

# Writings of E. J. Ashworth on the History of Logic. First Part: 1964-1988

## Second Part of the Bibliography of E. J. Ashworth: 1989-2011

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*I wish to thank Professor Ashworth for helping me to complete this bibliography.*

## ANNOTATED BIBLIOGRAPHY

1. "The Logica Hamburgensis of Joachim Jungius", Bryn Mawr College, 1964.  
Unpublished Ph. D. Dissertation
2. "Joachim Jungius (1587-1657) and the logic of relations," *Archiv für Geschichte der Philosophie* 49: 72-85 (1967).  
"In conclusion one may say that although the *Logica Hamburgensis* shares in all the faults of its age, the superficiality, the lack of metalogical perceptiveness, it also has merits which are peculiarly its own. The body of truth-functional logic contained in it would alone be sufficient to distinguish Jungius from his contemporaries, and still more impressive, given the background, is his use of relational inferences. It is true that the argument *a divisis ad composita* is both unoriginal and unremarkable, despite Scholz's praise; it is true that the inversion of relations is found in other contemporary logicians; while discussion of the oblique syllogism was quite usual; but the argument *a rectis ad obliqua* was both original and clearly presented. Moreover, Jungius seems to have been fully conscious that relational inferences were inferences in their own right, to be treated as such and not to be hidden away among the categories. Without this realization, any amount of originality in the discovery of actual inferences could have gone for nought. Hence, while the verdict of Heinrich Scholz needs modification, his praise of Jungius is basically justified, for it was he who brought the logic of relations to the attention of his successors, especially Leibniz." p. 85
3. "Propositional logic in the Sixteenth and early Seventeenth centuries," *Notre Dame Journal of Formal Logic* 9: 179-192 (1968).  
"Until recently, historians of logic have regarded the early modern period with unremitting gloom. Father Boehner, for instance, claimed that at the end of the fifteenth century logic entered upon a period of unchecked regression, during which it became an insignificant preparatory study, diluted with extra-logical elements, and the insights of men like Burleigh into the crucial importance of propositional logic as a foundation for logic as a whole were lost.(1) Nor is this attitude entirely unwarranted, for the new humanism in all its aspects was hostile to such medieval developments as the logic of terms and the logic of consequences. Those who were devoted to a classical style condemned medieval works as unpolished and arid, and tended to subordinate logic to rhetoric; while those who advocated a return to the original works of Aristotle, freed from medieval accretions, naturally discounted any additions to the subject matter of the *Organon*. But it would be a mistake to dismiss the logical work of the period too readily. In the first place, the writings of the medieval logicians were frequently published and widely read. To cite only a few cases, the *Summulae Logicales* of Petrus Hispanus received no fewer than 166 printed editions; (2) Ockham's *Summa Totius Logicae* was well known; the 1639 edition of Duns Scotus included both

the *Grammaticae Speculativae* attributed to Thomas of Erfurt and the very interesting *In Universam Logicam Quaestiones of Pseudo-Scotus*; (3) the *Logica* of Paulus Venetus was very popular; and a number of tracts by lesser known men like Magister Martinus and Paulus Pergulensis were printed. Moreover, since logic still played such a preeminent role in education, contemporary scholars were not backward in producing their own textbooks; and numerous rival schools of logic flourished.(4) The purpose of this paper is to make a preliminary survey of some of the wealth of material available from the sixteenth and first half of the seventeenth centuries, in order to ascertain how much of the medieval propositional logic had in fact been retained.(5) It will become clear that the situation was better than has been thought." p. 179

(1) See P. Boehner, "Bemerkungen zur Geschichte der De Morgansche Gesetze in der Scholastik," *Archiv für Philosophie*, 4 (1951), p. 145.

(2) See J. P. Mullally, *The Summulae Logicales of Peter of Spain* (Notre Dame, Indiana, 1945), p. LXXVIII.

(3) In Joannes Duns Scotus, *Opera Omnia*, edited by L. Wadding (Lugduni, 1639), Vol. I.

(4) For a comprehensive account of the various schools of logic, see Dr. Wilhelm Risse, *Die Logik der Neuzeit. I. Band 1500-1640*, (Stuttgart-Bad Cannstatt, 1964).

(5) I have limited myself to material in the British Museum and the Cambridge University Library for the purposes of this introductory survey.

4. "Petrus Fonseca and material implication," *Notre Dame Journal of Formal Logic* 9: 227-228 (1968).

"I intend to show that the sixteenth century Jesuit, Petrus Fonseca, whose *Institutionurn Dialecticarum libri octo* (1564) was one of the most popular textbooks of the period, was well acquainted with [material implication].

