval Theory of Signification", *Vivarium*, 15 (1977), 57-77. See also E. J. Ashworth, "'For Riding is Required a Horse': A Problem of Meaning and Reference in Late Fifteenth and Early Sixteenth Century Logic," *Vivarium*, 12 (1974), 94-123; and E. J. Ashworth, "'I Promise You a Horse': A Second Problem of Meaning and Reference in Late Fifteenth and Early Sixteenth Century Logic," *Vivarium*, 14 (1976), 62-79; continued: *Ibid.*, 14 (1976), 139-155.

7. ———. 1979. "The *Libelli Sophistarum* and the Use of Medieval Logic Texts at Oxford and Cambridge in the Early Sixteenth Century." *Vivarium* no. 17:134-158.

"I. Introduction

In this paper I intend to analyze two early printed logic texts, the *Libellus Sophistarum ad Usum Cantabrigiensium* (or *Cantabrigiensem*) published four times between 1497 and 1524, and the *Libellus Sophistarum ad Usum Oxoniensium*, published seven times between 1499 and 1530. I also intend to demonstrate the origin of these books in the manuscript tradition of the early fifteenth century.

A complete description of the various editions of the printed texts, together with their reference numbers in the new Short Title Catalogue, (2) will be found in the appendix." (p. 134)

(...)

"Obviously I do not pretend to have done more than sample the available manuscript sources, but the interested reader will find a large number of further references in De Rijk's invaluable studies of the *Logica Cantabrigiensis* and the *Logica Oxoniensis* (7).

The importance of my task stems from the fact that the *Libelli Sophistarum* provide the main evidence we have for the nature of logic teaching at Oxford and Cambridge in the first three decades of the sixteenth century. The nature of this evidence can best be brought into focus if we start by considering the state of logic in continental Europe, as revealed by a study of publication between 1472 and 1530. As a brief glance at Risse's *Bibliographia Logica* (8) will show, European presses produced an extremely large number of logic texts during this period. Some of them were editions of medieval authors alone, and some of them were editions of medieval authors combined with a contemporary commentary. Many more contained only contemporary writing, whether this took the form of a general introduction to logic, or a discussion of a particular topic such as terms or insolubles. Virtually none were anonymous, and virtually all were highly structured, with topics following one another in an orderly sequence. Even those few texts which were a compendium of shorter treatises were united either by author, as were the editions of Heytesbury's works, or by theme, as was the 1517 edition of Strode, Ferrybridge, Heytesbury and others on the topic of consequences. The texts were devoted purely to logic, and natural science crept in only in predictable places, such as commentaries on the *Analytica Posteriora*, the discussion of *incipit* and *desinit* in works on exponible, or editions of such earlier writers as Heytesbury and Menghus Blanchellus Faventinus. In the assessment of these texts, knowledge of the manuscript tradition is vital only when one wishes to know how original the writers were, or how accurately medieval texts were reproduced. On the whole the texts are self-explanatory, and simply by reading them one can get a good idea of how they might have been used in teaching.

The situation in England could not have been more different. In the first place, the number of logic books published was extremely small, even if one bears in mind that some may have perished without trace. Including the two *Libelli Sophistarum*, only seven separate works seem to have appeared, and of these only two are by named authors, both medieval. The first author is Antonius Andreas whose commentary on the *ars vetus* appeared at St. Albans in 1483, and the second is Walter Burleigh, whose commentary on the *Analytica Posteriora* appeared at Oxford in 1517. Apart from the *Libelli Sophistarum*, the remaining works are a *Logica* which appeared at Oxford in 1483 [StC 16693]; the *Opusculum insolubilium* which appeared at Oxford in about 1517 [StC 18833] and in London in about 1527 [StC 18833a]; 9 and the *Libellulus secundarum intentionum* which appeared in London in 1498 [STC 15572], in about 1505 [STC

15573], and in 1527 [STC 15574] as well as in Paris before 1500.(10) I do not know the provenance of the first two works, but the third is an edition of the medieval tract which starts "Bene fundatum preexigit debitum fundamentum", and which is found incomplete in both Gonville and Caius 182/215 (p. 70) and Corpus Christi 378 (105 r 107 r).(11)" (pp. 135-136)

(2) *A Short Title Catalogue of Books Printed in England, Scotland &- Ireland and of English Books Printed Abroad 1475-1640*. First Compiled by A. W. Pollard & G. R. Redgrave. Second Edition, Revised and Enlarged, begun by W. A. Jackson & F. S. Ferguson. Completed by Katharine F. Pantzer. Volume 2, I-Z, London 1976.

(7) For the *Logica Cantabrigiensis* see L. M. De Rijk, 'Logica Cantabrigiensis -- A Fifteenth Century Cambridge Manual of Logic', in: *Revue Internationale de philosophie* (Grabmann), 29e année, 113 (1975), 297-315. For the *Logica Oxoniensis*, see L. M. de Rijk, 'Logica Oxoniensis. An Attempt to Reconstruct a Fifteenth Century Oxford Manual of Logic', in: *Medioevo*, III (1977), 121-164.

(8) W. Risse, *Bibliographia Logica*. Band 1. 1473-1800, Hildesheim 1965.

8. ———. 1979. "A Note on an Early Printed Logic Text in Edinburgh University Library." *Innes Review* no. 30:77-79.

9. ———. 1980. "Can I Speak More Clearly Than I Understand? A Problem of Religious Language in Henry of Ghent, Duns Scotus and Ockham." *Historiographia Linguistica* no. 7:29-38. Reprinted in Konrad Koerner, Hans-J. Niederehe and R. H. Robins (eds.), *Studies in medieval linguistic thought dedicated to Geoffrey L. Bursill-Hall on the occasion of his sixtieth birthday on 15 May 1980*, Amsterdam: John Benjamins, pp. 29-38.

"The title of this paper is somewhat misleading. The problem I intend to discuss is certainly one of religious language, but none of the three authors I am concerned with would have put the problem in the terms used above. The question Henry of Ghent (d. 1293) asked in his *Summae Quaestionum Ordinariaum* was: "Can God be more truly understood than he is signified or named?". Duns Scotus (1265-1308) and William Ockham (1280/85-1349) put their questions in yet another way. In their commentaries on Book I, Distinction 22, of Peter Lombard's *Sentences*, they asked respectively: "Is God nameable by us by a name signifying his essence?" (Duns Scotus 1966: 301) and "Can itinerant man impose a name to signify the divine essence distinctly?" (Ockham, *Sent.*, sign, z vi rb). The concern of all these authors arose from their beliefs that a spoken word can only signify if it is subordinated to an appropriate concept in the speaker's mind, and that our concept of God is an imperfect one. When we inquire about the relationship between the words we use of God and the idea we have of him, it may seem that our words are more precise than our ideas warrant; yet it may also seem that our words fail to do justice to what we know about God. These apparent variations in the relation between word and concept have to be explained, given the natural assumption that our words will be neither more nor less precise than our ideas.

Before I consider the actual texts, I will discuss briefly two essential background issues, the notion of signification, and the question whether words signify ideas or things. The notion of signification was of course closely related to the notion of a sign, which Augustine had defined (1975: 87) as "Something which is itself sensed and which indicates to the mind something beyond the mind itself."(1) Accordingly, for a word to signify was for it to make known, reveal, express, or represent. Exactly which of these descriptions was most appropriate depended on the context, for in addition to written and spoken language, if it was taken for granted that there was a mental language formed of elements all of which were naturally meaningful. A spoken word could make known an object or reveal it by causing (or by expressing) a concept, but a mental term, being itself a concept, could not be thought of in this way. In the early 16th century the Parisian author Raulin (c. 1443-1514) explained that concepts signified in their capacity as formal representations of objects, but that spoken words signified because they were objective representations (Jean Raulin, *Commentarium in logicam Aristotelis*, 1500. sign, g v ra-rb). That is, they were both the object and the cause of a cognition. Thus the explicitly causal definition of signification, "to signify is to constitute an understanding", (2) applied, he said, only to signs which had objective signification and not to concepts. What it was that a spoken word made known could be an object in the world, a formal element of an object in the world, the speaker's concept of that object, or the definition of that object. (3) Indeed, a spoken word could also make known itself or its speaker, but these ways of making known were accidental to it as a conventionally significant unit. It should be obvious that the notion of *significatio* is by no means to be identified either with meaning or with reference, though elements of both meaning and reference were certainly involved." (pp. 29-30)

(...)

