How Is Material Supposition Possible?

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I. SUPPOSITION AND SIGNIFICATION

In an insightful article on the medieval theory of supposition, Elizabeth Karger noted a remarkable development in the characterization of the material mode of supposition between William of Ockham and his contemporaries in the early fourteenth century and Paul of Venice and others at the turn of the fifteenth century.[1] For William, material supposition is explicitly 'non-significative', while for Paul, every mode of supposition is a kind of signification.[2] In particular, we can set these definitions in opposition:

> William: "suppositio materialis est quando terminus non supponat significative."[3]
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> Paul: "suppositio materialis est significatio termini."[4]

William's definition is typical of his time, in contrasting personal supposition as that of a term used significatively, with material supposition as one where it supposits for things it is not used to signify. Other authors of the early fourteenth century speak similarly. For example, John Buridan, in his *Sophismata,* sets off the significative use of an expression, when it consequently has personal supposition, against material supposition, where by implication it is not used significatively.[5]

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1. E. Karger, "La Supposition Materielle comme Supposition Significative: Paul de Venise, Paul de Pergula," in A. Maierù, ed., *English Logic in Italy in the 14th and 15th Centuries* (Naples, 1982), pp. 331–41.
2. Paul of Venice, *Logica Magna (Tractatus de Suppositionibus),* ed. and trans. A. Perreiah (St. Bonaventure, 1971), p. 4: "nam omnis suppositio est significatio."
3. William of Ockham, *Summa Logicae,* ed. G. Gál et al. (St. Bonaventure, 1974), Part I, chap. 64, p. 196.
4. Paul of Venice, *Logica Magna.*
5. Johannes Buridanus, *Sophismata,* ed. T. K. Scott (Stuttgart-Bad Cannstatt, 1977), p. 53: "[tertium] sophisma [homo est species] est verum capiendo istum terminum homo materialiter, et falsum capiendo personaliter sive significative." Cf. Buridanus, "Tractatus de Suppositionibus," in M. E. Reina, ed., *Rivista Critica di Storia della Filosofia* 12 (1957): 175–208, 323–52, 204, where Buridan says of the sophism, "currit non potest esse subiectum propositionis": "respondeo quod [currit] supponit

Ockham, as is well-known, describes personal supposition as that where a term supposits for what it signifies, since he believes each such term signifies that of which it can be truly predicated.[6] Others took terms to signify universals, not their supposita, but their theories of supposition were fundamentally the same, though, of course, differently expressed for that reason. For example, Walter Burleigh says that a term in personal supposition does not supposit for what it signifies, but the intention is the same.[7] Hence, Walter expresses the same non-significative view of material supposition as Ockham, but in different terminology:

Walter: "suppositio materialis est quando vox prolata supponit pro seipsa prolata vel pro seipsa scripta vel etiam pro alia voce quae non est inferior ad illam vocam eo modo sumptam."[8]

The inferiors of a term are those terms contained under it, that is, with narrower extent.[9] But this means that its inferiors manifest the universal that the term signifies; the material supposita do not. And pseudo-Richard Campsall agrees that material supposition is non-significative; he notes that a term so used supposits for a word it does not signify.[10]

In the texts Karger discusses from a hundred years later, the situation is very different. Paul of Venice describes material supposition as the signification of a term for itself or for its like; his pupil, Paul of Pergula, actually describes it as the taking of a term for its material significate, contrasting the material significate (itself or its like) with its personal significate, the former requiring, the latter not requiring, a material sign

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materialiter pro omni tali termino, sed propositio indigeat exponi, scilicet quod nullus talis terminus currit potest esse subiectum propositionis significative sumptus; potest tamen sumptus materialiter."

6. William of Ockham, *Summa Logicae,* Part I, chap. 33, p. 95: "Aliter accipitur significare quando illud signum in aliqua propositione de praeterito vel de futuro vel de presenti vel in aliqua propositione vera de modo potest pro illo supponere." Cf. P. V. Spade, "The Semantics of Terms," in N. Kretzmann et al., ed, *The Cambridge History of Later Medieval Philosophy* (Cambridge, 1982), pp. 188–96, 191.

7. Walter Burleigh, *De Puritate Artis Logicae Tractatus Longior,* ed. P. Boehner (St. Bonaventure, 1955), p. 8: "quod terminus non supponit pro eo quod significat quando supponit personaliter, probo." Cf. Spade, "Walter Burley on the Simple Supposition of Singular Terms," *Topoi* 16 (1997): 7–13.

8. Burleigh, *De Puritate,* p. 3. On p. 2 he writes: "vox quandocumque supponit pro aliquo suo inferiori, tunc supponit personaliter."

9. See, e.g., W. Burley, "From the Beginning of his *Treatise on the Kinds of Signs,*" trans. P. V. Spade, *Topoi* 16 (1997): 95–102, n.9, p. 100.

10. E. A. Synan, "The Universal and Supposition in a *Logica* attributed to Richard of Campsall," in J. R. O'Donnell, ed., *Nine Mediaeval Thinkers* (Toronto, 1955), pp. 183–232, 198: "contingit . . . aliquando terminum supponere pro illo quod nullo modo significat, sicut patet in ista propositione: homo est vox, homo enim supponit ibi pro quadam voce quam tamen non significat."

such as *'ly'*.[11] John Dorp, in his commentary (ostensibly on Buridan, but actually on Marsilius of Inghen) describes material supposition not as Buridan had, but as had Marsilius, as that of a term for its non-ultimate significates, that is, for itself or its like.[12] Thus, all three reject any idea of material supposition's being non-significative, instead distinguishing those cases where a term has its ordinary signification from those where it signifies itself or signs similar to it.

I intend to demonstrate that the rejection of non-significative supposition was essential to the coherence of the medieval doctrine of signification. Karger described the change as the rejection of Ockhamist semantics, identifying the *significata* with the *denotata*.[13] But this suggests that the revised doctrine is somehow incompatible with Ockham's theory of signification. It certainly rejects his account of (material) supposition. But in fact it makes coherent what was incoherent in the role of concepts in Ockham's doctrine.

In fact, the realization that a term cannot supposit for what it does not signify occurred much earlier than the end of the fourteenth century. It came around the middle of the century, contemporaneously with Buridan, and was, I argue, the result of novelties due to Thomas Maulfelt and Marsilius of Inghen. To understand their insight, we need first to review the medieval theory of signification, and the pivotal role of concepts in it.

