

PAPERS IN MEDIAEVAL STUDIES

7

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

P. Osmund Lewry, O.P.



PONTIFICAL INSTITUTE OF MEDIAEVAL STUDIES



Contents

Preface		ix
1 OXYNAT: A Theory about the Origins of British Logic	Sten Ebbesen	1
2 Oxford Logic 1250-1275: Nicholas and Peter of Cornwall on Past and Future Realities	P. Osmund Lewry, O.P.	19
3 La littérature des <u>Abstractiones</u> et la tradition logique d'Oxford	Alain de Libera	63
4 Roger Bacon's Theory of the Double <u>Intellectus</u> : A Note on the Development of the Theory of <u>Congruitas</u> and <u>Perfectio</u> in the First Half of the Thirteenth Century	C.H. Kneepkens	115
5 Roger Bacon on the Compounded and Divided Senses	Georgette Sinkler	145
6 Thomas Sutton's Commentary on the <u>Categories</u> according to MS Oxford, Merton College 289	Alessandro D. Conti	173
7 Some Thirteenth-Century Existential Disputes: Their Identification and Its Status	Desmond Paul Henry	215
8 The Mertonians' Metalinguistic Sciences and the <u>Insolubilia</u>	Francesco Bottin	235
9 William Heytesbury on 'Necessity'	Ria van der Lecq	249
10 La signification d'objets imaginaires dans quelques textes anglais du XIV ^e siècle (Guillaume Heytesbury, Henry Hopton)	Joël Biard	265
11 Early British Treatises on Consequences	N.J. Green-Pedersen	285
12 English <u>Obligationes</u> Texts after Roger Swyneshed: The Tracts beginning 'Obligatio est quaedam ars'	E.J. Ashworth	309
13 'I promise a penny that I do not promise' The Realist/Nominalist Debate over Intensional Propositions in Fourteenth-Century British Logic and its Contemporary Relevance	Stephen Read	335
14 L'influence des <u>Regulae solvendi sophismata</u> de Guillaume Heytesbury: L' <u>Expositio de tribus praedicamentis</u> de Magister Messinus	Graziella Federici Vescovini	361

15 Peter of Mantua and his Rejection of <u>Ampliatio</u> and <u>Restrictio</u>	
E.P. Bos	381
Participants in the Sixth European Symposium on Medieval Logic and Semantics	401
Index of Manuscripts	405
General Index	409

Peter of Mantua and his Rejection of Ampliatio and Restrictio

E.P. Bos
University of Leiden*

Medieval handbooks of logic discussing properties of terms like suppositio, ampliatio, appellatio, restrictio, and alienatio,¹ do not always interpret them in the same way. Sometimes, one or other is omitted from the discussion, or a specific property is rejected as such; sometimes, a property is given different names by different logicians or is to be found within different theoretical frameworks.

As I have already indicated, notions which receive different interpretations from different logicians include ampliatio and its counterpart, restrictio. (These two notions, by the way, have not received much attention from modern scholars).² Now, the Italian logician and physicist Peter of Mantua (d. 1399)³ does not admit either of these properties of terms into his theory. In this paper I shall try to show: (1) that Peter criticizes and rejects ampliatio and restrictio and how he does so; furthermore, that Peter has foremost in mind the interpretations of these notions advanced by the Parisian masters Albert of Saxony⁴ and Marsilius of Inghen;⁵

(2) that Peter's rejection is based on his theory of knowledge (and on its metaphysical aspects), in which he differs from, for example, Albert and Marsilius, but in which he is probably in general agreement with some English logicians. I shall try to show that Peter's theory of knowledge determines his rejection of ampliatio in the same ways as it does his interpretation of appellatio.⁶

Peter's tract on ampliatio, in the incunable edition, has the following composition:⁷

The Rise of British Logic, ed. P. Osmund Lewry, O.P., *Papers in Mediaeval Studies* 7 (Toronto: Pontifical Institute of Mediaeval Studies, 1985), pp. 381-399. © P.J.M.S., 1985.

1. Four axioms (presuppositiones): fol. 14^{ra}(13)-14^{rb}(20);
2. An objection, followed by Peter's reply: fol. 14^{rb}(20)-14^{va}(14);
3. Three notes: fols. 14^{va}(14)-15^{ra}(21);
4. An objection followed by Peter's reply: fol. 15^{ra}(21)-15^{rb}(30);
5. Peter's general conclusion on ampliatio and restrictio: fol. 15^{rb}(30)-15^{va}(17);
6. A set of objections, with Peter's replies: fols. 15^{va}(17)-16^{ra}(35);
7. A problem (dubium) is raised and solved by Peter. The dubium is interspersed with objections and replies: fols. 16^{ra}-17^{ra}(35).⁸

The opening sentence of Peter's tract is: 'Numquid sit ampliatio?' (Is ampliatio possible?) — I provisionally define 'ampliatio' here as the enlargement of the reference of a term. This question is immediately followed by the four axioms. The first and the third, on the one hand, and the second and the fourth, on the other, are related. The first axiom runs as follows:⁹

Suppositio est statio termini in oratione connexi pro supposito, vel suppositis, in quod, vel in que, trasit vis termini, a quo habet ut supponat.