"Ockham was in essential agreement with the position adopted by Duns Scotus in his much briefer treatment of the question "Is God nameable by us by a name signifying his essence?". Duns Scotus began (*Opera Omnia. Vol 17: Lectura in Librum Primum Sententiarum*, Civitas Vaticana, 1966:301) by saying that he took the view of Thomas Aquinas that nothing could be named by us more properly than it was understood to be false. (10) He said that he would offer no arguments instead, he offered an example. Suppose that we see a wall as having both whiteness and shape. Because the colour can vary while the shape remains, and the shape can vary while the colour remains, we conclude that there is some

substratum. We can name this substratum A, and can use the general term 'body' of it, yet we have no specific notion of it. All we understand of it is that it is 'This being', and hence we can name it more truly than we can understand it. Just the same situation obtains with respect to God (p. 301). We have a general understanding of him as "This infinite being which depends on nothing", and we can refer to the divine nature by such names as 'God', yet we have no particular understanding of the divine nature which our terms denote. We do not understand it as "This essence". "Whence", he wrote, "I believe that we have many names of God which properly signify the divine nature, even though we do not understand it." (11) Henry of Ghent, Duns Scotus and Ockham differed in the way they supported their positions and in their epistemological assumptions; yet there are two extremely important subjects on which they agreed: first, that the problem of religious language was not one of religious language alone; and second, that the Thomistic connection between spoken language and understanding had to be loosened. They all accepted the doctrine whereby spoken language was subordinated to mental language; and they all accepted the commonsense view that in the absence of mental activity speaking becomes mere parroting, but these beliefs did not blind them to the fact that language has functions which are to some extent independent of the individual's ability to understand the world. As Henry of Ghent emphasized, language has a descriptive function, and because words are common currency, human beings can describe more, or less, accurately than they understand. As Duns Scotus and Ockham emphasized, language also has a denotative function, and human beings can use words to denote objects even if they know little about these objects. Signification and naming are essentially linguistic activities, and they must be assessed as such. Our words can have degrees of truth and distinctness which our understanding lacks, just as our understanding can go beyond our words." (pp. 37-38)

(1) The more usual reference is to *De Doctrina Christiana* II, but Henry of Ghent made heavy use of *De Dialectica*.

(2) For discussion of this definition, see Spade "Some Epistemological Implications of the Burley-Ockham Dispute," *Franciscan Studies* 35 (1975), pp. 212-222; see pp. 214-15.

(3) The Latin translation of *Metaphysics* IV.7 1012 a 23 was "*ratio quam significat nomen est definitio*" (Thomas Aquinas, *Summa Theologiae* 1a 13.6, p.68) and accordingly a word was often said to signify a rath. But *ratio* had a variety of meanings, including "concept", "definition", "a formal element of things" and the "essence of things." For discussion see McCord Adams in Paul of Venice, *Logica magna: Part II, Fascicule 6: Tractatus de veritate et falsitate propositionis et tractatus de significato propositionis*, F. del Punta (ed.), M. McCord Adams (trans.), (Oxford: Oxford University Press, 1978), pp. 272-73.

(10) He does not refer to Thomas by name. "Ad quod dicendum - sine argumentis - quod, ut mihi videtur, haec propositio falsa est quod nihil potest nominari a nobis magis proprie quam intelligatur, sicut quidam dicunt quod sicut intelligimus sic significamus, et quia non intelligimus Deum nisi ex creaturis, ideo non significamus nisi per nomina accepta a creaturis. Hoc enim falsum est."

(11) "Unde credo quod multa nomina habemus de Deo quae proprie significant naturam divinam quam tamen non intelligimus."

10. ———. 1980. "The Scholastic Background to Locke's Theory of Language." In *Progress in Linguistic Historiography. Papers from the International Conference on the History of the Language Sciences, Ottawa, 28-31 August 1978*, edited by Köerner, Konrad, 59-68. Amsterdam: John Benjamins.
- "In III.2.2 of the *Essay concerning Human Understanding* Locke said: "Words in their primary or immediate signification, stand for nothing but the ideas in the mind of him that uses them." In the eyes of most subsequent commentators, this statement encapsulates what Kretzmann ("The main thesis of Locke's semantic theory", *Philosophical Review*, 77, 1968, p. 177) has called "one of the classic blunders in semantic theory", namely, the thesis that words name or refer to ideas rather than things, and that meaning depends on private mental events. Since Locke's statement when so interpreted seems clearly false, many commentators, including Kretzmann and Landesman ("Locke's theory of meaning", *Journal of the History of Philosophy*, 14 1976, p. 35), have struggled to interpret it in some other way. However, they have undertaken this task without considering Locke's intellectual background. In this paper I intend to argue that the work of various 17th-century scholastics who were read at Oxford, particularly the Polish Jesuit Martin Smiglecius (1564-1618), throws much light on Locke's thesis, both by filling in the arguments which he only sketched in passing, and by limiting the ways in which the argument quoted above can be read.
- It is true that no direct link between Locke and Smiglecius has been established. However, since Locke recorded that two copies of Smiglecius' *Logica* were bought by his students (W. H. Kenney, *John Locke and the Oxford training in logic and metaphysics*, unpublished Ph.D. Thesis, St. Louis University, 1959, pp. 31-32), and since the work was published in Oxford in 1658, the year Locke took his M.A. degree, it can be hardly a matter of accident that many of his remarks in Book III of the *Essay* seem to echo remarks made earlier by Smiglecius." (p. 59)
- (...)
- "So far as Locke is concerned, he obviously followed such logicians as Burgersdijck in adopting the view whereby concepts rather than things are said to be the immediate significates of words. He may have been influenced in this by introductory logic textbooks, but it also fitted his general philosophical position

better than the view of Smiglecius. His discussion of general terms indicates one reason why he thought it necessary to assign a certain kind of primacy to ideas, and in addition I think that Kretzmann was right (p. 184) when he mentioned Locke's representative theory of perception in the context of his theory of language. If ideas are the immediate objects of perception, then it makes good sense that they should also be the immediate objects of signification.

However, if I am right in supposing that Locke was acquainted with Smiglecius and some of the other authors, if only at second-hand, then certain limitations are surely imposed on what he could have meant when he wrote: "Words in their primary and immediate signification stand for nothing but the ideas in the mind of him that uses them". He cannot have intended to say that words refer to concepts, that when we say "The man is disputing" we are talking only about our own thoughts. Nor can he have intended to deny the obvious corollary that we use words to signify things secondarily and mediately. The alternative hypothesis, that Locke intended to convey some new doctrine by his use of the conventional phraseology, could only be sustained if one were willing to overlook two outstanding features of Locke's discussion. First, nearly everything he says about language in the first two chapters of Book III is closely parallel to the scholastic texts which were read at Oxford when Locke was an undergraduate and a tutor there. Second, he does not bother to give a detailed explanation and justification of his claim that words signify ideas primarily and immediately, which would be a very curious oversight on the part of one who had in mind a doctrine radically different from that normally conveyed by these words. Locke was careless, but he was not as careless as that." (pp. 66-67)

References

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"In his excellent book *Theories of the Proposition. Ancient and Medieval Conceptions of the Bearers of Truth and Falsity*, Nuelbelmans states that "after the beginning of the fifteenth Century no really new or interesting views concerning our topics were put forward."(1) In this paper I hope to modify his judgment somewhat by examining the theories presented by Juan Dolz and Fernando de Enzinas, two Spaniards associated with the University of Paris in the early sixteenth Century (2). One cannot expect that their views on the significate of the proposition were new in every detail, given the thoroughness with which earlier writers had explored the issue.

Nevertheless, one can argue that they put elements from earlier views together in a new way, and that they displayed an insight into the nature of propositions which had not been achieved by their predecessors.

I shall begin by saying a little about the background to their views. In the late fifteenth and early sixteenth centuries, the question of *complexa significabilia* was discussed by a small group of logicians. Those writers in whom I have found more than a passing reference are Bricot, Juan de Celaya, Antonio Coronel, Dolz, Enzinas, Hieronymus of St. Mark, Limos, Major, Nifo, Pardo, Peter of Brüssels, Raulin and Gervase Waim; and all of these except Nifo and possibly Hieronymus of St. Mark were associated with Paris (3). Although some of them wrote theological works, they raised the issue only in their logical writings, either in works on *insolubilia*, in general introductions to logic, or in treatises on such topics as terms and mental propositions. The question was introduced in one of two closely related ways. Either they took the statement that a proposition was an *oratio* which signifies the true or the false by indicating and inquired whether there was indeed a thing which was true or false, or they took such sentences as "Man is an animal" signifies man to be an animal" and asked whether the *dictum* or infinitive phrase functioned as the name of some object or other. In the words of Dolz the question was: "Does a proposition signify some thing or some things or in some way? Is there to be given a *complexum significabile* or not, and if so, is it to be distinguished from the significates of the terms of the proposition?" (4) The issues of theological and scientific knowledge were referred to, if at all, only in passing, and the question of objects of belief versus objects of knowledge, objects of doubt and so on, was not often raised. In other words, we are faced with a discussion which is limited to those aspects of the matter which primarily concern a logician.