II. SIGNIFICATION AND CONCEPTS

The medieval theory of supposition depended on a theory of signification. The two came together to provide a theory of truth, which in turn fed into a theory of inference. The theory of signification describes generally

11. Paul of Pergula, *Logica,* ed. M. A. Brown (St. Bonaventure, 1961), p. 24: "Suppositionum . . . materialis est acceptio termini in propositione pro suo materiali significato . . . Significatum materiale est quod aliquis terminus significat pro quo vel de pronomine demonstrante illud non potest affirmative verificari sine signo materiali."

12. *Perutile compendium totius logice Johannis Buridani cum preclarissima Solertissimi Viri Joannis dorp expositione* (Venice, 1499; Frankfurt, 1965), sign. h4[vb]: "vel terminus supponit pro suo significato non ultimato in ordine ad illum conceptum secundum quem dicitur suum significatum non ultimatum: et sic est suppositio materialis."

13. Karger, "La Supposition Materielle," p. 337: "Mais c'est une autre option que nous allons examiner, celle qui consiste à récuser la sémantique ockhamiste elle-même, en particulier le sens donné par Ockham à *«significatio».* On éviterait en effet que «l'implication de non-grammaticalité» ne s'impose, en redéfinissant la *significatio* de telle sorte que toute entité à laquelle un terme *peut* renvoyer (c'est-à-dire qu'il *«dénote»*) soit un *signifié* de ce terme. Autrement dit, ces deux relations sémantiques que la théorie d'Ockham comporte [dénotation et signification] devraient être identifiées l'une à l'autre."

how words relate to things, and how propositions come to mean what they do. But this general description needs a further account of how a particular occurrence of a word in a particular proposition is related to which things in what way. Only then can one say what has to be the case for the proposition to be true, and so determine how truth is preserved in an inference.

For the medievals in whom I am interested, the signification of words and propositions was made possible by their link to concepts. Vocal signs are seen as imposed by custom as marks or signs for concepts, and written signs are in turn marks or signs for vocal signs, and so indirectly for concepts. Concepts, however, signify or conceive a range of objects naturally, not by any conventional imposition. Concepts are formed by abstraction from sensory cognition. These medieval thinkers inherited from Aristotle, and took further, an elaborate, rich theory of cognitive powers which drew from sensation the whole panoply of cognitive awareness. The common sense discovers shape, motion and other aspects of cognition not present in each particular sense—separate experiences are needed to discern motion, and both sight and touch are needed to learn about shape or figure. An estimative or cogitative sense is needed to recognize the hostility of the wolf or the friendliness of the dog, qualities not immediately evident in sensation. Further composition and division is needed to create further concepts, and abstraction to understand generality. But they were empiricists, following Aristotle in believing that all knowledge is derived from the senses. "The mind is a *tabula rasa* on which nothing is at first written, but can be written" (*De Anima* 430a1). The innate powers of cognition were manifold and considerable, but no more than is necessary to the empiricist project of obtaining all real knowledge through the senses.

Concepts, therefore, have a natural epistemological relation to the class of things which they signify. To call it "natural" means that the concept is linked by a law-like causal connection to that of which it is a concept, that causal link being explained by the mind's cognitive abilities. Conventional signs, the signs of spoken and written language, in contrast, gain their signification only by being linked by custom and practice to those natural signs. They obtain their signification indirectly, in what has been called a "dog-legged" manner.[14] Their immediate signification, or what they are primarily attached or subordinate to, is the concept; thereby, their ultimate signification is the range of things to which the concept applies.[15]

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14. S. Blackburn, *Spreading the Word* (Oxford, 1984), p. 40.

15. See, Buridan, "Tractatus de Suppositionibus," p. 202 (corrected by H. Hubien): "dictiones categorematicae innatae supponere significant res aliquas mediantibus conceptibus earum, secundum quos conceptus, vel similes, impositae fuerunt ad significandum. Sic ergo illas res illis conceptibus conceptas vocamus 'significata ultimata' in proposito, illos autem conceptus vocamus 'significata immediata'."

Take the noun *'asina'*, for example: whereas *'asina'* signifies all she-asses—whatever shares the natural likeness of she-ass—the term will supposit differently for different classes of she-ass in different propositions.[16] Those propositions can occur in writing, in speech, or in the mind, composed, respectively, of written, spoken, or mental terms. Nonetheless, those terms will relate differently to their significates in different linguistic contexts. So, for example, in *'Asina hominis est in prato meo'*, *'asina'* supposits only for she-asses presently existing, whereas in *'Adduxerunt asinam'*, *'asinam'* supposits for she-asses existing in the past as well.[17] Even when terms supposit for the same (class of) objects, they may supposit for them differently. In *'Omnis asina est alicuius asina'*, the first occurrence of *'asina'* will supposit for (the same) she-asses differently from the second occurrence. The modes of supposition provided a theoretical context in which to describe these differences.

In all these cases, however, *'asina'* or *'asinam'* supposits for she-asses. But not all occurrences of *'asina'* behave in this way. A typical exception is *'Asina est vox'*. *'Asina'* here does not supposit for any (class of) asses at all—or if it does, the proposition is false, for no ass is a sound. If we are to explain our intuition that the proposition can be uttered and be true, we need to explain how *'asina'* functions there, and the natural thought is that it supposits for the word *'asina'* itself. It is the spoken word *'asina'* which is a sound. *'Asina est vox'* is at best ambiguous, false when taken to describe asses as sounds, true when taken to describe the word *'asina'* as one.

But we have noted that supposition relates to, and varies between, different occurrences of a term in different propositions. So it is the particular occurrence of *'asina'* in the proposition *'Asina est vox'* which has this different kind of supposition, one *'asinam'* does not have in *'Adduxerunt asinam'*. Yet it does not supposit, therefore, only for itself, namely, that particular occurrence of *'asina'* in that proposition. For example, when Plato says, *'Homo est vox prolata a me'*, *'homo'* supposits for itself; when Socrates says, *'Homo profertur a Platone'*, *'homo'* supposits not for itself but for the occurrence of *'homo'* spoken by Plato. Indeed, since *'Asina est vox'* above

16. Note that this should not be read as saying that the term supposits for a class. I am using 'class' as a collective noun. Just as if I buy a flock of sheep or a brace of pheasants, what I buy are sheep and pheasants, so if a term supposits for a class of she-asses, it supposits for the she-asses.