(Supposition is a term's standing in a proposition for a thing, or for things, to which thing, or to which things, the power exercised by another term extends, in virtue of which latter term the former term has supposition.)

It is clear from his tract on suppositions¹⁰ that by 'another term' Peter means the verb of the proposition, be it a substantival or an adjectival verb — A substantival verb is, for example, 'est' (is); an adjectival verb, 'est albus' (is white). The verb causes the term's supposition for things according to the tense of the verb. A term's supposition is in no respect determined by the term itself.

Closely connected with the first axiom is Peter's third.¹¹

...nullus terminus ampliatur se ipsum.

(Ampliation of a term by the term itself is impossible.)

Here Peter means to say, as will become clear below,¹² that a term's ampliatio, if the term is indeed capable of ampliatio, depends on the verb

with which it is construed in a proposition.

Now, Peter's second axiom is:¹³

...ista propositio et consimiles cathgorice de disiuncta copula sunt affirmative: 'Quodlibet est vel non est', 'Chimera est vel non est.'

(the following and similar categorical propositions with a disjunct copula are affirmative: 'Each thing is or is not', 'A chimera is or is not'.)

Here Peter means that the quality (affirmative or negative) of the whole proposition is determined by the first copula. Otherwise, Peter subsequently adds, the proposition would be affirmative and negative at the same time.

The English logician 'Johannes Venator' (or John Hunt[er]man)¹⁴ comments on this subject in his Logica,¹⁵ composed in the early 1380's: 'Likewise,' he says, 'all logicians call this [i.e., the first copula - E.P.B.] the principal verb of a categorical proposition. In virtue of this verb the understanding is true or false.'¹⁶ Peter's fourth axiom reflects this interpretation:¹⁷

...quolibet terminus supponens respectu huius verbi 'est' per se sumpti supponit solum pro eo quod est.

(each term having supposition with regard to the verb 'is' taken for itself, only supposits for a thing that exists.)

Here Peter refers to his primary interpretation of 'esse' as existere. The formula 'quod est', as referring in this respect to existence, seems to be accepted by all medieval logicians. 'Esse' here is taken in its function of denoting existence.¹⁸

For Peter of Mantua, 'Each thing is' means: 'Each thing exists.' 'Esse' (to be) is explained here as 'to exist'; the copula is, what I call here, 'extensionally' interpreted, in contradistinction to, what I call, an 'intensional' interpretation of the copula, according to which the copula joins the predicate term to the subject term and does not denote existence.¹⁹ If this 'is' means what is actually the fact, it cannot at the same time, for the same intellect that utters a single proposition, not actually be the fact.

These four propositions are sufficient basis for Peter to reject the truth of these five propositions:²⁰

1. Adam est mortuus (Adam is dead);
2. Aliquid est corruptum (Something is corrupted);
3. Chimera est intelligibilis (A chimera is intelligible);
4. Antechristus (*sic*) est generandus (The Antichrist is to be generated);
5. Aliquid est futurum (Something is future).

First, I single out proposition (3), 'Chimera est intelligibilis.' The correct analysis is on Peter's view: 'Chimera est intelligibile quod est' (A chimera is some existing intelligible thing). This proposition is false, because a chimera does not exist: the subject term does not have supposition. Our main interest here is Peter's alternative analysis of the predicate in view of the copula, to be contradistinguished from other logicians' interpretations of such a proposition.

According to the same line of thought, propositions (1) and (4) are considered to be false by Peter. Propositions (2) and (5) are false as well, Peter thinks, because one cannot simultaneously say that if something exists, it is corrupted or to be generated. Clearly, the copula 'est' here is ultimately decisive for the truth of the proposition; the predicate (Peter means the terms that come after the copula) is separated from it. The copula consignifies time; the predicate contains no indication of tense.

An opponent proposes, however, that 'est mortuus' and 'est generandus' should be interpreted as one single verb. This objection is rejected by Peter. His main points are: first, that if this argument is accepted, participles of past and future tense, as well as nouns ending in '-bilis',²¹ would occur separately in Latin to no purpose (*frustra*);²² secondly, Peter says that a verb does not possess gender — it consignifies time.

Then follow three notes in hypothetical form. The first runs:²³
 ...terminus non ampliatur nisi supponat, si ampliari possit.
 (a term can only be amplified if it supposits — on the proviso that it can indeed be amplified.)

This note eliminates the possibility of ampliation of, for example, 'chimera' in 'Chimera potest esse' (A chimera can exist), or in 'Chimera erit' (A chimera will exist), because a chimera is not realisable in the future, nor can it be

actualised by any power or cause whatever.