References to earlier authors included mention of Ockham, Duns Scotus, Ugolino and André de

Neufchateau, but the focal point of discussion was provided by the rival positions of Gregory of Rimini and the one which, as Coronel put it, "Buridan applauded in whole or in part." (5)" (pp. 511-512) (...)

"To conclude, I would like to say that of all the sources mentioned by late fifteenth and early sixteenth Century authors, Dolz and Enzinas are obviously most influenced by Peter of Ailly. It is from him that they take the notion of a proposition signifying *aliqua*liter, and it is from him that Enzinas takes his emphasis on the relationship between the *dictum* and a phrase beginning with the word "that". But they also go beyond Peter of Ailly in ways which I find interesting and important. First, they introduce the notion of the proposition as having a syncategorematic function, and second, they reconcile the notion of propositional sense with the notion of propositional reference by admitting that in some contexts the *dictum* can have legitimate referential use (12). Moreover, Enzinas made use of Peter of Ailly's point about "that" phrases to reinforce the insight that propositions are not referring phrases. I do not know of any earlier authors who approached the matter in quite the way that Dolz and Enzinas did; and, I must confess, I find their view more plausible than any of the others I am acquainted with." (p. 516)

(1) G. Nuchelmans, *Theories of the Proposition* (Amsterdam-London: North Holland Publishing Company, 1973) p. 279. This book should be consulted for a very thorough survey of the medieval background to the authors I am concerned with.

(2) Little seems to be known about their lives. Dolz came from Castellar in Spain, and taught at the College of Lisieux in Paris. Enzinas went to Paris in 1518, where he studied at the Colleges of Saint Barbara and Beauvais. He later taught at the University of Alcalá.

(3) For further details, see E. J. Ashworth, *Language and Logic in the Post-Medieval Period* (Dordrecht-Holland/Boston-U.S.A., D. Reidel Publishing Company, 1974) p. 55ff.

(4) J. Dolz, Termini (Parisius, s.a.) fo. v r.

(5) A. Coronel, *Prima Pars Rosarii* (Parisii, 1512) sign, a iiiii r.

(12) Cf. Kretzmann, *op.cit.*, p. 767.

14. ———. 1981. "'Do Words Signify Ideas or Things?'" The Scholastic Sources of Locke's Theory of Language." *Journal of the History of Philosophy* no. 19:299-326.

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"My aim in this paper is to shed some light on Locke's claim that words signify ideas. Although I shall start by considering two contemporary attempts to interpret Locke's theory of language, I shall devote most of my attention to a group of late-sixteenth- and early-seventeenth-century authors whose views are likely to have influenced Locke. My main claim will be that Locke's theory of language is easier to understand, if not to accept, when it is placed in what seems to be its proper context. When one is dealing with the great figures of early modern philosophy it is always a mistake to overlook their background. At Oxford, as at European universities, students were still reading scholastic texts in the mid-seventeenth century. That is, they were reading works written as university text books by Roman Catholic philosophers, predominantly Jesuit, who consciously placed themselves within the tradition of medieval philosophy and theology while at the same time making use of sixteenth-century developments in Aristotelian studies. Locke makes it very clear that he did not approve of the scholastic philosophy he was acquainted with, but it is *prima facie* implausible to suppose that nothing of what he read had any effect upon his writings. As I shall try to make clear, my own view is that his theory of language was produced within a scholastic context, and relied heavily on the arguments which had been developed by scholastic philosophers. Locke was original and innovative, but not when he said that words signify ideas.

Obviously the scholastic philosophers of the late sixteenth and early seventeenth centuries were themselves writing within a tradition which cannot be overlooked if one wishes to understand their discussions. Equally obviously one cannot within the compass of a short paper on the background to Locke deal adequately with the background to Locke's background. However, a few brief remarks may be in order. The view that words signify ideas or concepts (two words which for the purposes of this paper may be used interchangeably) stems from Aristotle and in particular from Boethius's translation of Aristotle, *De Interpretatione* 16 a 3. (1) He said that spoken words (*ea quae sunt in voce*) were signs (*notae*) of those passions which are in the mind; and every commentator agreed that *passiones* were to be taken as concepts rather than passions in the normal sense. By the late thirteenth century a debate was raging over the question whether words could properly be said to signify concepts rather than things. (2) Roger Bacon said that there was "not a moderate strife among famous men," (3) and a little later Duns Scotus wrote of a "great altercation. (4) Everyone who wrote a commentary on *De Interpretatione* had something to say on the issue; and it also turned up in other works, in Sentence commentaries and, for instance, in Buridan's *Sophismata*. Aristotle commentaries written in the late fifteenth and early sixteenth centuries were still largely focused on the arguments of earlier writers, especially Duns Scotus and Buridan, though occasional use was made of the commentary by St. Thomas Aquinas. (5) The later-sixteenth- and early-seventeenth-century writers I am concerned with took their theme from the medieval debates and, for the most part, their conclusions. However, as I shall explain below, their emphases and some of their arguments are quite different. Thus a by-product of this paper will be additional evidence of

ways in which late scholasticism differed from medieval scholasticism." (pp. 299-301)

(...)

"To conclude, I would like to ask whether Locke intended to summarize his theory of meaning when he said that words primarily and immediately signify ideas. I have argued that in the scholastic authors the issue was one of making known rather than of meaning, and this is borne out by the distinction I earlier quoted from Smiglecius between the confused idea conveyed by a name and the explicit idea conveyed by the definition of the name. Obviously one would answer the question "What does this word mean?" not by exhibiting the confused idea expressed by the word, but by producing the definition. If it turns out that a definition just is a sequence of concepts, then meanings can be identified with concepts; but this is a thesis which has to be stated and justified separately from the initial thesis, that words make known concepts. I suggest that the same distinction should be applied to Locke. In III. 3. 10 he tells us that "the defining of words . . . , is nothing but declaring their signification." Later, in IV. 8.4., he refers to the romance knight "who by the word *palfrey* signified these ideas: -- body of a certain figure, four-legged, with sense, motion, ambling, neighing, white, used to have a woman on his back"; and I think that this passage and others like it are certainly intended to give an account of meaning. What a word means according to Locke just is a series of ideas. However, one must now ask whether a distinction can be drawn between this series of ideas and the original complex idea of a palfrey. I think that it can, at least psychologically.

There is certainly a sense in which a complex idea for Locke just is a group of less complex ideas, but this group is unified by its name, "which is as it were the knot that ties them fast together" (III. 5. 10). Furthermore, giving a meaning must involve a psychological progression from the original idea to its components listed separately. The romance knight would have to reflect before he recognized all the eight components of his complex idea "palfrey," just as one may have to reflect before one realizes that 12 is identical to 7 + 5. To be sure, there is a close link between a word's signifying an idea and a word's having a meaning. If the speaker cannot on reflection give a definition for the word he has used, if he cannot break down his complex idea into its component parts, then one will be tempted to say that he has no idea of what a palfrey is, and that nothing was made known by his utterance of the word "palfrey." But the fact that giving a definition serves as a criterion for having an idea does not entitle one to blur the distinction between an idea's being made known through the utterance of a word and a word's having a meaning. Locke has an ideational theory of meaning, but contrary to what Kretzmann and Landesman assert, it is not stated in III. 2." (pp. 325-326)

(1) Aristoteles Latinus II I-2. *De Interpretatione vel Periermenias Translatio Boethii Specimina Translationum*, edidit Laurentius Minio-Paulello (Leiden: E. J. Brill, 1965), p. 5. For an interesting discussion of Aristotle's original text and what he may have meant by it, see Norman Kretzmann, "Aristotle on Spoken Sound Significant by Convention," in *Ancient Logic and Its Modern Interpretations*, John Corcoran, ed. (Dordrecht and Boston: D. Reidel, 1974), pp. 3-21.

(2) There was also a debate among the ancient commentators on Aristotle, but its influence on the Middle Ages seems to have been only through references in Boethius's two commentaries on the *De Interpretatione*.

(3) K. M. Fredborg, Lauge Nielsen, and Jan Pinborg, "An Unedited Part of Roger Bacon's 'Opus Maius': 'De Signis'," *Traditio* 34 (1978): 132.