Fonseca introduces the subject in his discussion of the appropriateness of the name 'hypothetical' as applied to compound propositions."

5. "The doctrine of supposition in the Sixteenth and Seventeenth centuries," *Archiv für Geschichte der Philosophie* 51: 260-285 (1969).

"It is often assumed that the logic of terms, including supposition theory, was despised and ignored by the logicians of the sixteenth and seventeenth centuries, in spite of the sophistication with which it had been developed during the later middle ages.

(...)

It is perhaps not surprising that when I looked at some eighty textbooks written during the period in question, I discovered that as many as twenty authors not only referred to the doctrine of supposition sympathetically, but usually went on to offer a detailed analysis which is neither a slavish nor an inept echo of what the mediaeval logicians had said." pp. 260-271

6. "Some notes on syllogistic in the Sixteenth and Seventeenth centuries," *Notre Dame Journal of Formal Logic* 11: 17-33 (1970).

"Although a number of different schools of logic flourished in the sixteenth and seventeenth centuries, they seem to have shared a lack of interest in formal logic which expressed itself in a greater concern for the soundness than for the validity of arguments. An example of this tendency is the emphasis placed upon the Topics, or the ways of dealing with and classifying precisely those arguments which were not thought to be susceptible of formal treatment, since they depended for their effectiveness upon the meaning of the terms involved. It is true, of course, that the Humanists and, later, the Ramists, devoted considerably more space to the Topics and to the "invention" of arguments than did the scholastics, the Aristotelians, the Philippists or followers of Melancthon, or even the eclectics; but this was balanced by the greater devotion of the other schools to the categories, the predicables, the pre-, post-, and even extra-predicaments.

However, there was one subject which was both formal in inspiration and common to all text-books, namely, the syllogism; and as a result it provides a very good test of how much interest and competence in purely formal matters was retained during these centuries of logical decline." p. 17

(Notes omitted.)

7. Descartes' theory of clear and distinct ideas. In *Cartesian studies*. Edited by Butler R.J. Oxford:

Basil Blackwell 1972. pp. 89-105

8. "The treatment of semantic paradoxes from 1400 to 1700," *Notre Dame Journal of Formal Logic* 13: 34-52 (1972).  
 "During the middle ages, semantic paradoxes, particularly in the form of "Socrates speaks falsely", where this is taken to be his sole utterance, were discussed extensively under the heading of *insolubilia*. Some attention has been paid to the solutions offered by Ockham, Buridan, and Paul of Venice, but otherwise little work seems to have been done in this area.  
 My own particular interest is with the generally neglected period of logic between the death of Paul of Venice in 1429 and the end of the seventeenth century; and the purpose of this paper is to last some light both upon the new writings on paradoxes and upon the marked change in emphasis which took place during the sixteenth century. Although the traditional writings on *insolubilia* were available throughout the period, the detailed discussions of the fifteenth and early sixteenth centuries were soon entirely replaced by briefer comments whose inspiration seems wholly classical. Even the mediaeval word *insolubile* was replaced by the Ciceronian *inexplicabile*. In this area at least there is strong evidence for the usual claim that the insights of scholastic logic were swamped by the new interests and studies of Renaissance humanism." p. 34
9. "Strict and material implication in the early Sixteenth century," *Notre Dame Journal of Formal Logic* 13: 556-560 (1972).  
 "One of the favorite games played by historians of logic is that of searching their sources for signs of the Lewis-Langford distinction between strict and material implication. There are three ways of going about this, but the first two are often reminiscent of the conjurer searching for his rabbit, and only the third has real merit, for it alone involves the study of what was said about the conditional as such. I shall look at each way in turn, in relation to writers of the early sixteenth century."
10. "Existential assumptions in late medieval logic," *American Philosophical Quarterly* 10: 141-147 (1973).  
 "I discuss attempts made by late medieval logicians to deal with non-denoting terms within their systems, and to draw explicit distinctions between those inferences whose validity involves existential assumptions, and those whose validity does not involve existential assumptions. It was commonly assumed that affirmative sentences with non-denoting terms were false, and that negative sentences with non-denoting terms were true. Thus "all unicorns are white" is false, just as "some unicorns are white" is false, and the second can be validly inferred from the first without an extra premiss. Other inferences were seen to require an extra premiss, to the effect that members of a certain class existed."
11. "Are there really two logics?," *Dialogue* 12: 100-109 (1973).  
 "In this article I examine critically some of the things which people have to say about the relationship between mathematical logic and some other kind of logic which is variously described as 'intentional' and 'traditional'. In particular, I look at the theory of meaning held by John of St. Thomas, and other Sixteenth and Seventeenth century logicians, and I show how some kinds of proposition were given an unequivocally extensionalist interpretation. I argue that just as there is not one logic in modern times, so there was not one logic in the Seventeenth century."
12. "Priority of analysis and merely confused supposition," *Franciscan Studies* 33: 38-41 (1973).  
 "In this paper I criticize the argument put forward by Swiniarski that Ockham should have adopted the priority of analysis rule whereby the subject is analyzed before the predicate, and that had he adopted such a rule, merely confused supposition would have become unnecessary. I point out that in later medieval logic explicit priority of analysis rules were adopted, whereby terms with determinate supposition were analyzed first, whether they were subject or predicate. I also discuss the use made of merely confused supposition, particularly in the analysis of the relationship between "all a is b" and "only b is a"."
13. "Andreas Kesler and the later theory of Consequence," *Notre Dame Journal of Formal Logic* 14: 205-214 (1973).  
 "In another paper I examined the theory of consequence presented by a number of later fifteenth and early sixteenth century writers, ending with Javellus, an Italian who died in 1538. (1) For this earlier period, there was an abundance of material, containing much sophisticated discussion of semantical issues; but the next hundred years do not offer more than a few sources, and these are of