In his second note Peter describes how ampliation (when it is possible) takes place:²⁴

...si ampliatur li 'homo' in ista propositione (sc. 'Homo fuit'²⁵), aut ampliatur copulative aut disiunctive aut disiunctim aut copulativim.

(If the term 'man' is amplified in the proposition [viz. 'A man was'], it is amplified either copulatively or disjunctively or disjunctly or in copulation.)

Peter comments:²⁶ If copulative, two contradictory propositions would be true at the same time, viz., 'Omne creans de necessitate est Deus' (Every creating thing necessarily is God) and 'Aliquod creans non de necessitate est Deus' (Some creating thing is not necessarily God). The second proposition is clearly false.

If disiunctive, these same contradictory propositions would be false at the same time (the connective in this case is 'vel' [or]).

If copulativim, then there follows from the initial proposition 'Homo fuit' a proposition whose subject term stands in conjunction, viz., 'Homo qui est, fuit' (A man who is and was, was). This is a contradiction, Peter says, for the assumption is that at the present a man is not.

If disiunctim, the analysis of the initial proposition is: 'Homo qui est vel fuit, fuit' (A man who is or was, was). This analysis is one that closely resembles the interpretations of Albert and Marsilius, as is confirmed by the fact that Peter gives somewhat later in his tract the definitions of ampliation offered by both Parisian logicians. The analysis is false, Peter argues, for the case assumed is that at present a man is not.

Peter's third note is:²⁷

Item, si aliquo modo terminus ampliaretur, ampliaretur (1) ex eo quod supponeret pro eo quod est vel erit, aut pro eo quod est vel fuit; (2) aut ex eo quod supponeret pro supposito, vel suppositis, diversarum differentiarum temporum;²⁸ (3) vel quia supponeret pro aliquo, vel pro aliquibus, ultra ea que actualiter sunt.

(Further, if in some way or other a term was to be amplified, it would be so on one of three grounds: (1) the term would supposit for what is

or will be, or for what is or has been; or (2) the term would supposit for a thing or things -- for which it stands -- having different time-distinctions; or (3) the term would supposit for a thing, or things -- for which it stands -- over and above that which actually exists.)

The second ground mentioned by Peter closely resembles the one used by Marsilius of Inghen;²⁹ the third is almost literally the same as Albert of Saxony's definition.³⁰ All these proposed grounds are rejected by Peter because the same proposition would be affirmative and negative, assertoric and modal, etc., at the same time,³¹ and, as I have pointed out above,³² the proposition is determined by the first verb, which makes the intellect true or false.

Peter concludes³³ that a term having supposition in respect to a verb of a specific tense only supposits according to the tense of the verb. This applies not only, Peter says, to the copula in past, present and future tense, but also to, what I call here, 'modal verbs' such as 'potest' (can), 'contingit' (happens to be), 'intelligitur' (is understood), 'significat' (signifies).³⁴

His general conclusion is:³⁵

Ideo dicitur generaliter quod nullus terminus ampliatur aut restringit alium terminum.

(Therefore it should be said generally that no term can amplify or restrict another term.)

Peter apparently means that his opponents interpret a term's supposition without paying serious attention to the proposition in which it occurs, even though the term is acknowledged by the opponents to have supposition in a proposition. A proposition is, according to Peter, denominated from the tense of the verb.³⁶ The opponents, it is implied, primarily interpret terms as having signification in respect to present things. Even after having taken into consideration the function of the copula or modality, this signification in respect to present things is in the opponents' view still active. The opponents define time-distinction and modalities in terms of each other, especially in regard to the present.

In Peter's view, his opponents hypostatize a term. Albert of Saxony (one of the philosophers under attack by Peter) calls³⁷ 'acceptio' (acceptance) the

generic term of 'ampliatio' -- acceptio is a use of a term before its supposition in a proposition is determined. Peter's criticism of Albert is justified, I think. But the same criticism applies to Marsilius of Inghen, though Marsilius explicitly rejects 'acceptio' as a generic term of 'ampliatio'³⁸ in his criticism of Albert. In Marsilius' theory as well, ampliatio is the use of a term primarily irrespective of the tense of the verb.

The argument involves, to my mind, different conceptions of the proposition, held by Peter on the one hand and the Parisian masters on the other. Peter says³⁹ that a proposition is denominated from the copula (and in the case of a categorical proposition with a disjunct copula, it is denominated from the first copula). The verification of a term takes place by way of the copula. In contradistinction, the two Parisian masters interpret a proposition primarily in function of the terms themselves. They do not fully appreciate the implications of the tense of the verb, it is Peter's contention, and so do not acknowledge the mutable nature of things, which is the prime concern of our language. (It must be commented here that in Peter's view language is primarily the language of physics.⁴⁰) Peter, moreover, is one of the many medieval philosophers to interpret the copula as having tense. He conceives of esse per se as referring to existence.⁴¹

So far I have concentrated on Peter's interpretation of propositions with any form of 'esse'. What, then, is Peter's interpretation of modal verbs? Peter mentions here four: 'potest' (can), 'contingit' (happens to be), 'intelligitur' (is understood) and 'significat' (signifies). In these cases, as in the case of the copulas 'erat', 'est', 'erit', Peter says a term has supposition in virtue of the verb. As I understand Peter's theory, modal verbs and copulas are unequal in nature: 'intelligitur', 'potest' and (probably) 'contingit' are not linked with actual things in time in the way that copulas are. 'Intelligitur', 'significat' and 'potest' signify a knowing subject's signification of things outside the mind; the copulas refer to things themselves as past, present, or future.