(4) John Duns Scotus. *Ordinatio* I d. 27, qq. 1-3, n. 83 in *Opera Omnia* VI (Civitas Vaticana, 1963), P. 97.

(5) For further discussion see E. J. Ashworth, "Words, Concepts and Things: A Study of *Periermenias* Commentaries from the Late Thirteenth to the Sixteenth Century," to appear in a special issue of *Paideia* on medieval philosophy [not published]. For interesting material on the reception of St. Thomas Aquinas's views in the sixteenth century, see F. E. Cranz, "The Publishing History of the Aristotle Commentaries of Thomas Aquinas," *Traditio* 34 (1978): 157-92. Cranz's work has considerable bearing on what I shall say below about the differences between late-sixteenth and early-seventeenth-century commentaries on *De Interpretatione* 16 a 3 and the medieval commentaries.

15. ———. 1981. "Mental Language and the Unity of Propositions: A Semantic Problem Discussed by Early Sixteenth Century Logicians." *Franciscan Studies* no. 41:61-96.

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"Gregory of Rimini's influential *Sentence Commentary* was written in the 1340s. One of the questions which he discussed in his prologue was how it is that a mental proposition functions as a united whole, with a force that its apparent parts taken separately do not possess. (1)

In this article I intend to explore the reactions to Gregory's arguments among a group of logicians who studied or taught at Paris in the first three decades of the sixteenth century. The most important of the authors I shall examine are three Spaniards: Jerome Pardo (d. 1502 or 1505) whose *Medulla Dialectices* was published in 1500 and again in 1505; Antonio Coronel, whose *Duplex Tractatus Terminorum* was published in 1511 and whose *Prima Pars Rosarii in qua de Propositione Multa Notanda* was published at about the same time; and Fernando de Enzinas, whose most noteworthy book for our purposes was his *Tractatus de Compositione Propositionis Mentalis Actuum Sintheoreticorum Naturam Manifestans*, first published in 1521, and reprinted in 1526 and 1528." (p. 61)

(...)

"In conclusion there are two points I would like to make. On the one hand it is quite clear that when early sixteenth century logicians were discussing mental language they took it that they were concerned with philosophy of mind. In part this is the natural result of their approach to signification as a causal process. If one defines "signify" in terms of making known or representing to the cognitive faculty, then the question of the various effects of words upon the hearer's mind, and what they reveal about the speaker's mind, will embrace both semantic and psychological issues. One also has to bear in mind the part played by speaker intentions in endowing linguistic aggregates with their propositional force.(134) At this level the study of language cannot be separated from the study of mental attitudes and processes. On the other hand, if one isolates the part of the discussion which was devoted to purely semantic issues, then it is no longer necessary to postulate mental language as such. Everything that was said about the semantic function of syncategorematic acts, subject and predicate, the unity of propositions and the equivalence between propositions, could be described in neutral terms as the study of semantic structure leaving it quite open what the relationship is between the semantic structure of a given utterance and the psychological states of the speaker. Nor does there seem any genuine need to postulate a naturally meaningful language in addition to conventionally meaningful language, since a given speaker's psychological states can be adequately described in terms of conventional language, and since synonymy can be redefined for conventional languages.

Indeed, one can argue that the notion of a naturally meaningful mental language is without any function, since we have no criteria for identifying it or its structures. But this is to go far beyond Gregory of Rimini and sixteenth century reactions to his arguments." (pp. 95-96)

(1) Gregory of Rimini, *Gregorii Ariminensis O.E.S.A. Super Primum et Secundum Sententiarum* (Reprint of the 1522 edition: St. Bonaventure, N.Y.: The Franciscan Institute; Louvain: E. Nauwelaerts; Paderborn: F. Schöningh, 1955), fol. 3va-5rb.

(134) But Michael Dummett, *Frege: Philosophy of Language* (London: Duckworth, 1973, p. 311, reminds us that "linguistic acts should be classed as conventional actions, not as the external expression of interior states. Assertion, for example, is to be explained in terms of the conventions governing the use of those sentences which are understood as having assertoric force, not as the utterance of a sentence with the intention of expressing one's interior act of judgment (or interior state of belief) that it is true."

16. ———. 1982. "The Eclipse of Medieval Logic." In *The Cambridge History of Later Medieval Philosophy*, edited by Kretzmann, Norman, Kenny, Anthony P. and Pinborg, Jan, 787-796. Cambridge: Cambridge University Press.

"The view that the insights and developments of medieval logic were eclipsed during the fifteenth century by a humanist, rhetorically-oriented logic has long been popular, but it needs considerable revision and modification. In what follows I shall first give a brief account of what happened to the writing, teaching, and publication of logical works in the medieval style, by which I mean those which discuss such topics as consequences, insolubles, exponibles, and supposition. I shall then examine in more detail what was actually said about certain medieval doctrines in the late fifteenth and sixteenth centuries in order to indicate both where logicians of the period had something new to contribute, and where there were departures from medieval doctrines which cannot be attributed to new logical insight. (1) My conclusion will be that medieval logic as a living tradition did largely disappear, but that the eclipse dates from about 1530 (in so far as a specific date can ever sensibly be offered) rather than the mid fifteenth century." (p. 787)

(...)

"Conclusion.

Why did these interesting and varied treatments of medieval logical themes cease so abruptly after 1530?

(9) Humanism alone cannot be the answer, since it apparently triumphed only by default. Italian universities continued to teach medieval logic long after the attacks on it by such men as Lorenzo Valla; and Agricola's logic did not capture Paris until the production of texts in the medieval style had already ceased. (10) Humanism certainly had a part to play in the process, however. Soto, for instance, came to believe as a result of humanist influences that doctrines which were difficult and not clearly expressed by Aristotle should be omitted from logic, and that too much time was devoted to summulist doctrines in the teaching of logic. Accordingly, the later editions of his *Introductiones dialecticae* were very much altered and simplified. Another instructive example is Agostino Nifo's *Dialectica ludicra* (1520). Here we have an introductory text written by a leading Aristotelian who had a good knowledge of medieval doctrines, yet he distorts them completely by describing only those parts of the scholastic theory of terms and supposition theory which are directly applicable to standard categorical propositions. (11) No one who became acquainted with medieval logic through Nifo would understand the function of the non-Aristotelian parts at all. A very plausible account of the indirect effect of humanism on logic teaching is provided by Terrence Heath, whose study of the teaching of grammar at three German universities at the end of the fifteenth century and beginning of the sixteenth century shows that the change to non-medieval logic was preceded by the change to humanistic grammar. (12) The significance of this sequence of changes is brought out in Heath's claim that medieval grammar prepared the student for medieval logic,

whereas humanist grammar did not. One may also speculate that social changes were influential in creating a need for men with a new style of education. The rise of modern physics has been cited as a possible cause, but this suggestion cannot be accepted, given that modern physics can hardly be said to have risen before the end of the sixteenth century. (13) The judgement of a contemporary logician might be that medieval logic came to an end because no further progress was possible without the concept of a formal system and without the development of a logic of relations. This view is borne out by the desperate, complicated attempts to analyse such propositions as 'Every man has a head' that are to be found in the writings of the Parisian logicians. They certainly pushed medieval logic to its limits, but whether they gave up in despair because they realised that that was what they had done is another matter. For the moment our question must remain without a fully satisfactory answer." (pp. 795-795)

(1) For further details about the period as a whole, and for some of the doctrines mentioned below, see Ashworth, *Language and Logic in the Post-medieval Period* (Synthese Historical Library, 12), Reidel 1974, and Wilhelm Risse, *Die Logik der Neuzeit* (Band I: 1500-1640), Frommann Holzboog 1964. For a bibliography of primary sources, see Risse, *Bibliographia Logica. Verzeichnis der Druckschriften zur Logik mit Angabe ihrer Fundorte*, (Band I. 1472-1800), Georg Olms 1965. For a bibliography of secondary sources, see Ashworth, *The Tradition of Medieval Logic and Speculative Grammar from Anselm to the End of the Seventeenth Century: A Bibliography from 1836 Onwards* (Subsidia Mediaevalia, 9), Pontifical Institute of Mediaeval Studies 1978.

(9) Charles B. Schmitt, 'Philosophy and Science in Sixteenth-Century Universities: Some Preliminary Comments', in Murdoch, John E. and Edith Sylla, eds., *The Cultural Context of Medieval Learning*, Reidel 1975, p. 512, notes that certain branches of medieval physics also declined. He writes: '... several fourteenth-century traditions - including nominalism, the logical traditions of *sophismata* and *insolubilia*, and the Merton and Paris schools of philosophy of motion - continued on into the first few decades of the sixteenth century and after that quickly lost ground to other approaches and sets of problems. The printing-history of the medieval texts in question as well as new commentaries being written on Aristotle indicate this. Why this happened is not clear.