limited value. The only really outstanding figure, so far as I can see, is that of Andreas Kesler. He was a Protestant theologian who was born at Coburg in 1595, educated at Jena and Wittenberg, and died in 1643 after a long career in education. In 1623 he published a book entitled *De Consequentia Tractatus Logicae* which is unique, both for its own time, and as compared to the products of this earlier period, in that it explicitly subsumes the whole of formal logic under the theory of consequence. The laws of opposition and conversion, the categorical and hypothetical syllogism, were all seen as different types of consequence. Moreover, no extraneous material was included. Instead of starting with the categories, like the Aristotelians, or with the invention of arguments, like the Ramists, he devoted his first chapter to the definition of consequence. Topics, informal fallacies and other such subjects found no place, whereas some rarely discussed matters like exclusive and reduplicative propositions and the modal syllogism did appear. Thus he stands out for his contents as well as for his organization."

(1) See my paper "The Theory of Consequence in the Late Fifteenth and Early Sixteenth Centuries,"

14. "The theory of consequences in the late Fifteenth and early Sixteenth centuries," *Notre Dame Journal of Formal Logic* 14: 289-315 (1973).

"In this paper I intend to examine the treatment accorded to consequences by a group of writers from the late fifteenth and early sixteenth centuries, although I shall make some reference to earlier periods. The subject of consequences (or valid inference) is of central importance to the historian of logic because those who discussed it covered such a wide range of logical issues, including criteria for validity, problems of self-reference, the status of the so-called paradoxes of strict implication, and the systematization of valid inference forms. Indeed, a large part of semantics and the whole of formal logic could be subsumed under this general heading. Whether the authors themselves fully appreciated that this was so is unfortunately not such an easy question to answer, for those I am concerned with frequently leave the reader in doubt as to their view of the relation of consequences to the rest of logic." p. 289

15. "The doctrine of *Exponibilia* in the Fifteenth and Sixteenth centuries," *Vivarium* 11: 137-167 (1973).

Reprinted as chapter IX in: *Studies in Post-Medieval Semantics*.

"The doctrine of 'exponibilia' deals with sentences which need analysis because of the presence of such terms as 'only', 'begins', and 'ends'. In this paper I concentrate on three cases: exceptives, containing 'except' exclusives, containing 'only', and reduplicatives, containing 'in so far as'. I explain how they were analyzed by means of logically equivalent sentences; and I also show that the accounts offered by logicians of the late fifteenth and early sixteenth centuries were more sophisticated than those offered both by later logicians and by such earlier logicians as Paul of Venice."

16. Classification schemes and the history of logic. In *Conceptual basis of the classification of knowledge. Proceedings of the Ottawa Conference on the conceptual basis of the classification of knowledge, October 1st to 5th, 1971*. Edited by Wojciechowski J.A. Pullach bei München: Verlag Dokumentation 1974. pp. 275-283
17. *Language and logic in the Post-Medieval period*. Dordrecht: Reidel Publishing Company 1974. This book is the first attempt to provide a general introduction to the type of logical inquiry pursued in Europe after 1429 by means of a systematic presentation of the doctrines which were actually written about and taught. It radically alters traditional views of the period by demonstrating that not only were medieval doctrines still of overriding importance at the beginning of the sixteenth century, but that they continued to be discussed in many European universities at least until the mid-seventeenth century.

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18. "Some additions to Risse's *Bibliographia Logica*," *Journal of the History of Philosophy* 12: 361-365 (1974).