17. Ockham in fact disagrees with many of his contemporaries in the analysis of such a proposition as *'Adduxerunt asinam'*, or for a clearer example of this point, *'Homo erat albus'*. The orthodox view in the theory of ampliation was that *'homo'* supposits there for both present and past men. Ockham argued that this gave the wrong truth-condition. Rather, the proposition is ambiguous, on one reading meaning that there was a man (perhaps now dead, or changed into a woman) who was white, on the other, that there is a man (possibly now black) who was white. See G. Priest and S. Read, "Ockham's Rejection of Ampliation," *Mind* 90 (1981): 274–79.

was a written proposition, *'asina'* does not there supposit for itself at all, for written (and mental) terms cannot be heard. Rather, *'asina'* in *'Asina est vox'* supposits for all vocal occurrences of the term *'asina'*—that is, for the vocal term *'asina'*.[18] At least, that is what the theory must show, if it is to explain the apparent truth of the proposition.

Accordingly, material supposition is contrasted with personal supposition, the latter being that mode of supposition in which a term supposits for that of which it can be truly predicated, the former that where it supposits for a vocal or written term. The distinction seems clear, and several modern commentators leave the matter at this point.[19] There are, however, a number of complications that need to be dealt with.

The definition of material supposition says that a term has this mode of supposition when it supposits for itself or for something similar. But *'vox'* can have personal supposition even when it supposits for itself, for it belongs to the range of its own significates. For example, in the spoken proposition, *'Omnis vox est sonus'*, *'vox'* supposits personally for itself, saying that it itself, among other things, is a sound.[20] To clarify the account of material supposition, our authors realized, a further exclusion clause was needed. We thus find the description of material supposition as non-significative. Ockham adds the phrase, 'when a term does not supposit significatively'.[21] The need is to distinguish those cases where a word has personal supposition for itself (e.g., *'Omnis vox profertur'*) from those where it has material supposition for itself (e.g., *'Vox est sonus'* or *'Vox est nomen'*).

Secondly, more needs to be said about the phrase 'or for something similar'. For we find what seems to be material supposition even when the expression referred to is not (exactly) similar. Ockham's examples are *'Animal predicatur de homine'*, in which *'homine'* supposits for *'homo'*, and *'Hominem currere est verum'*, in which *'hominem currere'* supposits for *'Homo currit'*.[22] Some

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18. The proof that it supposits for *all* vocal occurrences of the term is (1) that in *'Omnis homo est dissyllaba'*, *'homo'* must supposit for all occurrences of *'homo'*—see e.g., Marsilius of Inghen, *Suppositiones*, in *Treatises on the Properties of Terms*, ed. and trans. E. Bos (Reidel, 1983), pp. 58–60; and (2) that *'Omnis asina est vox'* and *'Asina est vox'* differ only in *mode* of supposition, not in what they supposit for.

19. For example, P. Boehner, *Medieval Logic* (Manchester, 1952), pp 46–47; A. Broadie, *Introduction to Medieval Logic*, 2d. ed. (Oxford, 1993), p. 31. Calvin Normore gets close to the question when he asks ("Material supposition and the mental language of Ockham's *Summa Logicae*," *Topoi* 16 [1997]: 27–33, 29): "what determines exactly which are the terms for which it can materially supposit?" But he never answers the question, what determines it, concentrating instead on the more common issue of the exact range of material supposition.

20. Buridan, "Tractatus de Suppositionibus" p. 204 (corrected by H. Hubien): "in hac propositione vocali 'omnis vox est sonus' termini supponunt personaliter, licet supponant pro se ipsis, quia non supponunt pro se ipsis nisi ea ratione qua sunt cum aliis vocibus et sonis significata ultimata harum vocum 'vox' et 'sonus'."

21. Ockham, *Summa Logicae*, Part I, chap. 64.

22. Ockham, *Summa Logicae*, Part I, chap. 67.

authors accordingly expanded the definition to read 'or for something similar or dissimilar to itself'.[23]

At this point, a question should arise: What unites these cases? Material supposition covers terms suppositing for themselves, for things similar to themselves, and for things in various ways dissimilar to themselves. What is included here, and what is excluded?

In fact, the question has more bite: How is material supposition even possible? For the theory of signification was developed in order to explain how a term or expression was related to a range of objects. Signification depends on the existence of concepts—or cognitions—uniting a range of things sharing a natural likeness. Supposition relies on signification to determine the class of things related to an expression in a proposition in order to determine, in turn, the truth-condition of propositions containing that term.

We are now presented with an arbitrary exception to the theory. In the standard case, a term supposits personally, that is, when it supposits for what it signifies. However, in some cases it does not supposit for what it signifies—only in this way can we explain how a proposition like *'Asina est vox'* is true—and so it is said to have material supposition. In such a case, the term has a different class of *supposita.* But what class, and how is it possible? If signification was really needed to explain personal supposition, then how can material supposition work without it? Conversely, if material supposition is possible—to cite some entirely new class of *supposita*—then it would seem that the theory of signification is really irrelevant to the description of personal supposition and the theory of truth.

The problem is not unique to medieval supposition theory. In Frege's semantic theory, sense is a "route to" reference, that is, the reference of an expression in a proposition is determined by its sense, possibly in conjunction with other determinants—its context, both linguistic and non-linguistic.[24] For example, the term 'the ass' in 'The ass is eating my grass' refers to a particular donkey as a result of the sense of 'ass', the use of the definite article (in virtue of which it refers to an object, not a concept) and the non-linguistic context, namely, which donkey is the focus of attention on that occasion of utterance.

However, Frege famously has a doctrine of indirect reference, whereby certain occurrences of terms refer to their customary senses rather than their customary references. For example, in 'I believe the ass is eating my grass', the phrase 'the ass' refers not to a donkey, but to the customary sense

23. See, e.g., Buridan, "Tractatus de Suppositionibus," p. 202: "non oportet tamen quod supponat pro se ipsa, sed supponit saepe pro alio vel proportionali"; Albert, *Perutilis Logicae* (Venice, 1522), tract 2, ch.3, C. Kann, ed., *Die Eigenschaften der Termini* (Leiden, 1994), p. 173: "pro se vel pro aliquo sibi simili vel dissimili."