It should be kept in mind, as Maierù has correctly pointed out,⁴³ that Peter of Mantua maintains a strict distinction between mental terms, on the one hand, and spoken and written terms, on the other. On the conventional level, the verb plays a dominant part.

After Peter's conclusion about a term's supposition, an opponent is

presented as raising three problems.⁴⁴ From the first and second of these we may conclude that in the opponent's view a term like 'homo' in 'Omnis homo fuit' possesses an atemporal character because of ampliation. In his third objection he brings into discussion 'potest' and 'scitur' (is known), and so, by implication, 'significatur'. He says:

Item, si terminus supponens respectu alicuius termini sequitur vim istius termini, sequitur quod album significatur per istum terminum 'nigrum'. Quia: sit Sortes niger, qui potest esse albus, tunc Sortes niger significatur per li 'nigrum'; et Sortes potest esse albus, igitur album⁴⁵ significatur per li 'nigrum'. Et consequenter sequitur quod ista 'Sortes albus currit' Sortem nigrum currere significat, quia Sortem album currere ista significat; et Sortem album currere intelligitur esse Sortem nigrum currere: igitur, etc. Patet consequentia et minor sequitur ex positione.

Item sequitur quod regem sedere scitur a te, et tamen nullus rex sedet, quia regem currere scitur a te. Ponatur quod nullus rex sedeat, sed quod omnis rex currat: tunc patet secunda pars. Et prima arguitur, quia omnem regem currere scitur a te; et omnem regem currere intelligitur aut potest esse regem sedere: igitur sequitur quod regem sedere scitur a te. Consequens tamen falsum, quia nichil scitur nisi verum.

Etiam sequitur quod Antechristum (sic) esse scitur a te, quia quod Antechristus erit, scitur a te; et quod Antechristus erit est Antechristum esse vel potest esse Antechristum esse: igitur Antechristum esse est scitum a te.

Item sequitur quod chimeram esse scitur a te,⁴⁶ quia chimeram intelligi scitur a te: igitur, etc.

(Further, if a term having supposition with regard to another term follows the power exercised by the latter term, it follows that the white is signified by the term 'black'. For: suppose that Sortes is black, while he can be white, then the black Sortes is signified by the term 'black'; and Sortes can be white, therefore the white is signified by the term 'black'. Consequently it is argued that 'The white Sortes is running' signifies that the black Sortes is running, because this proposition 'The white Sortes is running' signifies that the white Sortes is running; and that the white Sortes is running is understood as that the black Sortes is running: therefore, etc. The inference is valid; the minor premiss follows from the assumption -- viz. that the white is signified by the term 'black'.

Further, this follows: that a king is sitting is known by you, and yet no king is sitting, for that a king is running is known by you. Let it be assumed that no king is sitting, but that every king is running: then the second part of the latter consequence is evident. This is the proof of the first part: that every king is running, is known by you; and that every king is running is understood by you, or it is possible that a king is sitting: therefore, that a king is sitting is known by you. The consequent, however, is false, for only the true is known.

Further, this follows, that the Antichrist exists is known by you, for that the Antichrist will exist is known by you; and that proposition 'The Antichrist will exist' means that the Antichrist exists, or this proposition can mean that the Antichrist exists: therefore that the Antichrist exists is known by you.

Further, this follows, that a chimera exists is known by you, for that a chimera is understood is known by you: therefore, etc.)

An opponent tries to reduce Peter's view to absurdity. First, he reformulates Peter's principal claim that a term's supposition is determined by the verb. Then, the opponent introduces a well-known sophism, 'Nigrum potest esse album' ('The black can be white' — on the assumption that Sortes now is black, while he can be white). This sophism, by the way, is one of the starting-points in the development of the theory of ampliatio. 47

According to the opponent, Peter's conception of possibility has nothing to do with actuality. In the opponent's view, Peter cannot explain that what now actually is black, can be white: for, as is said by the opponent, on Peter's theory the white is signified by the term 'black'. So, what is understood by the term Δ is understood by the term E , and while what is known is the true (verum), on Peter's theory, it is implied, the opponent says, that the intellect knows what is false according to the case assumed. To the opponent's mind, Peter is forced to admit that Δ is identical with E , while Δ can be E .