"One of the greatest contributions to the history of logic in recent years was the publication in 1965 of Wilhelm Risse's *Bibliographia Logica*, Vol. I, which covers the years from 1472 to 1800. However, despite the fact that Risse's monumental work lists an estimated 8,000 logical works, it is still far from comprehensive, as Mr. Hickman pointed out in an earlier article in this journal. Why this should be the case immediately becomes apparent when one starts to work in a library such as the Bodleian at Oxford with its handwritten catalogue of books printed before 1920 and its lack of any specialized Bibliographies such as the British Museum has provided for early printed books. Even in well catalogued libraries such as the University Library at Cambridge it can be difficult to locate texts, and one often stumbles across a new logical work through the accident of its being bound in the same volume as better known works. As a result of my researches over the last few years, I have put together a list of works which do not appear in Risse in the hope that other historians of logic may benefit from my discoveries. I cannot, however, claim that I have exhausted the resources of the libraries which I have visited. Doubtless there are still not only new editions but new authors left to be discovered.

(...)

This paper concerns logic texts published between 1472 and 1800. I list 20 items whose authors do not appear in Risse, 12 items whose authors appear in Risse in connection with another title or other

titles, and 58 items which appear in Risse in another edition or in other editions. I indicate the libraries in which all these items are to be found, and I also list some useful bibliographical works."

19. "For riding is required a horse: a problem of meaning and reference in late Fifteenth and early Sixteenth century logic," *Vivarium* 12: 146-172 (1974).  
Reprinted as chapter I in: *Studies in Post-Medieval Semantics*.

"If one assumes that 'horse' always refers to individual horses, then sentences such as the one quoted raise various problems. In this paper I first describe how the problems were stated by a group of logicians at the university of Paris, and what solutions they offered. I then present three typical Latin texts, with a detailed analysis of the arguments found in each."

20. "Descartes' theory of objective reality," *New Scholasticism* 49: 331-340 (1975).  
"In this paper I examine Descartes' attempt to prove the existence of god by means of arguments about the objective reality of ideas. I argue that, even if we allow Descartes all of his controversial premisses, the proof begins to fall apart when we reach the claim that ideas exhibit different grades of objective reality. One problem is that although Descartes starts by considering ideas not with respect to their content but with respect to their status as entities, he is forced to revert to a consideration of their content. Another problem is that the only way Descartes can sensibly draw a line between those ideas which have enough reality to warrant the inference that objects exist, and those ideas which do not, involves the introduction of the ontological argument, which is illicit at this stage in the "Meditations"."
21. "Will Socrates cross the bridge? A problem in medieval logic," *Franciscan Studies* 14: 75-84 (1976).  
Reprinted as chapter XII in: *Studies in Post-Medieval Semantics*.

"The problem discussed here is the truth-value of the sentence "Socrates will not cross the bridge" when uttered by Socrates in conjunction with the two premisses "all those who say what is false will not cross the bridge" and "all those who say what is true will cross the bridge." Paul of Venice treated the sentence as a genuine semantic paradox, and offered two different solutions. Other authors, such as Peter of Ailly, presented arguments to show that the sentence is not a semantic paradox. I argue that Paul of Venice was wrong."

22. "Agostino Nifo's reinterpretation of medieval logic," *Rivista Critica di Storia della Filosofia* 31: 353-374 (1976).
23. "I promise you a horse: a second problem of meaning and reference in Late Fifteenth and early Sixteenth century logic (first part)," *Vivarium* 14: 62-79 (1976).  
Reprinted as chapter II (first part) in: *Studies in Post-Medieval Semantics*.

"If one assumes that 'horse' always refers to individual horses, then sentences such as the one quoted raise various problems. In this paper I first describe how the problems were stated by a group of logicians at the university of Paris, and what solutions they offered. I then present four typical Latin texts, with a detailed analysis of the arguments found in each."

24. "I promise you a horse: a second problem of meaning and reference in Late Fifteenth and early Sixteenth century logic (second part)," *Vivarium* 14: 139-155 (1976).  
Reprinted as chapter II (second-part) in: *Studies in Post-Medieval Semantics*.

"This is the second part of the article in question, and it contains transcriptions of four early sixteenth century texts, together with an English analysis of the arguments contained in them."

25. "Thomas Bricot (d. 1516) and the Liar Paradox," *Journal of the History of Philosophy* 15: 267-280 (1977).  
Reprinted as chapter XI in: *Studies in Post-Medieval Semantics*.

"Bricot discussed at length three solutions to the liar paradox: Ockham's, Peter of Ailly's, and his own. His solution takes its starting point from the solution of Roger Swyneshed, but it is both original and highly plausible. In my paper I examine Bricot's discussion critically, with particular emphasis on his remarks about synonymy. I argue that his work is important both because it was

influential in his own time and because it demonstrates the often unsuspected originality of late fifteenth and early sixteenth century logicians. I also show that his solution, like so many others, falls foul of the strengthened liar paradox."