24. See M. Dummett, *The Interpretation of Frege's Philosophy* (London, 1981), p. 45.

of the expression 'the ass'. Thereby, Frege is able to explain the apparent failure of substitution in such contexts. Substitution under coreference is a universally valid procedure, he believed. Exceptions are explained by denial of the minor premise, or at least, its relevance—the terms substituted are not really coreferents, for the terms, when so placed, refer to their customary senses, and those are different. In his famous example, 'Hesperus' and 'Phosphorus' differ in sense (they are different ways of referring to Venus) and so the latter cannot replace the former in, for example, 'I believe Hesperus is the second planet from the Sun' with any logical guarantee that truth will be preserved.

Once again, however, an exception to the theory must either be embraced by the theory, or threaten to destroy its whole basis. The basis of Frege's theory is that sense determines reference. Reference is not capricious, but is mediated by sense. Hence one cannot simply say that, in some contexts, the reference is different, and not that determined by sense. If sense determines reference, as the theory says, it must always do so, and may not be set aside when circumstances demand a variation. Simply to say that in 'I believe Hesperus is the second planet from the Sun', 'Hesperus' has a reference different from its customary one would be not merely *ad hoc,* blocking an apparent counterexample to the principle of substitution; it would be contrary to the theory. Sense does not determine reference only when it is convenient for us that it do so. Sense determines reference *tout court.*

Frege's solution to this problem in his theory, taken up by Church, was a doctrine of indirect sense.[25] Expressions in these contexts have a sense different from their customary sense. It is this indirect sense which determines their reference and ensures that they refer to their customary senses in these contexts. So far, so good: we are now back within the theory, rather than providing exceptions to it. But a question remains: What is this indirect sense? Frege and Church claim that to each expression there corresponds an indefinite infinity of senses, one for each possible level of embedding in an indirect context. Each is different, they claimed, for at each level a different criterion of what substitutions are possible operates.

There are problems here for Frege's theory, and it is not clear that Frege foresaw them. Many commentators do not.[26] But the focus of

25. See Frege, 'On Sense and Reference', trans. in P. Geach and M. Black, ed., *Philosophical Writings* (Oxford, 1966), pp. 56–78, 59; A. Church, "A Formulation of the Logic of Sense and Denotation," in P. Henle et al., ed., *Structure, Method and Meaning* (New York, 1951), pp. 3–24, 12 n.13. See also L. Linsky, *Referring* (London, 1967), p. 31.

26. For example, A. Kenny, *Frege* (London, 1995), pp. 137–38. F. von Kutschera, *Gottlob Frege* (Berlin, 1989), p. 87, denies such a hierarchy is necessary. The argument is this: Church and Frege concede that the linguistic context plays a role in determining that the expression has a different sense in this context, the indirect sense then pointing to the indirect referent. An alternative, and simpler, explanation is that the linguistic context feeds directly into the customary sense to yield the indirect referent. The indirect sense is unnecessary.

the present paper is the problem as it affects the medieval theory of supposition.

Truth is not arbitrary; it is a matter of convention. Words, written and spoken, are conventionally imposed to signify, via a concept (on the medieval account), a range of significates; and particular utterances are true or false depending on how exactly their constituent terms relate to what class of their significates. The doctrine of material supposition hangs free of that theoretical framework, suggesting that words can also be used capriciously. But there is nothing capricious about material supposition. What is lacking is the further theory needed to bring it within the framework. What is needed is a theory of the signification of terms in their different function when suppositing materially. What unites the range of things (in fact, expressions) for which terms supposit when suppositing materially?

III. NATURAL SIGNIFICATION: PROPER AND BROAD

The central doctrine of the medieval theory is that signification is mediated by concepts, mental signs whose natural and intrinsic signification for a class of objects is established by certain epistemic powers of the mind, and which passes to spoken and written signs as a result of their conventional attachment to these mental signs. The general idea is that, for a term to supposit for a range of objects, the term should either itself be a concept, or be conventionally imposed on a concept, so that, depending on the particular linguistic and non-linguistic context of its occurrence in a proposition, it will supposit in some way for some class of the natural significates of that concept. What we presently require is an account of what concept unites the supposita of a term with material supposition.

What is needed is a concept which unites the spoken or written expressions by their natural likeness. Thus we have, for example, the concept of the spoken term *'asina'*, the concept of the written term *'vox'*, and the concept of the (written or spoken) proposition *'Homo currit'*. The spoken word *'asina'* is conventionally imposed on the concept of she-ass, and so comes conventionally to signify she-asses. But there is a natural likeness among the spoken word *'asina'*, and so *'asina'* comes to signify naturally the concept of the spoken word *'asina'* itself. This is not a conventional imposition on and signification of a concept, for no convention is needed, as it would be to make *'asina'* signify the concept of the word 'man', for example. It is the same operation of the mind which forms the concept of the word *'asina'* signifying occurrences of the word *'asina'* as forms, for example, the concept of the animal she-ass which naturally signifies she-asses.

The result was the doctrine of ultimate and non-ultimate signification. But first, we should trace a different story, the distinction between proper

and broad, or improper, natural signification. We find it in the writings of a group of logicians from the middle of the fourteenth century, namely, Thomas Maulfelt, Albert of Saxony, and John of Holland, whose doctrines of supposition are remarkably similar. John of Holland taught at Prague in the late 1360s and early 1370s.[27] Albert of Saxony was master at Paris from 1351 to 1362.[28] What, however, of Thomas Maulfelt?

Maulfelt was the author of a full range of treatises on the properties of terms (suppositions, confusions, consequences, and the like) which survive in numerous manuscripts. However, there is no firm evidence as to his identity, his origins, or even his date. He is often described as "Thomas anglicus," but this would in fact suggest that he did not work and study in England. Sönke Lorenz, in his extensive study of the school of Erfurt and the work of John Aurifaber, argues that Maulfelt influenced Aurifaber when the latter was at Paris in the 1330s.[29] He therefore concludes that Maulfelt should be identified with a master Thomas anglicus mentioned as a Paris master in 1331.