From his answer to the objection, it becomes clear that Peter's interpretation of 'potest' lacks reference to any (non-modal) time-distinction. He conceives of it as a pure and irreducible notion, functioning as a modal verb atemporally. It cannot be defined in terms of actuality: rather, actuality is to be defined in terms of potentiality. Under the concept of possibility, categorical expressions such as 'white' or 'black' are no longer

distinctive of things.

Peter's criticism is primarily directed against Albert of Saxony and Marsilius of Inghen, as has already been indicated.⁴⁸ Marsilius' tract on ampliation is instructive for a Parisian interpretation of 'potest'. Marsilius says:⁴⁹

...That can be accepted in two senses. First, in a strict way: then it ampliates a term only to things which are or can be. Secondly, in a broader sense: then it ampliates a term to all its significates which are or can be in the future or could have been in the past. So in this case it ampliates a term to stand for its significates which were and are not.

In their analysis of terms causing ampliation, both Albert and Marsilius interpret 'potest' according to the strict sense. Both senses, however, are different from Peter of Mantua's interpretation, whereby 'potest' is conceived of as irreducible.

To the opponent's objections quoted above, Peter replies:⁵⁰

Ad aliud, cum arguitur quod album significatur per istum terminum 'nigrum', dicitur concedendo. Et consimiliter conceditur quod ista 'Sortes currit' Sortem sedere significat. Et ultra conceditur ista conclusio quod regem sedere scitur a te, et tamen nullus rex sedet de virtute sermonis. Et cum concluditur quod nichil scitur nisi verum, conceditur quod tantum verum scitur, quia tantum illud quod intelligitur esse verum scitur. Verumtamen, iste non est communis modus loquendi, quamvis sit verus habita significatione terminorum.

Sed de hoc est magis videndum in Tractatu de veritate et falsitate, quia hoc dato multi modi arguendi propositiones esse veras vel falsas non sunt boni.

Et ita dicitur ad alias conclusiones ibi illatas.

(To the third argument, viz., that the white is signified by the term 'black', I concede this conclusion. Likewise, I concede that 'Sortes is running' signifies that Sortes is sitting. Further, I concede as false by virtue of the expression the conclusion that a king is known by you and yet no king is sitting. When it is claimed that only the true is known, I concede this, for only what is understood to be true is known. However, this is not the common use of language, although this mode is true

according to the primary signification of the term.

For more about this subject, see my Tract on truth and falsity, since, on the assumption made here, many ways of proving propositions to be true or false are not valid.

The other conclusions by my opponent should be criticized in a similar fashion.)

Peter's comments that the opponent's conclusion is correct de virtute sermonis (by virtue of the expression; Kretzmann: 'with respect to discourse'), that is, the supposition is apparently determined by grammar,⁵¹ but the logician's intention in framing the statement is different.

Here, Peter primarily discusses the semantics of 'intelligitur'. At the beginning of his tract, the proposition 'Chimera est intelligibilis' is under scrutiny.⁵² This proposition is false, because the term 'chimera' does not have supposition. Our main interest in the proposition is to see how Peter analyses 'est intelligibilis', namely, into 'est intelligibile quod est'. If, for example, the proposition 'Sortes est intelligibilis' is true, knowledge is of an existing thing, for the analysis is: 'Sortes est intelligibile quod est.' In his reply to the objection, Peter presents what I call a 'complementary' interpretation of knowledge. This interpretation understands knowledge of what is understood to be true, irrespective of existence. It is the intellectum, that is, the thing as far as it is understood, which is understood, not the thing as existing.

In Peter's conception, knowledge and signification on the mental level are linked. We may conclude that, as far as signification is supposition, that is to say, in those cases where a term is used in a proposition, be it written or spoken, signification is linked with existence. Peter's conception of signification is broader, however, than could be discussed in this paper which is primarily about the denotative use of names.

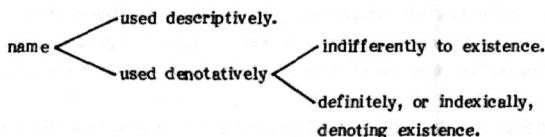
In Albert's theory, which Peter criticizes, verbs denoting an inner act of the mind, such as 'intelligo', 'scio', 'cognosco', 'significo', etc., amplify a term that is construed with the verb and follows it, to supposit for all time-distinctions indifferently, namely, past, present, future and possibility.⁵³ Marsilius of Inghen adds to this list of time-distinctions, imaginability.⁵⁴ In consequence of this view, Albert defines 'ampliatio' as 'acceptio', which is a sort of hypostatization of a term. Marsilius rejects the use of 'acceptio' as

the generic term of 'ampliatio', but introduces the notion of supposition of a term for different time-distinctions simultaneously — including at least the present time (This is the core of his definition of 'ampliatio'). This use of a term is, in the final analysis, the same as Albert's.