Humanism had a strong impact, as did the reintroduction of the writings of the Greek commentators on Aristotle, but neither of these facts explains why the calculators and writers on *sophismata* lost out, while the commentaries of Averroes did not. In brief, certain medieval aspects of the tradition expired in the early sixteenth century, while other equally medieval aspects continued to play an important role.'

(10) For a discussion of Valla, Agricola, and their influence, see Lisa Jardine, 'Lorenzo Valla and the Intellectual Origins of Humanist Dialectic', *Journal of the History of Philosophy* 15:143-64 1977.

(11) See Ashworth, 'Agostino Nifo's Reinterpretation of Medieval Logic', *Rivista critica di storia della filosofia*, 31 (1976) 355-74.

(12) Terrence Heath, 'Logical Grammar, Grammatical Logic, and Humanism in Three German Universities', *Studies in the Renaissance* 18 (1971) 9-64.

(13) William and Martha Kneale, *The Development of Logic*, Clarendon Press 1962, p. 307. It should be noted that the Kneales speak as if interest in formal logic declined only during the seventeenth century, so that their reference to modern physics is not implausible in its context.

17. ———. 1982. "The Structure of Mental Language: Some Problems Discussed by Early Sixteenth Century Logicians." *Vivarium* no. 20:59-83.

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"Preface.

As is well known, late and post-medieval logicians shared the belief that there were three types of language, spoken, written, and mental. (1) Spoken and written languages had conventional meaning, and were in fact, though not necessarily so, different for different groups of people. Mental language, on the other hand, was thought to have natural meaning and to be common to all men. The obvious question to ask about mental language concerns its structure and how this relates to the structure of spoken or written languages, especially Latin. Ockham's position on the matter has been investigated by more than one author; (2) so in this paper I intend to focus on the views held by logicians in early sixteenth century Paris, and by some of those earlier logicians who most influenced them. I shall leave firmly aside the obvious philosophical question of what criteria could possibly be used in determining a structure for mental language which is independent of spoken or written language. Suffice it to say that late medieval logicians saw no problem here.

The main issues concerning structure arose from a consideration of the categorical proposition. This was taken to be the simplest kind of proposition, which at its most basic displays a subject and a predicate, both in the nominative case, and the copula "is" or "are". To these ingredients may be added quantifiers such as "all" and "some", negation signs, adjectives, adverbs, and other modifiers. Two kinds of problem are presented by this account. First there is the question of what to say about spoken or written propositions which do not fit the standard mould. I include here such sentences as "Pluit"/"It is raining" which do not have a subject; sentences displaying so-called adjectival verbs such as "runs" in "Socrates runs" which do not have a separate copula and predicate; and sentences containing pronouns and demonstrative terms such as "I am running" and "This is white", whose subject is given only by the

context of the utterance. Second, there is the question of how to account for certain features of those spoken and written propositions which do fit the standard mould, namely such features as syncategorematic terms, tense variations (which will not be discussed in this paper) and variations of number, case and gender. It was in their discussion of these issues that Parisian logicians gave their most detailed account of the structure of mental propositions." (pp. 59-60)

(...)

"It seems that the road was left open to considerable variation in mental language. Two speakers could perfectly well utter sentences which were logically equivalent and which picked out the same state of affairs without using the same mental propositions. As a result, one can suggest both that it is consistent with the post-medieval view that sentences in different languages may be equivalent and translatable without exhibiting precisely the same deep structure, and that there is no reason why one should speak of mental language as containing "the forms that are necessary for any true description of the world", as Trentman put it in his account of Ockham's view of mental language. (110) Ockham may have had an ideal language in mind; Enzinas and his contemporaries did not. (111)". (p. 82)

(1) See Gabriel Nuchelmans, (1) *Theories of the Proposition. Ancient and Medieval Conceptions of the Bearers of Truth and Falsity*, Amsterdam/London 1973 and (2) *Late Scholastic and Humanist Theories of the Proposition*, Amsterdam, Oxford, New York 1980, passim.

(2) For a discussion of Ockham's views, see Peter Geach, *Mental Acts*, London 1957, pp. 101-104 and John Trentman, "Ockham on Mental", in: *Mind*, 79 (1970), 586-590.

(110) Trentman, p. 589, my italics.

18. ———. 1983. "English *Obligationes* Texts after Roger Swyneshed. The Tracts Beginning *Obligatio Est Quaedam Ars*." In *The Rise of British Logic. Acts of the Sixth European Symposium on Medieval Logic and Semantics, Balliol College, Oxford, 19-24 June 1983*, edited by Lewry, Osmund P., 309-333.

Toronto: Pontifical Institute of Mediaeval studies.

"Introduction.

In this paper I hope to shed some light on the development of *obligationes* in England by examining a number of texts which all have the same *incipit*.

'*Obligatio est quaedam ars*'. A list of the manuscripts and early printed books I have used, together with the sigla I have adopted, will be found in Appendix A. (1) In Appendix B I have given a list of other relevant manuscripts which I was unable to consult for reasons of time. (2) My paper has three parts. Part One contains a general survey of the texts, with an account of their relationship to each other and to the *Logica oxoniensis* text.

Part Two contains a discussion of the doctrines and influence of Billingham's *Ars obligatoria* and the almost identical treatise found in the *Logica oxoniensis*. Part Three contains a detailed analysis, with references, of the texts discussed in Part Two.

It seems appropriate to begin with some further remarks about the *incipit* itself. The fullest version is found in Richard Billingham, who writes: (3)

'*Obligatio est quaedam ars mediante qua aliquis opponens potest ligare respondentem ut ad suum bene placitum respondeat ad obligationem sibi positam; vel obligatio est oratio mediante qua aliquis obligatus tenetur affirmative vel negative ad obligationem respondere.*'

(Obligation is an art whereby some opponent can bind a respondent to reply at the opponent's pleasure to the obligatory sentence posited to him. Alternatively, an obligation is a sentence by virtue of which someone who is obligated is committed to reply affirmatively or negatively to the obligatory sentence.)

As can be seen from the appendices, a number of variations in this *incipit* were possible. A and Q replaced 'opponens potest ligare' in Billingham's first definition with the phrase 'obligatus tenetur' from the second definition; and a number of authors added 'affirmative vel negative' to the first definition. Despite these minor variations, there is no doubt that the texts listed in Appendix A have basically the same *incipit*; but as it shall show, it does not follow from this that the texts listed are otherwise identical, or even similar." (pp. 309-310)

(...)

"I shall finish with a few remarks about the influence of Billingham and the *Logica oxoniensis*. Generally speaking, it seems to have been slight. Apart from Wyclif, no named author, including John of Holland and Paul of Venice in the *Logica parva*, adopted Billingham's organization of the material. There was a little discussion of Billingham's definition of *obligatio*, of his attitude to inconsistent *posita* and of his conjunction rules, but one cannot claim that these topics loomed large in the literature. The most striking influence is that of the sophisms themselves, a number of which reappear in Albert of Saxony (see Part Three, Section B). I suspect that the apparent popularity (judging by the number of extant manuscripts) of the *Logica oxoniensis* in the fifteenth century, a period when people had on the whole ceased to write original *obligationes* treatises, stems solely from its character as a convenient brief compendium." (pp. 317-318)

19. ———. 1984. "Inconsistency and Paradox in Medieval Disputations: A Development of Some Hints in Ockham." *Franciscan Studies* no. 44:129-139.

"The Liar Paradox is well-known, as is the way it calls into doubt some of our most basic semantic

assumptions. In this paper, I intend to consider a more modest group of paradoxes, that is, propositions which seem puzzling, absurd or even inconsistent whether because of some feature of the proposition itself or some feature of the situation in which it is uttered. (1) Examples from ordinary English include the familiar cases "I have nothing to say to you," "My lips are sealed," "I have no comment to make." They also include such sentences as "I'm sorry, I don't speak any English," "I'm quite incapable of uttering a grammatically correct sentence," "I never generalize," "Don't talk to me, I'm asleep," or even "I do not exist." Such pragmatic paradoxes will turn out to have certain features in common with the Liar Paradox.

Some of them give rise to logical contradictions, some of them are self referential, some of them seem to include a reference to their own truth or falsity. But there are also important differences, as I hope to demonstrate.