The definitions of material supposition given by Maulfelt, Albert, and John of Holland exhibit a remarkable verbal similarity, distinguishing them from the definitions adopted by, on the one hand, Ockham and Buridan, and on the other, by Marsilius and Dorp. The definitions offered by the three authors are shown in parallel, to highlight their similarity:

Suppositio materialis est terminus stans pro se vel pro alio sibi simili in voce vel in scripto eodem modo vel aliter supponente cui non imponitur ad significandum <*mg.* ultimate> vel pro aliqua alia voce que non est inferior ad ipsum, nec ipsum proprie naturaliter significat.[30]	Suppositio materialis est acceptio termini qui accipitur pro se vel pro aliquo sibi simili vel dissimili eodem modo vel aliter supponente cui non imponitur ad significandum, nec illud pro quo supponit naturaliter proprie significat.[31]	Suppositio materialis est terminus supponens pro se vel pro aliquo sibi simili in voce vel in scripto eodem modo vel aliter supponente cui non imponitur ad significandum nec istud pro quo supponit naturaliter proprie significat.[32]

Bos has already noted the influence of Thomas Maulfelt on John of Holland.[33] Thomas proceeds to elaborate: what is essential to material supposi-

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27. John of Holland, *Four Tracts on Logic,* ed. E. P. Bos (Nijmegen, 1985), *Suppositiones,* pp. 13*–14*.
28. See C. Kann, *Die Eigenschaften der Termini,* p. 9.
29. S. Lorenz, *Studium Generale Erfordense* (Stuttgart, 1989), pp. 234 ff.
30. Thomas Maulfelt, *De Suppositionibus,* ms. Edinburgh 138, f. 62ʳ.
31. Albert of Saxony, *Perutilis Logicae,* ed. Kann, p. 173.
32. John of Holland, *Suppositiones,* p. 11.
33. John of Holland, *Supp.,* pp. 21*–24*.

tion is not that the term does not signify what it supposits for, but that it should not have been *imposed* to signify it, for in that case it would have personal supposition. Proper natural signification contrasts with natural signification in the broad sense, and it is the latter which provides material supposition:

> Additur etiam ista particula *nec ipsum proprie naturaliter significat,* quia quidam conceptus significat se communiter naturaliter vel etiam suum simile ut iste conceptus homo vel consimilis. Quidam conceptus significat se naturaliter proprie ut isti conceptus qualitas, ens et huiusmodi. Dicitur *significare se naturaliter proprie* quia importat se naturaliter et suum simile in voce vel in scripto quod tamen eundem conceptum ex impositione voluntaria representat. Omnis igitur conceptus stans in propositione mentali pro isto quod significat naturaliter communiter supponit materialiter. Exemplum ut *homo est conceptus anime mee* posito quod sic intelligam. Sed si conceptus propositionis supponit pro isto quod naturaliter proprie representat dicitur supponere personaliter, ut in exemplo *Qualitas conciptur a me.*[34]

Note, however, that broad natural signification is defined here only for concepts, that is, mental terms. As Albert (and John, following him) writes:

> et dicebatur ultimo: *nec illud pro quo supponit naturaliter proprie significat* quoad terminos mentales qui non significant aliquid ex impositione sed naturaliter. Et significant aliqua naturaliter proprie, aliqua autem naturaliter communiter.[35]

What is left unclear is whether written and spoken terms have such a broad natural signification. But we can find an earlier conception of a term naturally signifying itself which does extend to vocal terms. In an anonymous text on equivocation of the end of the thirteenth century, we read:[36]

> Verbi gratia, 'homo' significat se cum dicimus 'homo est disillabum', sed significat suum significatum cum dicimus 'homo est substantia'. Et arguitur quod vox significans se et suum significatum sit equivoca . . . quia vox inportat se vel significat naturaliter, sed significatum suum significat ad voluntatem inponentis . . . Oppositum arguitur . . . Probatio minoris, scilicet quod vox significans se etc. non significat ad placitum, quia tantum ad placitum significat unum, scilicet suum significatum, sed se significat naturaliter.

Maulfelt and Albert's conception of material supposition does raise one problem, however. Recall that in §II we observed one requirement on the

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34. Maulfelt, *De Supp.,* f. 63ʳ.
35. Albert of Saxony, *Per. Log.,* p. 174. Cf. John of Holland, *Supp.,* p. 12.
36. "Anonymus Pragensis on Equivocation," ed. Dafne Muré, *Cahiers de l'Institut du Moyen-Âge Grec et Latin* 68 (1998): 63–97, 68–69.

theory be that it show how *'vox'* in *'Vox est nomen'* can have material supposi-
tion, despite the fact that it does signify itself (conventionally). But Maulfelt's
phrase, *'cui non imponitur ad significandum',* will exclude this possibility. Albert
of Saxony writes: *"quia hic terminus vox est impositus ad significandum se, supponit
pro se non materialiter sed personaliter" (Per. Log.,* p. 194). Thomas, too, said that
'qualitas' supposits naturally. They grasp the nettle; but the result is counter-
intuitive. There is a difference between saying that some spoken sound is a
noun or that I conceive some quality and saying of this particular sound,
namely, *'vox',* that it is a noun, or that I conceive of 'quality' itself.

A further step was needed, and one of the first authors, perhaps the
first, to take it appears to have been Marsilius of Inghen, writing in Paris
in the 1360s.[37] It is the distinction between ultimate and non-ultimate
signification.

IV. ULTIMATE AND NON-ULTIMATE SIGNIFICATION

Marsilius defines material supposition in a manner reminiscent of Maulfelt
and the others. However, he introduces his own distinctive features. One is
that he does not restrict the modes of discrete and common supposition
(determinate, confused, and so on) to personal supposition, but extends
them to material supposition. Thus his definition of discrete material sup-
position reads:

> Suppositio discreta materialis est acceptio termini discreti stantis pro
> uno solo significato non-ultimato de quo terminus talis verificatur
> mediante copula talis propositionis.

This being the first of the modes of material supposition he defines, and so
the first introduction of non-ultimate signification, he proceeds to explain
this term. He writes:

> Notandum quod significatum termini non ultimatum vocatur ipse ter-
> minusmet aut sibi similis aut equivalens, cum primo semper terminus
> se ipsum et sibi similem intellectui representet, deinde significatum
> intellectui ostendit suum ultimatum, scilicet rem extra pro qua talis
> terminus dicitur stare significative. Exempli gratia: significatum non
> ultimatum istius termini homo est ipsemet aut sibi similis aut equiva-
> lens. Sed significatum ultimatum est ipsa res extra, sicut animal ration-
> ale mortale, quia ultimate rem extra significat. Et ideo breviter:
> significatum ultimatum termini est res extra quam talis terminus ex
> impositione significat si sit vocalis vel scriptus, et est eius naturalis

37. Marsilius of Inghen, *Suppositiones* (see n.18), pp. 6–9.

similitudo si sit terminus mentalis. Significatum non ultimatum dicitur ipsemet terminus vel sibi equivalens.[38]

Two things should be noted: first, not only mental terms but also spoken and written terms have non-ultimate signification. Secondly, it follows that all material supposition (since the same basic formula is repeated for each type of material supposition), whether of mental, spoken, or written terms, will be a kind of significative supposition. Though Marsilius does not state it generally, a term has material supposition when it supposits for its non-ultimate significates, in some way or other.