Peter of Mantua opposed this view: on his account, a term's supposition is determined by the tense of the copula. Knowledge of a true proposition is primarily knowledge of mutable things existing in time; any other denotative knowledge is secondary. Peter draws the full implications of the mutability of things. This emphasis on the function of the verb in consignifying time, causes Peter to reject the notion of ampliation. I thus conclude that, according to Peter's tract, a name can be used in a way in which existence is not implied. De Rijk calls this 'indefinitely'.⁵⁵ On the other hand, a name can be used definitely, or indexically, where existence is implied.

Both these uses bear upon the denotation of the term. The descriptive use of names, that is, when the content or intentional aspect of the term is considered, is discussed in Peter's tract on appellations.⁵⁶ In my paper on that tract, I concluded that Peter takes full account of the immanent and mutable character of forms, realized in concrete individual things. The knowing-subject forms in his mind a concept of a form which is constantly changing in the thing outside the mind. Forms are successively acquired and lost, Peter says. In his tract on truth and falsity, Peter refers to the 'intensio et remissio qualitatum' (intension and remission of qualities). It becomes clear, I think, that on Peter's theory a quality in the mind — being abstracted from matter — never truly corresponds to changing forms in nature, possessing degrees, with intension and remission. Any naive metaphysical realism is alien to our philosopher. If this interpretation is correct, attaching truth-value to propositions will be difficult, of course. Things — that is, forms existing in matter — are ultimately contingent: 'quodlibet ens est possibile' (each being is contingent), says Peter in his tract on truth and falsity.⁵⁷ This posse (contingency) of things is irreducible to other things; rather, other things are reducible to it.

Now, the following scheme of the use of names may be given:



In conclusion, some remarks about Peter of Mantua's position in the history of logic: Peter's criticism and rejection of ampliation and restriction is for a large part directed against the Parisian masters Albert of Saxony and Marsilius of Inghen. In his tract on appellations, Peter again makes Albert the object of his attack. As is well-known, English logicians were highly influential in fourteenth- and fifteenth-century Italian logic.⁵⁸ Is Peter of Mantua dependent on English logicians too, and, if so, on whom? My present insight into English and Italian logic does not allow me to be precise in regard to this question. However, I do wish to mention here some points of agreement with the Logica of 'Johannes Venator Anglicus', John Hunt(e)man.⁵⁹ (Items 1, 2 and 6, below, are attested in notes added in the margin of the manuscript used for this comparison):

1. Both deny the distribution of 'homo' in 'Omnis homo est animal' for all present, past and future men: the supposition here, because of the tense of the verb, is only for present men.⁶⁰
2. Both logicians interpret a categorical proposition with a disjunct copula according to the first copula.⁶¹ (This is, perhaps, a common interpretation of logicians).
3. Both interpret 'potest' as an irreducible verb.⁶²
4. Both interpret 'Album erit hoc' and 'Hoc erit album' as identical.⁶³
5. Both make a clear distinction between significatio-suppositio and verificatio.⁶⁴ I shall clarify this distinction by an example, 'Omnis homo est albus' (Every man is white). The term 'man' is verified of a man who is white; it supposes for all present men; it signifies all men of the present, past and future.
6. Both distinguish between a terminus distributus (i.e., the distributive signification of a term outside a proposition) and a terminus having suppositio distributiva (the distribution of a term within a proposition).⁶⁵

I was unable to find an explicit rejection of ampliation and restriction in John's Logic, but the items cited show that John's views come close to this

rejection. John, too, emphasized the part played by the tense of the verb — and of the first copula in propositions with a disjunct copula — so the basis for John's possible rejection of ampliation and restriction is there.

How exactly Peter's originality and/or dependency is to be evaluated, can only be said after further study of Peter of Mantua's tracts, which have not until now received the attention they deserve.

Notes

*I am grateful to my colleagues K. v. Dooren, R.E. de Gruiter and H.A. Krop (all of Leiden) for their comments on an earlier draft of the text, and to Mr. J. Deahl (Leiden) for the correction of my English.

¹ For medieval lists of these properties of terms, see, e.g., Ph. Boehner, Medieval Logic (Manchester-Chicago, 1952), p. 117; E.P. Bos ed., Marsilius of Inghen, Treatises on the Properties of Terms: A First Critical Edition of the Suppositiones, Ampliationes, Appellationes, Restrictiones and Alienationes with Introduction, Translation, Notes, and Appendices (Dordrecht-Boston, 1983), p. 46.

² Some short remarks on ampliatio are to be found in: I.M. Bocheński, Formale Logik (Orbis academicus Freiburg-Munich, 1956), pp. 199-202, §§ 28.01-28.12; transl. I. Thomas, A History of Formal Logic (Notre Dame, Ind., 1961), pp. 173-75; W. & M. Kneale, The Development of Logic (Oxford, 1962), pp. 261-62; E.J. Ashworth, Language and Logic in the Post-Medieval Period (Synthese Historical Library 12; Dordrecht-Boston, 1974), pp. 89-92; N. Kretzmann, A. Kenny and J. Pinborg eds., The Cambridge History of Later Medieval Philosophy (Cambridge, 1982), esp. A. de Libera, 'The Oxford and Paris traditions in logic', *ibid.*, pp. 174-87; Bos, Marsilius of Inghen, Treatises, pp. 211-20.