26. "An early Fifteenth century discussion of infinite sets," *Notre Dame Journal of Formal Logic* 18: 232-234 (1977).

"In the opening years of the fifteenth century, or perhaps a little earlier, John Dorp wrote a commentary on Buridan's *Compendium Totius Logicae* and it is here that one finds a discussion of infinite sets which is not only quite unexpected<sup>3</sup> 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.<sup>4</sup> In his discussion of this answer, Dorp presented several arguments against the claim that one could refer to impossible objects."

Notes omitted.

27. "Chimeras and imaginary objects: a study in the post-medieval theory of signification," *Vivarium* 15: 57-79 (1977).

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

28. *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.

Contents: Preface VII; Part One. Anselm to Paul of Venice (items 1-632) 1; Part Two. After Paul of Venice (items 633-879) 73; Index of Names 101; Index of Texts 105; Index of Translations 107; Index of Subjects 109.

There is a continuation volume: Fabienne Pironet - *The tradition of medieval logic and speculative grammar. A bibliography (1977-1994)* - Turnhout, Brepols 1997.

29. "Theories of the proposition: some early Sixteenth century discussions," *Franciscan Studies* 38: 81-121 (1978).

Reprinted as chapter IV in: *Studies in Post-Medieval Semantics*.

"I examine 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 pay particular attention to the rejection of "complexa significabilia" or eternal objects which serve as the referent of utterances, and to the doctrine that utterances signify not "aliquid" (some thing) but "aliqua litera" (in some way)."

30. "A note on Paul of Venice and the Oxford Logica of 1483," *Medioevo* 4: 93-99 (1978).

31. "Multiple quantification and the use of special quantifiers in early Sixteenth century logic," *Notre Dame Journal of Formal Logic* 19: 599-613 (1978).

Reprinted as chapter 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".<sup>(2)</sup> In the third place, I want to show that, despite what Geach has suggested, <sup>(3)</sup> 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

(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.

32. "A note on an early printed logic text in Edinburgh University Library," *Innes Review* 30: 77-79 (1979).
33. "The *Libelli Sophistarum* and the use of medieval logic texts at Oxford and Cambridge in the early Sixteenth century," *Vivarium* 17: 134-158 (1979).  
"The two most frequently printed logic texts in early sixteenth century England were the Oxford and Cambridge versions of the "*Libellus sophistarum*". I analyze the contents of each version, showing their similarities and differences; and I demonstrate that both works were merely unadorned reprints of early fifteenth century manuscript collections."
34. 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. Amsterdam: J. Benjamins 1980. pp. 59-68
35. "Can I speak more clearly than I understand? A problem of religious language in Henry of Ghent, Duns Scotus and Ockham," *Historiographia Linguistica* 7: 29-38 (1980).
36. "Descartes and human reason," *Queen's Quarterly* 86: 653-656 (1980).
37. Two early Sixteenth century discussions of *Complexe Significabilia*. In *Sprache un Erkenntnis im Mittelalter (vol. I). Akten des VI Internationalen Kongresses für mittelalterliche Philosophie der Société Internationale pour l'étude de la philosophie médiévale, 29 August - 3 September 1977 im Bonn*. Berlin, New York: W. de Gruyter 1981. pp. 511-516
38. "Mental language and the unity of propositions: a semantic problem discussed by early Sixteenth century logicians," *Franciscan Studies* 41: 61-96 (1981).  
Reprinted as chapter VI in: *Studies in Post-Medieval Semantics*.

"In the 14th century Gregory of Rimini argued that (1) there is a mental language separate from spoken language and (2) mental propositions are unified wholes with no discernible parts. This article examines the reactions of later logicians, showing that they accepted the doctrine of mental language; but argued that mental propositions must have a discernible structure, which involves parts."

39. "'Do words signify ideas or things?' The Scholastic sources of Locke's theory of language," *Journal of the History of Philosophy* 19: 299-326 (1981).  
Reprinted as chapter VII in: *Studies in Post-Medieval Semantics*.

"I consider recent attempts by Kretzmann and Landesman to give an account of Locke's theory of language. I show that a more plausible account can be given if we place Locke's remarks within the context of the scholastic debate on the signification of words, particularly as this debate is presented by such authors as Martin Smiglecius who were read in Seventeenth century Oxford."