Hints of a solution to some of these problems are to be found in Ockham; but my main discussion will be based on the work of several later medieval logicians, notably John Buridan, Albert of Saxony and William Buser, all of whom were active at the University of Paris in the middle years of the fourteenth century. To be precise, Buridan taught there from about 1320 to about 1360, Albert taught there from 1351 to 1362, and Buser taught there from 1357 until after 1364. (2) I shall also draw on the work of Paul of Venice, who wrote his *Logica Magna* in 1397-1398. These writers all had a very strong interest in pragmatic paradoxes. The reason for this has to do with the nature of the university curriculum. Virtually all undergraduate students were in the Arts Faculty, and at least the first two years of the four year course were largely devoted to the study of logic." (pp. 129-130)

(...)

"I shall conclude with some brief remarks about the relationship between pragmatic paradoxes and the Liar Paradox. One general way of characterizing the cases I have examined is to say that in each case there is an inconsistency which arises from the relationship between the rules of the game, the facts of the situation (including the syntactic properties of what is said) or some initial conditions on the one hand, and a particular utterance on the other. However, these rather general remarks could also be applied to the Liar Paradox. Alternatively, one might say that the difference between pragmatic paradoxes and the Liar Paradox lies in the importance of the principles which are thrown in doubt. This is true, but unhelpful. Perhaps the real difference is that in none of the cases I have mentioned was it difficult to fix a referent for the sentence uttered, whereas in the case of the Liar Paradox the apparent reference fails. If I say "My reply is in the negative" the referent of "my reply" is fixed by the context; and if I say "What I am now saying is in English" the referent of what I am now saying is similarly fixed. But if I say "What I am now saying is false," apparent reference is made to the content of my utterance, and there is now nothing either in the context of my utterance or in its syntactic features which fixes that reference.²⁶ Unsurprisingly, it is the presence of the semantic term "false" which brings about this unhappy situation." (p. 139)

(1) For some twentieth century discussion and further references see A. Pap, *Semantics and Necessary Truth* (New Haven and London: Yale University Press, 1958) 259-267; C. L. Hamblin, *Fallacies* (London: Methuen & Co., 1970) 301.

(2) For information about Buser, see C. H. Kneepkens, "The Mysterious Buser Again: William Buser of Heusden and the *Obligationes Tract Ob rogatum*" in *English Logic in Italy*, edited by A. Maierù (Naples: Bibliopolis, 1982) 147-166.

(26) These remarks are loosely based on D. Odegard, *Knowledge and Scepticism* (American Philosophical Quarterly Library of Philosophy. Totowa, New Jersey: Rowman and Littlefield, 1984) 44-52.

20. ———. 1984. "Locke on Language." *Journal of Philosophy* no. 14:45-73.

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Reprinted also in: Vere Chappell (ed.), *John Locke, Theory of Knowledge*, New York: Garland Publishing 1992, pp. 55-83 and in: Vere Chappell (ed.), *Locke*, New York: Oxford University Press 1998 pp. 175-194.

"Locke's main semantic thesis is that words stand for, or signify, ideas. He says this over and over again, though the phraseology he employs varies. In Book III chapter 2 alone we find the following statements of the thesis: (1) '... Words ... come to be made use of by Men, as the Signs of their Ideas' [111.2.1; 405:10-11] (*); (2) 'The use then of Words, is to be sensible Marks of Ideas; and the Ideas they stand for, are their proper and immediate Signification' [III. 2.1 ; 405:15-17]; (3) *Words in their primary or immediate Signification, stand for nothing, but the Ideas in the Mind of him that uses them*' [111.2.2; 405:21-2]; (4) 'That then which Words are the Marks of, are the Ideas of the Speaker' [111.2.2; 405:27-8]; (5) Words, as they are used by Men, can properly and immediately signify nothing but the Ideas, that are in the Mind of the Speaker' [111.2.4; 406:29-31]. Locke offers no explanation of the terms he uses in these remarks, and I am going to take it that the phrases 'stand for,' 'being a mark of,' and 'being a sign of' are all roughly synonymous with the term 'signify.' The purpose of this paper is to explore what Locke intended to convey when he said that words signify ideas. I shall attempt to defend him against some, though not all, standard objections; and part of my defense will rest on the claim that Locke was using 'signify' in the same way that his scholastic predecessors used the Latin term '*significare*'. My paper falls

into three parts. First, I shall give a general description of Locke's account of language; second, I shall look more closely at the scholastic theories of mental language and of signification, and their relation to Locke's theory; third, I shall return to Locke's text to examine what he has to say about the signification of general terms, and how it is that our ideas conform both to the ideas of other men and to external objects." (pp. 45-46)

(...)

"I have now arrived at the heart of my argument, for not only was 'signify' a quasi-technical term for Locke; it was a genuinely technical term in the scholastic literature of the period, and indeed, in all medieval writings concerned with the theory of language. I wish to contend that Locke's use of the term 'signify' makes much more philosophical sense if one sees it against the scholastic background than if one approaches it from the point of view of twentieth century theories of meaning. It also makes a good deal more historical sense to suggest that Locke was influenced by his background, rather than being a complete innovator in every aspect of his thinking.

But before I examine the late and post-medieval doctrine of signification, I should explain my grounds for supposing that Locke was acquainted with it. Locke went to Oxford in 1652 at the age of twenty, and he stayed there until 1665, first as an undergraduate at Christ Church, and then as a lecturer and tutor at the same college. The Oxford curriculum, as laid down by the Laudian statutes of 1636, covered a variety of subjects. (17) The undergraduate was supposed to study grammar, rhetoric, logic, moral philosophy, political philosophy, geometry, and music; and at the M.A. level such subjects as metaphysics, natural philosophy, history and Greek were added. In theory the main texts studied for logic and metaphysics (as for ethics, natural, and political philosophy) were those of Aristotle, but in practice secondary sources were used. The leading metaphysics texts included some by Catholics such as the Frenchman, Eustace of St. Paul, and some by Protestants, such as the German, Scheibler, and the Dutchman, Burgersdijck. They were all predominantly scholastic in nature, by which I mean that they were highly organized, were heavily influenced by the renewed Aristotelianism of the sixteenth century, and were equally heavily influenced by such medieval authors as Thomas Aquinas (who was undoubtedly more popular in the seventeenth century than in the thirteenth) and Duns Scotus. Even the Protestant authors seem to have used mainly Catholic sources. The leading logic texts were also predominantly Aristotelian, with a few references to specifically medieval developments such as supposition theory. Two of the most popular at Oxford were by the Flemish Jesuit, Du Trieu, and the Polish Jesuit, Smiglecius, though Burgersdijck's logic text was used as well as his metaphysics text. Indigenous Oxford authors were represented by such men as the very popular Robert Sanderson whose logic text was repeatedly published up to 1841.

Nothing that anyone would count as new philosophical work was being done at Oxford (except by Robert Boyle, who was not a member of the university) and hardly any attention was paid to such figures as Descartes. Locke himself may not have read Descartes until 1666 or 1667, after he had left Oxford.(18)" (pp. 55-56)

(...)

"Conclusion

If Locke has been correctly absolved of the twin accusations that words mean ideas and that ideas are invariably images, his discussion of language can be viewed in a somewhat more sympathetic light than is usually the case. His emphasis on the place of ideas in the significative process can be interpreted as an emphasis on the importance of a speaker's concepts, beliefs, and experiences, in the process of communication; and he can be credited with a genuine awareness that there is also something public about language use. Not only must the things spoken of be publicly accessible (at least some of the time), but definitions too must be publicly ascertainable (and this all of the time). To this extent Hacking is wrong when he argues that Locke has no theory of meaning in the sense of a theory of public discourse,(46) but he is correct if we place the emphasis on the word 'theory.' In so far as Locke had a fully-fledged semantic theory, as opposed to a collection of observations." (p. 72)

(* Page and lines reference are to John Locke, *An Essay Concerning Human Understanding*, edited with a foreword by Peter H. Nidditch (Oxford: Clarendon Press, 1979).

(17) See E.J. Ashworth, "Philosophy Teaching at Oxford" to appear in the new edition of J.-P.

Schobinger, ed., *Friedrich Ueberwegs Grundriss der Geschichte der Philosophie. V. Philosophie im 17 Jahrhundert*, (Basel, Stuttgart: Schwabe & Co.), [1988].

(18) Various dates have been suggested including c.1656 and after 1671: see H.A.S. Schankula, "Locke, Descartes and the Science of Nature," *Journal of the History of Ideas*, 41 (1980) 461-3. I am following Maurice Cranston, *John Locke. A Biography* (London: Longmans Green and Co. 1957), 99-100.

(46) Ian Hacking, *Why Does Language Matter to Philosophy?*, (New York: Cambridge University Press 1975), p. 52.