³ On Peter's life, see A. Maierù, 'Il problema del significato nella logica di Pietro da Mantova' in A. Zimmermann ed., Antiqui und Moderni: Traditionsbewusstsein und Fortschrittsbewusstsein im späten Mittelalter (Miscellanea medievale 9; Berlin-New York), pp. 155-170, *ibid.*, pp. 155-57; and esp. Th. E. James, 'Peter Alboini of Mantua: Philosopher-Humanist', Journal of the History of Philosophy 12 (1974) 161-70, to which the reader is

referred for all relevant sources.

⁴ Albert of Saxony taught philosophy at Paris from (at least) 24 May 1351 to 1362, before leaving for the University of Vienna. See G. Heidingsfelder, Albert von Sachsen, sein Lebensgang und sein Kommentar zur Nikomachischen Ethik des Aristoteles (BGPTM 22, Heft 3-4, 2 Aufl.; Münster i. W., 1927), p. 7ff.

⁵ Marsilius of Inghen (ca. 1340-1396) was a master of the University of Paris (until 1377); after leaving Paris he may have stayed some time in Italy. From 1386 till his death he was active as a master and the first rector of the University of Heidelberg. See Bos, Marsilius of Inghen, Treatises, pp. 8-9.

⁶ For Peter's interpretation of appellatio, see E.P. Bos, 'Peter of Mantua's Tract on "Apellatio" and His Interpretation of Immanent Forms' in A. Maierü ed., English Logic in Italy in the 14th and 15th Centuries: Acts of the 5th European Symposium on Medieval Logic and Semantics, Rome, 10-14 November 1980 (History of Logic 1; Naples, 1982), pp. 231-52.

⁷ The text I have used for this paper is that of the incunable edition of Peter's Logica with Burley on the Analytica: Scriptum excellentissimi doctoris magistri Galteri Burlei super libro Posteriorum. Viri preclarissimi ac subtilissimi logici magistri Petri Mantuani Logica (Padua, 1477). The copy used was that preserved in the British Library. I have compared this text with the manuscripts of Peter's Logica known to me, and I have noted deviations from the incunable where necessary. For a list of the manuscripts, see Bos, 'Peter of Mantua's Tract...', p. 232, n. 8.

I thought it desirable to number the leaves of this unfoliated text with Arabic figures. This seemed to afford an easier system of reference — and moreover, one that is more often used in early printed books themselves — than the combinations of letters and Roman numerals at the foot of the folios, indicating the signatures of the gatherings in the 1477 edition. So, I have foliated Peter's tract on ampliations (sig. b vi^{ra}-c i^{ra}), fols. 14^{ra}-17^{ra}. Each column of the edition contains the same number of lines, viz. 39; lines of text are indicated here by bracketed numbers following those of the folios.

⁸ In this survey I have omitted to mention those objections and replies that do not substantially affect Peter's line of thought.

⁹ Peter of Mantua, Logica (Padua, 1477), fol. 14^{ra}(14-18).

¹⁰ Ibid., fol. 1^{ra}, esp. (31-38).

¹¹ Ibid., fol. 14^{ra}(38)-14^{rb}(1).

¹² See above, pp. 385-387.

¹³ Peter of Mantua, Logica (Padua, 1477), fol. 14^{ra} (18-38), citation (19-23).

¹⁴ For the identification of this 'Johannes Venator', see L.M. de Rijk, 'Semantics in Richard Billingham and Johannes Venator' in Maierù ed., English Logic in Italy, pp. 167-183, *ibid.*, p. 168.

¹⁵ For the text of Venator's Logica, I have used MS Città del Vaticano, Bib. Apost. Vat., Vat. lat. 2130. fols. 49^r-141^r.

¹⁶ Ibid., fol. 92^{vb}: 'Similiter apud omnes logicos illud dicitur verbum principale alicuius propositionis categorice. Quo habito habetur intellectus verus vel falsus.' A note in the margin adds: 'Nota quod hinc potuit forte accipere Petrus de Mantua opinionem quam tenet in Logica sua, tractatu de ampliationibus' (From this text Peter of Mantua might have taken the view he holds in his Logic, viz., in his tract on ampliations).

¹⁷ Peter of Mantua, Logica (Padua, 1477), fol. 14^{rb} (2-5).

¹⁸ Cf. A. Maierù, Terminologia logica della tarda scolastica (Lessico Intellettuale Europeo 8; Rome, 1972), p. 199.

¹⁹ Cf. Ashworth, Language and Logic, pp. 68-69.

²⁰ Peter of Mantua, Logica (Padua, 1477), fol. 14^{rb} (5-11).