Recall the scribal addition of '*ultimate*' in the Edinburgh ms. of the text of Maulfelt's cited earlier. The term must not have been imposed to signify itself or its like ultimately. It does, however, in the new account signify it non-ultimately.[39]

The notion of broad natural signification is, however, not found in Marsilius. The two notions are brought together, perhaps for the first time, in Peter of Ailly's treatise on *Concepts,* written only a few years later, in Paris in the early 1370s.[40] But Peter makes an important new observation. "To signify naturally," he observes, "may be taken in two senses: in a proper sense and in a general sense," (§32) as Spade renders *'significat naturaliter communiter',* which I rendered above as "broad" natural signification. To signify naturally in this broad or general sense is

> to represent not by itself, but by means of something else, something to a cognitive power by vitally changing [that power]. And this pertains to any thing whatever. For any thing is by its nature apt to cause a concept of itself in an intellective power . . . From this it follows that every thing signifies or is apt to signify itself naturally in a general sense. (§33)

That everything signifies itself naturally in the broad sense is a crucial observation.

Consequently, corresponding to a spoken sign, like *'homo',* there are two concepts. (§63) There is the concept of man that it signifies by convention non-ultimately, which properly and naturally signifies men, who are the ultimate significates of the spoken sign. In addition, there is the concept of the sound *'homo',* which naturally and properly signifies the sound *'homo',* and by means of which the sound 'man' broadly and naturally signifies itself, and by which it is its own non-ultimate significate. Ailly notes that in the latter case, "some people say it has material supposition." Thus he is

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38. Marsilius of Inghen, *Suppositiones,* p. 54.
39. Cf. Peter of Ailly, *Concepts and Insolubles,* ed. P. V. Spade (Dordrecht, 1980), §65 and Spade's n.210.
40. Trans. P. V. Spade, *Concepts and Insolubles.* The two distinctions also appear in a treatise on *Concepts* by Thomas of Cleves, also composed in Paris in the early 1370s. See n.42 below.

aware of Marsilius's view: "when a spoken term . . . supposits or is taken for itself, it is taken for a non-ultimate significate." (§67)

The ultimate significates of *'asina'* are she-asses, the animals; the non-ultimate significates of the term are itself and other similar terms. But we have to be careful here in capturing the medievals' manifold use of the term 'ultimate'. The vocal term *'asina'* signifies non-ultimately (and conventionally) the ultimate concept of she-ass. It signifies ultimately (and conventionally) she-asses. And it signifies itself naturally in the broad sense *(naturaliter communiter)* and is its non-ultimate significate. Indeed, anything whatever signifies itself naturally in the broad sense. Moreover, *'asina'* also signifies terms similar to it in this way. Writing towards the end of the fourteenth century, John Dorp put it thus:

> Est ergo notandum quod terminus dicitur dupliciter significare. Uno modo ad placitum. Alio modo naturaliter: et utroque istorum modorum adhuc terminus dicitur dupliciter significare. Nam uno modo terminus dicitur significare ad placitum non ultimate. Alio modo terminus dicitur significare ad placitum ultimate. Unde terminus vocalis vel scriptus dicitur significare ad placitum non ultimate conceptum ultimatum quo mediante terminus vocalis vel scriptus significat res ad extra . . . Sed vocalis vel scriptus dicitur significare ad placitum ultimate rem ad extra ad quam talis terminus imponitur ad significandum. Similiter terminus dicitur dupliciter significare naturaliter scilicet naturaliter communiter et naturaliter proprie. Unde quilibet terminus: similiter quelibet res mundi significat se naturaliter communiter. Sed terminus dicitur significare naturaliter proprie illud quod representat formaliter seipso et non mediante alio: et sic significare naturaliter proprie precise convenit noticiis ipsius anime: quia nihil aliud representat suum significatum non mediante seipso. Ex istis patet quod duplex est significatum. Nam quoddam est significatum ultimatum: aliud est significatum non ultimatum. Unde significatum ultimatum est illud significatum termini quod terminus significat ad placitum ultimate vel naturaliter proprie. Et significatum non ultimatum termini est ipsemet terminus vel alius sibi similis in voce vel in scripto vel equivalens in mente.

'Asina', for example, ultimately signifies she-asses by virtue of its relation to the concept of she-ass, which signifies she-asses naturally and properly. But in virtue of what does *'asina'* signify itself and its similars? In virtue of a further concept, the concept of *'asina'.* Dorp does not describe it explicitly, but he refers to it repeatedly in what follows. He first observes an immediate corollary:

> Correlarie sequitur quod ly ens significat se conceptu ultimato et conceptu non ultimato: patet correlarium: nam ille terminus ens conceptu generalissimo omnes existens significat ad placitum ultimate: et tamen ille terminus ens est met quoddam existens: ergo seipsum significat ad placitum ultimate.[41]

41. Dorp, *Per. comp.,* sign. h4[vb].

the concept of the term 'man'
the non-ultimate concept

the concept of man

*non-ultimately
signify conventionally*

the ultimate concept

*proper natural signification
natural likeness*

*proper natural signification
natural likeness*

*broad
natural
signification*

the term 'man'
the non-ultimate significate

ultimately signify conventionally

men
*the ultimate significates
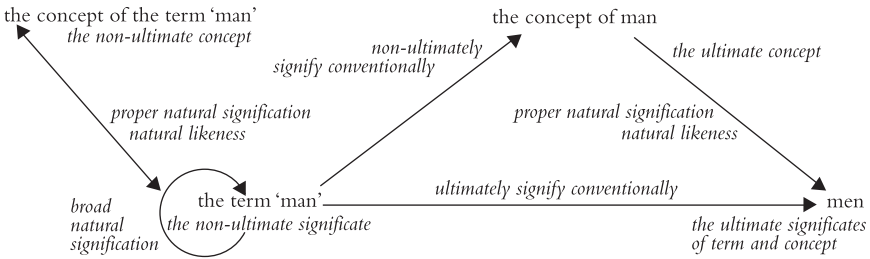of term and concept*

Figure 1

And again, in his description of material supposition:

> Suppositio materialis est acceptio termini in propositione pro suo significato non ultimato vel suis significatis non ultimatis: et hoc in ordine ad illum conceptum secundum quem est suum significatum non ultimatum. *(op.cit.,* sign. h5^{ra})

In other words, there are two concepts corresponding to the vocal and written terms *'asina',* and indeed to every term. Thus, to every conventionally signifying term there are four things signified: the two concepts, and the two classes of things conceived by those concepts. We find this set out explicitly by Paul of Gelria, in his treatise on concepts of around 1380:

> Notandum quod omni signo ad placitum significanti correspondent ad minus quattuor significata, scilicet duo conceptus et res illis conceptibus concepte. Exemplum: huic termino vocali 'homo' significanti ad placitum correspondet primo conceptus qui est naturalis similitudo huius vocis 'homo', et mediante isto significat se et quodlibet sibi simile naturaliter, et ista sunt duo significata sua que naturaliter significat. Deinde correspondet sibi conceptus qui est naturalis similitudo hominum quam significat ad placitum non ultimate, et mediante isto significat ad placitum ultimate res ad extra, que sunt homines, ut Plato, Sortes.[42]

Thus what provides the unity for material supposition is the non-ultimate concept, the concept of the term itself. (See Figure 1.)

V. MATERIAL SUPPOSITION

My question was: How is material supposition possible? Right from its earliest appearance, the concept of supposition was accompanied by that of

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42. Paul of Gelria, *De Conceptibus,* ms. Giessen 86, f. 140va. Paul taught in Paris from 1375 to 1382. An edition of Paul's treatise will appear in E. Bos and S. Read, *Concepts: The Treatises of Thomas of Cleves and Paul of Gelria* (Louvain, forthcoming).

signification. A term signifies some class of things by means of its relation to a concept which is a natural likeness of those things. Consequently, when used in a proposition, a term can supposit for some or all members of this class to which it is related by the relation of signification. But as described by Ockham and his contemporaries, material supposition is an exception to this picture. In material supposition, a term supposits for some other thing or class of things—a linguistic or conceptual item—to which it is not so related by signification. How can it do so; or turned on its head, the question is, if it can do so, why invoke the relation of signification for the other case, that of personal supposition?

What we find in a range of authors, all writing some years after Ockham, is a more complex theory of signification. With each term there are associated two concepts, two natural likenesses: one is its proper concept, by which it signifies its proper ultimate significates; the other is a natural likeness of itself, a concept which it signifies naturally in a broad sense, and by which it signifies itself and its like as an expression. Material supposition is then identified as the supposition of a term not for its proper significates—thus revising and restricting the original exclusion of its significates altogether—but for some or all of its non-ultimate significates via this other concept which it naturally signifies in the broad sense.

There is a passage in Dorp, however (paralleled in Gelria), that seems to run counter to this interpretation. It is crucial to the present interpretation that, for example, the vocal sign *'homo'* should signify the written sign *'homo'* naturally in the broad sense, and vice versa. Only then could the vocal sign supposit materially for the written sign by virtue of its broad natural signification for it, and the written for the vocal. But in his description of the fourfold division of signification, Dorp writes:

> Similiter terminus vocalis ad placitum non ultimate significat terminum scriptum sibi synonimum: ut ista vox homo ad placitum non ultimate significat hoc scriptum homo: et econtra hoc scriptum homo ad placitum non ultimate significat illam vocem homo. (*Per. comp.,* sig. h4$^{\text{vb}}$)

Thus the written and spoken signs are said to signify each other conventionally. The conclusion seems to be that the written sign cannot be among the "similars" which the vocal sign signifies broadly naturally, nor the vocal sign be among the similars of the written sign.

However, it does not follow that, if a sign signifies something conventionally, it cannot also signify it naturally. Dorp points out in the same column that "*isti termini ultimatum et non ultimatum . . . non opponuntur contradictorie,*" since the term '*ens*' signifies itself conventionally and ultimately, for it signifies everything, while at the same time it signifies itself naturally in the broad sense (and so non-ultimately). That the written sign signifies the vocal sign conventionally goes back to Aristotle's *De Interpreta-*

tione (16a26). That such signification gives rise to mutual signification, the one for the other, is unsurprising, notes Gelria:

> sic enim non est inconveniens quod signa sint sibi invicem signa, cum signa et significatum sunt relativa que dicuntur ad convertentiam, ut habetur in *Predicamentis.* (*De conceptibus,* f. 140ᵛᵇ)

What shows that the spoken and written signs must signify each other broadly naturally is this: such signs have the power to cause a natural sign and concept of themselves in the intellect which is a proper natural sign of themselves and their similars (and dissimilars). By means of this concept, the sign naturally signifies those similars in the broad sense. They become its non-ultimate significates. Material supposition is supposition for the non-ultimate significates. A spoken sign can supposit materially for its written equivalents and vice versa. Hence each must be among the non-ultimate significates of each, by the same concept by which broad natural signification is mediated. As Dorp explicitly says (as cited earlier): "*et significatum non ultimatum termini est ipsemet terminus vel alius sibi similis in voce vel in scripto vel equivalens in mente.*"

That ultimate and non-ultimate signification are not opposed also resolves the outstanding problem of the putative material supposition of *'vox'* in *'vox est sonus'* and *'vox est nomen'.* Take the participle, *'ens'.* It signifies everything. So how could it ever have material supposition, for it will always signify itself ultimately? Spade accuses the late medieval logicians of carelessness in their definitions of supposition, so as to leave the question open.[43] But we have seen that it is not left open in Albert—with counterintuitive results. It is not left open in Dorp, either, with a much more reasonable answer. *'Ens est participium'* is ambiguous, he says:

> Correlarie sequitur quod ly ens significat se conceptu ultimato et conceptu non ultimato . . . Dubitatur primo utrum subiectum huius propositionis ens est participium supponat materialiter aut personaliter . . . Pro responsione dubii notandum est quod ille terminus ens in dicta propositione potest capi secundum alterum duorum conceptuum. Nam ly ens potest capi secundum conceptum generalem mediante quo quodlibet ens mundi significat. Vel ly ens in dicta propositione potest capi in ordine ad conceptum specialem quo mediante ille terminus ens naturaliter significat se precise et alios terminos sibi similes. (*Per. comp.,* h4ᵛᵇ–h5ʳᵃ)

Thus, *'ens'* supposits materially when it supposits for its non-ultimate significate(s) by virtue of that concept according to which it is its non-ultimate significate.