21. ———. 1985. "An Annotated Bibliography of Medieval and Renaissance Logic." In *The History of Mathematics from Antiquity to the Present. A Selective Bibliography*, edited by Dauben, Joseph, 290-292. New-York: Garland.
22. ———. 1986. "Renaissance Man as Logician: Josse Clichtove (1472-1543) on Disputations." *History and Philosophy of Logic* no. 7:15-29.

"Josse Clichtove represents a turning point in the history of disputation, for he combines one of the earliest accounts of the doctrinal disputation with one of the latest accounts of the obligational disputation. This paper describes the nature and significance of the theories that he offered. Particular attention is paid to the doctrines of truth, necessity and possibility which lie behind his doctrines; and also to the light which his work throws on the aims and nature of an obligational disputation."

23. ———. 1987. "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 Honor of Professor Gabriel Nuchelmans*, edited by Rijk, Lambertus Maria de and Braakhuis, Henk A.G., 189-214. Nijmegen: Ingenium Publishers.

"In a volume dedicated to the celebration of Gabriel Nuchelmans' achievements, it seems appropriate to pick up one of the themes that he himself has discussed. In his seminal work on post-medieval philosophies of language, *Late Scholastic and Humanist Theories of the Proposition*, Nuchelmans devoted a section to the relation between written, spoken and mental propositions (1). In it he made reference to a few writers from the fifteenth and sixteenth centuries, such as George of Brussels and Petrus Tartaretus, and he spoke of their reactions to arguments put forward by Aquinas, Ockham and Buridan. In this paper I intend to explore in more detail the question of whether words signify concepts or things, as it was discussed by Jacobus Naveros, a Spaniard who studied and taught at Alcalá, and whose lengthy and interesting commentary on the *Perihermenias* was first published in 1533. I shall also discuss the 1530 commentary of Alphonsus Prado, who taught at Alcalá until 1534, when he moved to Coimbra³. Both men were influenced by the strong school of logic at Paris, and I shall make particular reference to the Parisian authors Johannes Raulin (1443-1514), Petrus Crockaert de Bruxellis (1455/70-1514), and Johannes Dullaert (ca. 1470-1513)⁴. A number of other authors who discussed the question in some detail will be mentioned in passing, particularly in the footnotes⁵. I shall thus use my examination of Naveros to add to the material given by Nuchelmans, and to explore further the impact of Aquinas, Ockham and Buridan on later writers.

The debate about whether words signified concepts or things was not, of course, a new one. It was already raging in the late thirteenth century, when Roger Bacon said that there was "not a moderate strife among famous men"⁶. A little later, Duns Scotus wrote of "a great altercation"⁷. Nearly everyone who wrote a commentary on the *Perihermenias* had something to say on the issue, and it was also discussed in Sentence commentaries and in Buridan's *Sophismata*. The debate had been triggered by the words of Aristotle, who had opened his *Perihermenias* (16a3) by saying that spoken words were signs of affections in the mind. As translated by Boethius the passage reads: "Sunt ergo ea quae sunt in voce earum quae sunt in anima passionum notae, et ea quae scribuntur eorum quae sunt in voce"⁸. What Aristotle himself had intended to assert can be ignored here⁹, for the later debate began not just from Boethius' Latin, but from a particular interpretation of it. Notae were taken to be signa, passiones were taken to be concepts¹⁰; and ea quae sunt in voce were taken to be primarily such substantive nouns as 'human being' and 'animal'. Those words which themselves stand for signs were excluded for the obvious reason that, at least in the case of mental signs, the referents must be concepts¹¹. In his analysis of the passage in question¹², Naveros argued that because nothing is called a sign of something unless it is representative or significative of it, Aristotle intended to assert that spoken words do signify concepts. Moreover, because Aristotle went on to state that spoken words were not the same for all men, Aristotle had meant to assert that this signification was ad placitum, i.e. conventional. Naveros strengthened the claim by adding the word *proprie*: the signification is not merely conventional, but conventional in the strictest sense. On the face of it, Naveros came down very strongly on one side of the debate. However, as we shall shortly see, this did not involve him in any denial that words also signified things. Indeed, the very theory of signification committed him to the assertion of a word-thing relationship." (pp. 189-190)

(...)
" Conclusion.

I would like to conclude by making three brief observations. First, any modern attempt to construe the thesis that spoken words signify concepts as a theory of meaning involves a simple misunderstanding of the verb *significare*. Second, although Naveros, like others, asserted that spoken words did signify concepts, he had no intention of overlooking the referential function of words. Nor did those who asserted that spoken words signified things have any intention of overlooking the place of concepts in the significative process. In many ways the dispute between the two groups was verbal rather than real. Third, when one considers the influence of the great medieval philosophers on the discussions found in the late fifteenth and early sixteenth centuries, it seems that Duns Scotus held pride of place, followed closely by Buridan. Ockham's conclusions were influential, though his arguments were not; and the arguments presented by Aquinas in his *Perihermenias* commentary had little effect." (p. 214)

(1) Nuchelmans (Amsterdam 1980: 16-24).

(2) For some details about Naveros' life and works, see V. Munoz Delgado ("La lógica en la Universidad de Alcalá durante la primera mitad del Siglo XVI", *Salamanticensis* 15, 1968:193-200).

(3) For some details about Prado, see Munoz Delgado, *op.cit.*, pp. 184-187.

(4) For details of these and other authors, see Lohr ("Renaissance Latin Aristotle Commentaries",

1974-1982).

(5) On the other hand, there are many *Perihermenias* commentaries I have looked at and shall not make any further reference to. Details of most of the works I exclude are to be found in Risse (*Bibliographia Logica. Verzeichnis der Druckschriften zur Logik mit Angabe ihrer Fundorte. I. 1472-1800*, Hildesheim 1965).

24. ———. 1988. "The Historical Origins of John Poincot's Treatise on Signs." *Semiotica* no. 69:129-147.

"Introduction.

In 1631-1632 John Poincot (otherwise known as John of St. Thomas) published his *Ars Logica* at Alcalá. From this massive work John Deely has extracted all those parts relating to the theory of signs, and has given them the general heading of *Tractatus de Signis* (*Treatise on Signs*), though it should be noted that the *Treatise on Signs* (*) proper consists of just three Questions related to Aristotle's *Perihermenias*. The project is a valuable one, for Poincot was an interesting writer in his own right who frequently had original observations to make. Deely's contribution, so far as the edition and translation are concerned, is superb; and the book itself is a splendid example of the printer's art. However, I have some very grave reservations about Deely's interpretation of Poincot's work, and it is these reservations that I intend to discuss here. Others (notably Sebeok, "A signifying man. Review of *Tractatus de Signis*" *The New York Times Book Review*, March 30, 1986, pp. 14-15) have already sung the praises of Deely and Poincot; and as one of the few philosophers who has actually read some of the sixteenth-century authors to whom Poincot was indebted, I feel it incumbent on me to point out that there is another side to the coin. However, I do not intend my remarks to detract in any way from the achievement represented by Deely's version of the *Treatise on Signs*.

I shall first discuss Deely's attitude toward the historical interpretation of Poincot and how it differs from my own. In so doing, I shall show that there was a tradition of placing the discussion of signs in a *Perihermenias* commentary. Second, I shall discuss the topic of relations, since Deely claims that the 'revolutionary' nature of Poincot's doctrine of signs stems from his classification of relations. I shall remark that a very similar classification of relations is found in at least one of Poincot's sources, namely Domingo de Soto (1494-1560). Third, I shall discuss the details of the theory of signs as described by some early sixteenth-century writers, and I shall show that the general lines of Poincot's classification are due to Domingo de Soto. Finally, I shall make some remarks about other aspects of the translation and editorial material which seem to need further comment." (p. 129)

* John N. Deely (trans. and ed.), with Ralph Austin Powell, *Tractatus de Signis. The Semiotic of John Poincot*, Berkeley: University of California Press, 1985.

25. ———. 1988. "Traditional Logic." In *The Cambridge History of Renaissance Philosophy*, edited by Schmitt, Charles B. and Skinner, Quentin, 143-172. Cambridge: Cambridge University Press.

"There were several waves of commentaries during the period after 1350.