²¹ One could think of, e.g., 'intelligibilis' (intelligible); see the third proposition of the list, rejected by Peter.

22 Another reply is inspired by grammatical considerations; I shall not discuss it here.

23 Peter of Mantua, Logica (Padua, 1477), fol. 14^{va} (15-16).

24 Ibid., fol. 14^{va} (37)-14^{vb} (1).

25 Addition from fol. 14^{va} (26), [E.P.B.]

26 Ibid., fol. 14^{vb} (25).

27 Ibid., fols. 14^{vb} (39)-15^{ra} (21), citation (39-8).

28 'temporum', MS Venezia, Bib. Padr. Red. 457, fol. 8^{vb}] 'terminis' incun.

29 Bos ed., Marsilius of Inghen. Treatises, p. 98 (5-6): 'Ampliatio est suppositio termini pro suis significatis respectu diversorum temporum indifferenter' (Ampliation is a term's supposition for its significates with regard to different times without distinction).

30 Albertus de Saxonia. Perutilis logica (Venice, 1522; repr. Documenta semiotica, series 6, philosophica, Hildesheim-New York, 1974), tract. 2, cap. 10, fol. 15^{rb} (46-49): '...ampliatio est acceptio alicuius termini pro aliquo, vel pro aliquibus, ultra hoc quod actualiter est' (ampliation is the acceptance of a term for some thing, or some things, beyond what actually exists).

31 See also above, p. 384.

32 See above, p. 383.

33 Peter of Mantua, Logica (Padua, 1477), fol. 15^{rb} (31)-15^{va} (17).

34 Peter unfortunately discusses at one single level modal and non-modal copulas. See also above, p. 387.

35 Peter of Mantua, Logica (Padua, 1477), fol. 15^{va} (15-16).

36 See also above, p. 387.

37 Albert of Saxony, Perutilis logica (Venice, 1522), tract. 2, cap. 10, fol. 15^{rb} (46-47).

38 Bos ed., Marsilius of Inghen. Treatises, p. 100.

39 See also above, p. 386.

40 One is reminded of W.V.O. Quine, Word and Object (Studies in Communication; Cambridge, Mass., 1960), p. 4.

41 For post-medieval logicians' interpretation of assa, see Ashworth, Language and Logic, pp. 68-69.

42 Peter does not discuss 'contingit' in his tract. The verb is discussed in Albertus de Saxonia. Sophismata. obligationes ac insolubilia (Paris, 1502; repr. Hildesheim-New York, 1975), pars 4, Sophismata xxviii-xxx, sig. c v^r-v.

43 Maierù, Terminologia logica, p. 159.

44 Peter of Mantua, Logica (Padua, 1477), fol. 15^{va} (17)-15^{vb} (29), citation (36-29).

45 'album', MS Vat. lat. 2135, fol. 10^{va}] 'albus' incun.

46 'a te', ibid., om. incun.

47 Cf., e.g., Ashworth, Logic and Language, p. 90.

48 See above, pp. 381, 386-387.

49 Bos ed., Marsilius of Inghen. Treatises, p. 120 (5-13).

50 Peter of Mantua, Logica (Padua, 1477), fol. 16^{ra} (18-35).

51 Cf. N. Kretzmann, 'Semantics, History of' in P. Edwards ed., The Encyclopedia of Philosophy 7 (New York-London, 1967), pp. 358-406, ibid., p. 372.

52 See above, p. 384.

53 Albert of Saxony, Perutilis logica (Venice, 1522), tract. 2, cap. 10, fol. 15^{vb} (19-53), rule VII of his chapter on ampliation.

54 Bos ed., Marsilius of Inghen. Treatises, p. 102. See too Joel Biard, 'La signification d'objets imaginaires dans quelques textes anglais du XIV^e siècle', above, pp. 272-273.

55 See De Rijk, 'Semantics in Richard Billingham...', pp. 178-83.

56 See Bos, 'Peter of Mantua's Tract...'.
57 Peter of Mantua, Logica (Padua, 1477), fol. 53^{rb} (11).

58 See, e.g., Maierù ed., English Logic in Italy.

59 Cf. above, nn. 14 and 15.

60 Venator, Logica, MS Vat. lat. 2130, fol. 91^{ra}; Peter of Mantua, Logica (Padua, 1477), tract. de suppositionibus, fol. 1^{va}.

61 See above, p. 383.

62 See above, pp. 389-390, and Venator, Logica, MS Vat. lat. 2130, fol. 49^{ra}.

63 Paul of Mantua, Logica (Padua, 1477), fol. 16^{ra} (5-6); Venator, Logica, MS Vat. lat. 2130, fol. 92^{vb}, the same conclusion.

64 Venator, *ibid.*, fol. 90^{vb}; Paul of Mantua, Logica (Padua, 1477), tract. de supp., fol. 1^{va}.

65 Venator, Logica, MS Vat. lat. 2130, fol. 90^{vb}.