40. "The problems of relevance and order in Obligational disputations: some late Fourteenth century views," *Medioevo* 7: 175-193 (1981).
41. The eclipse of medieval logic. In *The Cambridge History of Later Medieval Philosophy*. Edited by Kretzmann Nicolas, Kenny Anthony, and Pinborg Jan. Cambridge: Cambridge University Press 1982. pp. 787-796
42. "The structure of mental language: some problems discussed by early Sixteenth century logicians," *Vivarium* 20: 59-83 (1982).  
Reprinted as chapter V in: *Studies in Post-Medieval Semantics*.

"Given their belief in mental language, late medieval logicians felt the need to give some account of its structure. I explore their different views on the part played by syncategorematic terms, impersonal and other verbs, demonstratives, pronouns, case, number and gender. I show that Ockham's views were not universally followed; and I argue that mental language was not

necessarily thought of as an ideal logical language."

43. 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. Toronto: Pontifical Institute of Mediaeval studies 1983. pp. 309-333  
 "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. In Appendix B I have given a list of other relevant manuscripts which I was unable to consult for reasons of time. 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."
44. "Inconsistency and paradox in Medieval disputations: a development of some hints in Ockham," *Franciscan Studies* 44: 129-139 (1984).  
 "Fourteenth-century logicians discussed a special kind of disputation, called an obligational disputation, which normally had a logically possible but false proposition as its starting point. The problem then arose of how to handle various kinds of pragmatic paradox, including 'I do not exist'. I explore some solutions given by Ockham, John Buridan, Albert of Saxony, and William Buser."
45. "Locke on language," *Journal of Philosophy* 14: 45-73 (1984).  
 Reprinted as chapter VIII in: *Studies in Post-Medieval Semantics*.  
 Reprinted also in: Vere Chappell (editor) John Locke, theory of knowledge - New York, London; Garland Publishing 1992 and in: Vere Chappell (editor) - Locke - Oxford, 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."

(\*) 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).

46. An annotated bibliography of Medieval and Renaissance logic. In *The history of mathematics from Antiquity to the Present. A selective bibliography*. Edited by Dauben J. New-York, London: Garland Publishing Co. 1985. pp. 290-292
47. *Studies in Post-Medieval Semantics*. London: Variorum Reprints 1985.  
 Reprint of 12 essays already published.

CONTENTS: Preface;

REFERENCE IN INTENSIONAL CONTEXTS; I 'For Riding is Required a Horse': A Problem of Meaning and Reference in Late fifteenth and Early sixteenth Century Logic - Vivarium XII. 1974; II 'I Promise you a Horse': A Second Problem of Meaning and Reference in Late fifteenth and Early sixteenth Century Logic (Parts 1 & 2) - Vivarium XIV. 1976; III Chimeras and Imaginary Objects: A Study in the Post-Medieval Theory of Signification - Vivarium XV. 1977;

PROPOSITIONS AND MENTAL LANGUAGE

IV Theories of the Proposition: Some Early sixteenth Century Discussions - Franciscan Studies 38. 1978 (1981); V The Structure of Mental Language: Some Problems Discussed by Early Sixteenth Century Logicians - Vivarium XX. 1982; VI Mental Language and the Unity of Propositions: A Semantic Problem Discussed by Early Sixteenth Century Logicians - Franciscan Studies 41. 1981 (1984);

SCHOLASTIC INFLUENCES ON JOHN LOCKE

VII "Do Words Signify Ideas or Things?" The Scholastic Sources of Locke's Theory of Language - Journal of the History of Philosophy XIX. 1981; VIII Locke on Language - Canadian Journal of Philosophy XIV/1. 1984;

LOGICAL ANALYSIS

IX The Doctrine of Exponibilia in the Fifteenth and Sixteenth Centuries - Vivarium XI. 1973; X Multiple Quantification and the Use of Special Quantifiers in Early Sixteenth Century Logic - Notre Dame Journal of Formal Logic XIX. 1978;

SEMANTIC PARADOXES

XI Thomas Bricot (d. 1516) and the Liar Paradox - Journal of the History of Philosophy XV. 1977; XII Will Socrates Cross the Bridge? A Problem in Medieval Logic - Franciscan Studies 46. 1976 (1977);

Addenda et Corrigenda; Index

48. *Logicae artis compendium*. Bologna: Editrice CLUEB 1985.

Reprint of the second edition (1618, first anonymous edition 1615), edited with an introduction by E. J. Ashworth.

Contents: Editor's Introduction IX-LV; I. Robert Sanderson: Life and works XI; II. The history of logic in the Sixteenth century XVI; III. Logic in England XXIII; IV. The Oxford curriculum XXXII; V. An analysis of the *Logicae Artis Compendium* XXXV-LV.