Some of these were on individual books from the *Organon*, such as the commentary on the *Prior Analytics* by Marsilius of Inghen, which was published in Venice in 1516, and the commentary on the *Posterior Analytics* by Paul of Venice, which had been published seven times by 1518, nearly always in Venice. (4) In the fifteenth century we find important commentaries on both the *Logica vetus* and the *Logica nova* being produced by the Thomists at the Bursa Montis in Cologne (5) and by Johannes Versor in Paris. However,

such commentaries were soon to disappear. Bartholomaeus Arnoldi de Usingen, who taught at Erfurt, seems to be one of the last to write specifically on the *Logica vetus* (1514) and the *Logica nova* (1507, 1516) as such. Of the earlier medieval commentaries the most popular was that on the *Logica vetus* by Walter Burley, which had thirteen printed editions, the last in Venice in 1541. The most prevalent form of commentary from the late fifteenth century on dealt with the entire *Organon* in one book. The first commentaries of this sort, such as those by George of Brussels and Petrus Tartaretus (both first published at Paris in 1493) were in a traditional style, but almost at once the influence of humanism became apparent. In Paris Jacques Lefevre d'Étaples produced his *Paraphrases et annotationes in libros logicorum* (eleven editions up to 1588) and in Germany in 1516-17 Johannes Eck published a complete commentary based on the new translations of Johannes Argyropulos but using the work of logicians in the medieval

tradition. (6) Eck's work was produced for the University of Ingolstadt, and was prescribed by the statutes of 1519-20; but it is not clear how much it was actually used." (pp. 143-144)

(...)

"At the end of the sixteenth century we find both new texts and new emphases in the curricula of various institutions. There are three kinds of text which are particularly noteworthy. First, there are commentaries on specific works by Aristotle, such as Jacopo Zabarella's commentary on the *Posterior Analytics* which, along with his other works, was to be extremely popular in the first part of the seventeenth century, especially in Germany.

Second, there is the extensive commentary on selected parts of the whole *Organon*, most notably the *Commentarii in universam dialecticam Aristotelis* by the Coimbra Jesuit Sebastian Couto, which first appeared in 1606. It has been described as presenting a fusion of two late sixteenth-century approaches to

Aristotle, the philosophical one of Zabarella and the philological one of Pace. (13) Third, there are numerous shorter works which offer a complete introduction to the logic of Aristotle, such as those by Toletus and Fonseca (see below, p. 163)." (pp. 145-146)

(...)

By about 1530 most of this activity had come to an abrupt end. New commentaries on medieval authors disappeared except in Spain, where Thomas de Mercado's commentary on Peter of Spain was first published as late as 1571. Treatises on individual topics ceased to be written, with an occasional exception such as Antonius Kesler's treatise on consequences of 1623. (56) The publication both of the newer works in the medieval tradition and of the older ones virtually ceased. (57) At the same time the university curricula changed. Authors such as Rudolph Agricola and Johannes Caesarius were required in place of the medieval texts, (58) and Philipp Melanchthon's simplified summary of Aristotelian logic swept Germany.

Later, Petrus Ramus was to enjoy a runaway success. Yet the most important and influential texts of the last years of the sixteenth century were by no means simplified humanist manuals, and they contained not only considerably more syllogistic logic than Lorenzo Valla, Agricola or Ramus had thought appropriate, but also treatments of such medieval doctrines as supposition theory." (pp. 152-153)

(4) For general information on both manuscripts and printed editions of Aristotle commentaries, see Lohr [Latin Aristotle Commentaries: II. Renaissance Authors (Florence 1988)].

(5) For some information about the Cologne commentators, see Lohr, 'Authors: Johannes de Kanthi - Myngodus', *Traditio*, 27 : 251-351 1971, pp. 310-12. A 'bursa' was a kind of college in which students lived and were taught.

(6) The full title of Aristotle 1516-17 is instructive: *Dialectica: cum quinque vocibus Porphyrii Phenicis: Argyropilo traductore: a Joanne Eckio Theologo facili explanatione declarata: adnotationibus compendiaris illustrata: ac scholastico exercitatio explicata: videbis 0 Lector priscam Dialecticam restitutam: ac Neotericorum subtilitati feliciter copulatam*. For discussion of Eck, see Seifert, *Logik zwischen Scholastik und Humanismus: Das Kommentarwerke Johann Ecks*, Munich 1978.

(13) Schmitt, *Studies in Renaissance Philosophy and Science*, London 1981, § vi, p. 170.

(56) See Ashworth, 'Andreas Kesler and the later theory of consequences', *Notre Dame Journal of Formal Logic*, 14: 205-14 1973 for a discussion.

(57) For more details see *Cambridge History of Later Medieval Philosophy*, 1982, p. 790 (Ashworth).
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- "My own interest is in the fate of specifically medieval logical doctrines and the process whereby they were either lost from view or were transmuted into a subordinate part of Aristotelian logic. In order to pursue this theme, I have chosen six textbooks which were used at various times and places during the period 1500 - 1650; and I intend to consider their contents in some detail so as to demonstrate the interaction between medieval logic and the other three streams I isolated above. It must, of course, be pointed out that there were many other textbooks which did not contain any medieval logic, and hence were not suitable for my purposes. The works I have chosen are as follows: (I) the *Libelli Sophistarum*, loose collections of late fourteenth-century material which were used at Oxford and Cambridge in the first decades of the sixteenth century (11), (II) the *Logica parva* (12) of Paul of Venice, probably written 1395 - 1396 (13), printed many times up to 1614 (or beyond), and used as a textbook particularly in Italy. Both the *Libelli Sophistarum* and the *Logica parva* show how well-embedded medieval logic could seem, even in the early sixteenth century. (III) the *Summulae* of Domingo de Soto, a Spaniard who studied at Paris (14). The first edition appeared in Burgos in 1529, and the much-altered second edition in Salamanca in 1539 (15). Soto's work is illustrative both of early sixteenth-century developments within the medieval tradition; and, in its second edition, of the impact of rhetorical humanism. (IV) the *Institutionum Dialecticarum libri octo* of Pedro da Fonseca (16). It was first published in Lisbon in 1564, and the last of its fifty-three editions appeared in Lyon in 1625 (17). This work typifies the solid, late-scholastic textbook, full of detail and heavily influenced by Aristotelian humanism. (V) the *Logicae Artis Compendium* of Robert Sanderson, dating from 1615, and used as a textbook in Oxford well into the eighteenth century (18). In this work, all the four streams are mingled. (VI) the *Logica Hamburgensis* of Joachim Jungius, first published as a whole in 1638 (19), though Books 1 to 3 had appeared in 1635 (20). This too is a solid, detailed textbook, but it brings us to the end of the road so far as the medieval contribution to logic is concerned." (pp. 76-78)
- (11) For full discussion, see 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.
- (12) This work has been published in facsimile: Paulus Venetus, *Logica* (Venice 1472; Hildesheim, New York: Georg Olms, 1970). For a translation with notes, see A. R. Perreiah, *Paulus Venetus: Logica Parva* (Munich, Wien: Philosophia Verlag, 1984).
- (13) See F. Bottin, 'Logica e filosofia naturale nelle opere di Paolo Veneto' in *Scienza e filosofia*

- all'Universita' di Padova nel Quattrocento, edited by A. Poppi (Contributi alla Storia dell'Universita. di Padova 15. Trieste: Lint, 1983), p. 89 - 91.
- (14) For a discussion of Soto's logical work, see V. Munoz Delgado, *Logica formal y filosofia en Domingo de Soto (1494 - 1560)* (Madrid: Edita Revista "Estudios", 1964).
- (15) For a discussion of the various editions, see A. d'Ors, 'Las Summulae de Domingo de Soto', *Anuario Filosofico. Universidad de Navarra* 16 (1983), pp. 211 - 213.
- (16) There is a modern edition: Pedro da Fonseca, *Instituições Dialecticas Institutionum Dialecticarum libri octo*, 2 volumes, edited and translated by J. Ferreira Gomes (Coimbra: Universidade de Coimbra, 1964).
- (17) See Ferreira Gomes, editor's introduction to Fonseca, see fn. 16 above, I, pp. xxxv-xlvi.
- (18) For a facsimile of the 1618 edition, see Robert Sanderson, *Logicae Artis Compendium*, with an introduction by E. J. Ashworth (Bologna: Editrice CLUEB, 1985).
- (19) For a modern edition, see R. W. Meyer, editor, *Joachimi Jungii Logica Hamburgensis* (Hamburg: J. J. Augustin, 1957).
- (20) See W. Risse, *Joachimi Jungii Logicae Hamburgensis Additamenta* (Göttingen: Vandenhoeck & Ruprecht, 1977, p. 7.
27. ———. 1988. "Oxford." In *Ueberweg, Friedrich, Grundriss Der Geschichte Der Philosophie. Vollig Neubearbeitete Ausgabe. Die Philosophie Des 17. Jahrhunderts. Band 3.1. England*, edited by Schobinger, Jean-Pierre, 6-9; 26-27. Basel: Schwabe & Co.

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