The significative conception of material supposition is repeated, var-

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43. Peter of Ailly, *Concepts,* p. 112 n.216.

ied, and emended as the century proceeds. It starts in Maulfelt and Albert of Saxony. But the material supposition of spoken and written terms is still non-significative in them. With Marsilius of Inghen all supposition becomes significative. The two ideas are blended in Peter of Ailly, Paul of Gelria, John Dorp, and others, and ultimately feed through into the description given by the authors cited by Karger, Paul of Venice, and Paul of Pergula. It seems clear that it is a Parisian invention. All these authors, except the last two—running into the fifteenth century—were masters at Paris.

The germ of the doctrine—the notion of ultimate significate, contrasted with immediate significate, the concept, is found in Buridan. Buridan himself, as we saw, belongs to the earlier tradition in sidelining material supposition as non-significative. Nor can we find the inclusion of material supposition as significative in earlier Parisian writers, e.g., Gerald Odo (writing in Paris in the 1320s) or Walter Burley (who was at Paris from 1310 to 1323). But there is a further anticipation of the later doctrine in Buridan, which emerges in his discussion of the sophism *'Homo est species'* in his treatise on fallacies. His analysis depends on distinguishing two concepts corresponding to *'homo'*:

> Unde ego dico quod propositio mentalis correspondens huic propositioni prout est vera 'homo est species' non est propositio in qua subicitur conceptus specificus hominum, sed est propositio in qua subicitur conceptus quo concipitur conceptus specificus hominum, et ille iam supponit non pro se, sed pro conceptu specifico hominum.[44]

If *'homo'* corresponded to the concept of man (the specific concept, the concept which naturally groups man as a species), *'Homo est species'* would be false (for it would say that a man was a species—that is the fallacy). Rather, *'homo'* in that proposition corresponds to a concept by which that concept of man is itself conceived, the concept of the concept, we might say. Buridan's position is not unlike that of Frege outlined in §II. Buridan realizes that an explanation is needed why the term *'homo'* in the spoken proposition, *'Homo est species',* supposits for the concept of man, not for men.

For all its neatness of solution, however, Buridan's account, like Frege's, lacks an important feature. Are all spoken and written terms ambiguous in this way, corresponding to two concepts? Not until Peter of Ailly and his successors do we get a clear and systematic affirmative to that question.

Terms in material supposition are not non-significative. Rather, they do not have their proper signification, but a broad natural signification which everything has, to encompass themselves and things like them. The construal of material supposition as significative starts with Buridan, Maulfelt,

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44. John Buridan, *Summa Logica,* tract 7 *De Fallaciis,* chap. 4, cited from S. Ebbesen, "The *Summulae,* Tractatus VII *De Fallaciis,*" in *The Logic of John Buridan,* ed. J. Pinborg (Copenhagen, 1976), pp. 139–60, 156.

and Marsilius, slowly recognizing the need for a concept which unites the term itself with its similars and thus provides a class of supposita for material supposition. It reaches fruition in Ailly, Gelria, and Dorp, with the theory of the non-ultimate concept.

It might seem that a final and definitive step is made by Paul of Pergula, namely, the characterization of this new concept in positive terms. It is not simply a further, non-ultimate concept; it is the concept of its "material significates", says Paul:[45]

> Significatum materiale est quod aliquis terminus significat pro quo vel de pronomine demonstrante illud non potest affirmative verificari sine signo materiali ut: Iste terminus homo est ly homo.[46]

The material sign to which Paul refers is the adaptation of the French article, *'ly'*. Whether Paul was the first to speak in this way of the material significate, I do not know. But, in fact, it constitutes a retrograde step. For Paul returns us to the unattractive position of Albert of Saxony, claiming that for example, *'ens'* can occur only in personal supposition. For a term like *'ens'*, material and personal signification are the same. So too for *'aliquid'*, *'qualitas'*, *'dictio'*, *'signum'*, and so on, for terms of both first and second intention. Paul gives priority to personal supposition: "*omnis terminus habens solum unum significatum est solum personaliter supponibilis ut: Ens est ly ens. Utrumque ens supponit personaliter.*"[47] The reason is that signification has become entirely extensional. There is no mention of the concept by which the significates are mediated. Without this, he cannot distinguish the personal from the material significate.

VI. CONCLUSION

I made two claims at the end of §I: (1) the recognition of material supposition as significative came long before the two Pauls—that is clear even from Maulfelt's case and entirely so from Marsilius's and (2) no significant abandonment of Ockham's theory of signification is involved. The notion of broad natural signification adds to and extends the Ockhamist semantics, but it does not overturn it. Indeed, it recognizes the incoherence of the notion of non-significative supposition, and at last makes it coherent.

Karger denies this. Distinguishing between a term's *denotata* and its

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45. This is a very different notion of material significate from that found in John Buridan (see L. M. De Rijk, "Buridan's Doctrine of Connotation," in J. Pinborg, ed., *The Logic of John Buridan*, p. 96) and Marsilius of Inghen (see his *Appellationes,* ed. Bos. p. 130).

46. See n.11.

47. Paul of Pergula, *Logica,* p. 25.

significata, she claims it central to Ockham's theory that they differ: the *denotata* are what a term can refer to (supposit for); its *significata* are those things grouped together by the concept the term picks out. The autonymous use of terms (that is, roughly, their self-referential use) shows that a term's *denotata* are wider in extent than its *significata.*[48]

What was realized in Paris by Maulfelt and his successors was that the role of concepts in the theory of signification was pointless if the autonymous use could circumvent it in this way. The Ockhamist position is simply incoherent: if the significata of a term have any role to play, it is in providing objects to be its supposita. If the supposita can be drawn from a wider domain, the notion of signification breaks free entirely from semantics. What defines the class of *denotata* of a term? Karger does not say: she describes them as "toutes les entités aux-quelles ce terme *peut*—par les conventions du langage—renvoyer (c'est-à-dire pour lesquelles il peut «supposer»)."[49] (p. 335). But how do the conventions of language demarcate this class? By the mediation of concepts. Thus either one recognizes that concepts need a role in the autonymous use—in material supposition—or one's theory is incoherent. Material supposition is possible, but only by recognizing the presence of a second concept, the concept of a term and its equiforms, naturally signified by the term not properly but in a broad sense.

48. Karger, "La Supposition Materielle," pp. 335–36.
49. She also admits that it is not found explicitly in Ockham himself ("La Supposition Materielle," pp. 335–36).