*Logicae artis compendium*. Pars prima 11; Pars secunda 81; Pars tertia 129; Appendix prima 243; Appendix posterior 331; Indices; Index of pre-twentieth century authors and works 371; Index of twentieth-century authors 375; Index of names used in examples 377; Index of Latin terms 379-382.

"V. An Analysis of the *Logicae Artis Compendium*

In this section I intend to relate Sanderson to his background by focussing on four specific aspects of the *Logicae artis compendium*. I shall discuss (i) the nature of logic; (ii) the medieval heritage; (iii) changes in syllogistic; (iv) method and the art of discourse.

(i) The Nature of Logic

I shall begin by analyzing Sanderson's first chapter, which in a brief compass touches on a range of classificatory issues that were the subject of lively debate during the sixteenth century. The first of these issues concerns the very use of the word 'logica' as opposed to 'dialectica'. It was a medieval commonplace that the word 'dialectica' could be used in two senses, a broad sense which equated dialectic with logic, and a narrow sense, whereby dialectic was that kind of probable argumentation discussed in the *Topics*. (94) Which word was used for the study of all kinds of argumentation was a matter of taste. Peter of Spain had used 'dialectica'; John Buridan and others preferred 'logica'. However, in the sixteenth century greater doctrinal significance became attached to the word 'dialectica'. Ramus argued at some length that Aristotle's 'Organon' did not as was commonly thought discuss three special kinds of logic, i.e. apodictic or demonstrative, dealing with necessary material; dialectic, dealing with probable material; and sophistic, dealing with fallacious material. Instead, there was one general doctrine, which included a general doctrine of invention. (95) Hence, there was no specialized use of the term 'dialectic' and it both could and should properly be applied

to logic as a whole. In response Zabarella, for instance, argued that 'dialectic' did name a distinct part of logic, and should be used as the name of that part only. (96) Sanderson allows the wider use; but his remark that logica' is 'Synecdochiche Dialectica' is significant, given that synecdoche is the figure of speech whereby a part is put for the whole.

Sanderson next classifies logic as an 'ars instrumentalis'. Once more, his choice of words has to be understood in the light of sixteenth century polemic. There were four ways in which logic could be classified. (97) Peter of Spain had called it both an art and a science; scholastics tended to call it a science; humanists tended to call it an art;" and Zabarella called it neither an art nor a science but an instrumental habit. Giulio Pace in turn argued that an instrumental habit was in fact an art;" and it seems to be this usage that Sanderson has adopted. Moreover, Sanderson was fully conscious of the implications of his choice, for in Appendix 1, chapter 2, pp. 31-37, he gives a sample speech on the genus of logic. He cites Zabarella (as well as Keckermann) and he concludes that logic is properly speaking an art. In this he is departing from some of his English predecessors, especially Seton, who had classified logic as a science. (100)

The final part of Sanderson's initial characterization of logic is the phrase "dirigens mentem nostram in cognitionem omnium intelligibilium." This definition is very similar to one found in Keckermann, who may well have influenced Sanderson here. Keckermann wrote "[Logica] Est ars humani intellectus operationes sive Hominis cogitationes ordinandi dirigendi in rerum cognitione.,(101) According to the Conimbricenses, the view that logic directed the operations of the mind was found in Fonseca and Suarez, and it is not found explicitly in the *antiquiores*. (102) In order to understand the full significance of Sanderson's definition, it is necessary to relate his remark about directing the mind to his subsequent discussion of the divisions of logic, and it is also necessary to explore his reference to the knowledge of intelligible things in relation to his subsequent classification of the objects and subjects of logic." pp. XXXV-XXXVIII

(94) See, e.g., the commentary by John Dorp in *Perutile compendium totius logice Joannes Buridani* (Venice 1499, facsimile edition Frankfurt am Main, 1965), sig.a 2ra. For discussion see Pierre Michaud-Quantin, "L'emploi des termes logica et dialectica au moyen age" in *Arts libéraux et philosophie au moyen age* (Montreal, Institut d'études médiévales, Paris, J. Vrin, 1965), pp. 855-862. See also *Commentarii Collegii Conimbricensis in universam dialecticam Aristotelis* (Cologne, 1607: facsimile edition Hildesheim, New York, 1976) col. 25.

(95) Petrus Ramus, *Scholarum dialecticarum seu animadversionum in Organum Aristotelis*, in *Scholae in tres primas liberales antes* (Francofurti 1581, facsimile edition, Frankfurt am Main 1965), pp. 40-43. He suggested (p. 40) that sophistic was not properly a part of the art of logic, just as 'barbarismorum doctrina' is not properly a part of the art of grammar. Virtue is homogeneous but vices are heterogeneous, he remarked.

(96) Jacobus Zabarella, *De natura logicae* in *Opera Logica* (Cologne 1597, facsimile edition Hildesheim 1966), col. 20. Cf. the discussion by Pedro da Fonseca, *Instituições Dialécticas / Institutionum dialecticarum libri octo*, edited by J. Ferreira Gomes (Universidade de Coimbra, 1964), p. 22. Fonseca remarked that the definition of dialectic as dealing with the probable could not apply to dialectic in the wide sense.

(97) For discussions of these alternatives (and a fifth alternative, that logic is a faculty) see Conimbricensis, cols. 33-37; Zabarella, *De natura logicae*, cols. 5-24.

(98) One favourite phrase of those in the humanist tradition was "ars disserendi". Agricola wrote, for instance, "Erit ergo nobis hoc pacto definita dialectice, ars probabiliter de qualibet re proposita disserendi": Rodolphus Agricola, *De inventione dialectica* (Cologne 1523, facsimile edition Frankfurt am Main, 1967), p. 193. For discussion and further references see Ong, *Ramus, Method and the Decay of Dialogue*, pp. 178-179; and Conimbricensis, cols. 25-27.

(99) Julius Pacius, *In Porphyrii Isagogen et Aristotelis Organum Commentarius Analyticus* (Frankfurt 1597, facsimile edition, Hildesheim 1966), p. 2a: "Ergo logica est habitus instrumentalis, id est ars."

(100) Seton (sig. A 59 wrote: "Dialectica est scientia, probabiliter de quovis themate disserendi." Cf. John Sanderson, *Institutionum dialecticarum* (Oxoniae 1602) p. 3 and Samuel Smith, *Aditus ad logicam* (Oxonii, 1684, editio nona) p. I, for similar definitions.

(101) Bartholomaeus Keckermann, *Praecognitorum logicorum tractatus tres in Operum omnium quae extant tomus Primus* (Genevae, 1614), col. 90-91.

(102) Conimbricensis, col. 42.

49. *Tractatus Insolubilium*. Nijmegen: Ingenium Publishers 1986.

Critical edition of the treatise by Thomas Bricot with an introduction, notes, appendices and indices by E.J. Ashworth.

50. "Renaissance man as logician: Josse Clichtove (1472-1543) on disputations," *History and Philosophy of Logic* 7: 15-29 (1986).

"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."

51. 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. Nijmegen: Ingenium Publishers 1987. pp. 189-214

"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. 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 Coimbra. 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 (1465/70-1514), and Johannes Dullaert (ca. 1470-1513). A number of other authors who discussed the question in some detail will be mentioned in passing, particularly in the footnotes. 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". A little later, Duns Scotus wrote of "a great altercation". 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". What Aristotle himself had intended to assert can be ignored here, 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 concepts; 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 concepts. In his analysis of the passage in question, 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 (Notes omitted).

52. *Logica Magna. Secunda pars. Tractatus de Obligationibus*. Oxford: Oxford University Press 1988. Critical edition of the treatise by Paul of Venice (Pauli Veneti), edited with and English translation and notes by E. J. Ashworth.
53. Traditional logic. In *The Cambridge History of Renaissance Philosophy*. Edited by Schmitt Charles B. and Skinner Quentin. Cambridge: Cambridge University Press 1988. pp. 143-172  
"I outline the developments and changes in logic and logic teaching between 1350 and 1600, paying attention to the survival of medieval doctrines and to the renewed Aristotelianism of the sixteenth century. I also discuss the philosophy of language in the same period, paying attention to speculative grammar, to the doctrines of signs and signification, and to the clash between medieval doctrines of conventional signification and the new renaissance interest in the idea of a naturally significant spoken language."
54. Changes in logic textbooks from 1500 to 1650: the new Aristotelianism. In *Aristotelismus und Renaissance. In memoriam Charles B. Schmitt*. Edited by Kessler Eckhard, Lohr Charles, and Sparrn Walter. Wiesbaden: Otto Harrassowitz 1988. pp. 75-87  
"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 Filosófico*. 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).
55. 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. Basel: Schwabe & Co. 1988. pp. 6-9;-26-27
56. "The historical origins of John Poinsot's Treatise on signs," *Semiotica* 69: 129-147 (1988).  
"Introduction.

In 1631-1632 John Poinsot (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 Poinsot 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 Poinsot's work, and it is these reservations that I intend to discuss here. Others (notably Sebeok 1986) have already sung the praises of Deely and Poinsot; and as one of the few philosophers who has actually read some of the sixteenth-century authors to whom Poinsot 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 Poinsot 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 Poinsot'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 Poinsot'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 Poinsot'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."

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

## LINKS

On early-modern Scholastics see the excellent site [SCHOLASTICON](#) by Jacob Schmutz (in French).

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