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# THE CHANGING ROLE OF ENTIA RATIONIS IN MEDIAEVAL SEMANTICS AND ONTOLOGY: A COMPARATIVE STUDY WITH A RECONSTRUCTION

#### INTRODUCTION: TWO THESES ABOUT ENTIA RATIONIS

In this paper I want to argue for two theses concerning *entia rationis*. My first thesis is that *entia rationis*, in what I would call the *via antiqua*<sup>1</sup> sense, are objects of thought and signification, required by a certain kind of semantics, but undesirable as objects *simpliciter* in *ontology*. My second thesis is that this systematic role of *entia rationis* in the *via antiqua* tradition of mediaeval thought was simply eliminated by the advent of Ockhamist semantics, which opened the way towards a radical reinterpretation of the concept of *entia rationis* and towards a new research programme for ontology.

In the next section of this paper, therefore, I start my discussion with a case study of the systematic role played by *entia rationis* in the philosophy of St. Thomas Aquinas, a typical representative of the *via antiqua* tradition, occasionally drawing parallels with and taking illustrations from the works of other mediaeval thinkers, too.<sup>2</sup> In the third section I give a systematic account of all kinds of *entia rationis* against the background of a comprehensive semantic theory constructed in the spirit of the *via antiqua* tradition. In the fourth section I describe the ways William Ockham's approach changed this semantic background, and examine how these changes influenced the concept of *entia rationis*. In the concluding section of the paper I present a simple formal reconstruction of what I take to be Ockham's basic innovations in semantics, and discuss briefly the new ontological programme it initiated.

## THE NEED FOR ENTIA RATIONIS: ST. THOMAS AQUINAS ON THE TWO SENSES OF ESSE

St. Thomas's conception of *entia rationis* is based on his account of the Aristotelian distinction between two senses of being. The most comprehensive account of this distinction is given by St. Thomas in

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# his *Sentences* commentary in relation to the question whether evil is something:

By way of answer we have to say that the Philosopher shows that 'being' is said in many ways.<sup>3</sup> For in one way 'being' is said as it is divided by the ten genera. And in this way 'being' signifies something existing in the nature of things, whether it is a substance, like a man, or an accident, like a colour. In another way 'being' signifies the truth of a proposition; as when it is said that an affirmation is true, when it signifies to be what is, and a negation is true, when it signifies not to be what is not; and this 'being' signifies composition produced by the judgement-forming intellect. So whatever is said to be a being according to the first way, is a being also in the second way: for whatever has natural existence in the nature of things can be signified to be by an affirmative proposition, e.g. when it is said: a colour is, or a man is. But not everything which is a being in the second way is a being also in the first way: for of a privation, like blindness, we can form an affirmative proposition, saying 'blindness is'; but blindness is not something in the nature of things, but it is rather a removal of a being: and so even privations and negations are said to be beings in the second way, but not in the first. And being is predicated in different manners according to these two ways: for taken in the first way it is a substantial predicate and pertains to the question 'What is it?', but taken in the second way it is an accidental predicate . . . and pertains to the question 'Is there (such and such a thing)?'.<sup>4</sup>

This distinction derives from Aristotle's discussion of the concept of being in *Metaphysics* V, where concerning the second member of this distinction in St. Thomas's commentary we find the following:

We have to know that this second mode is related to the first one as effect to cause. For it is from the fact that something exists in the nature of things that the truth or falsity of a proposition follows, which the intellect signifies by this verb 'is', as it is verbal copula. But, since some things which in themselves are not beings, the intellect considers as some sort of beings, like negations and the like, sometimes 'is' is said of something in this second way, but not in the first. For it is said that blindness *is* in the second way, for the reason that the proposition is true in which something is said to be blind, but this is not said to be true in the first way. For blindness does not have real being, but is rather a privation of some being.<sup>5</sup>

Now from these passages at least the following points seem to be clear:

- (1) A being in the first sense belongs in one of the ten Aristotelian categories, while one in the second sense, by opposition, does not belong to any of these, but owes its existence somehow to the activity of the mind.
- (2) 'being' in the second sense signifies truth and composition, and this sense of 'being' is expressed by the copula of categorical propositions.

- (3) Beings in the first sense form a proper subclass of beings in the second sense.
- (4) 'being' in the first sense is a substantial predicate of things, while in the second sense an accidental.
- (5) 'being' in the first sense answers the question 'What is it?', while in the second sense it answers the question 'Is there (such a thing)?'.

But with these points clarity seems to come to an unhappy end. For it seems to be difficult, if not impossible, to make any consistent sense of these points. Indeed, even if we set aside modern worries as to the concept of existence as a first-order predicate in the Fregean sense,<sup>6</sup> what St. Thomas says here about the second member of his distinction simply does not seem to make any good sense. For let us suppose that we understand that the copula of a categorical somehow expresses truth or falsity – after all, it is by this copula that we express that something is or is not the case.<sup>7</sup> But then how should we understand, for example, that it is by the copula of an affirmative categorical that we can express the way blindness, as opposed to sight, exists, that such a copula answers the question whether there is such and such a thing, and, to cap it all, that such a copula is an accidental predicate of things? Even if we accept that existence in some sense may be treated as a (firstorder) predicate, it should clearly be nonsense to claim that a copula can be a predicate of anything, whether accidental or not.

Well, I think that despite appearances to the contrary we can make good sense of St. Thomas's distinction, provided we are ready to understand it in its proper theoretical context, namely in the context of the theory of predication upheld, among others, also by St. Thomas, and what is justly called by historians of mediaeval logic the *inherence theory of predication*.<sup>8</sup>

This theory can easily be formulated in one sentence: a predicate is true of a thing if and only if the form signified by the predicate in the thing actually inheres in the thing, i.e., if this form, or property, of the thing actually exists.

But this simple, one-sentence theory has far-reaching implications as to the ways language and thought are conceived to be related to reality. (Perhaps, this is why nobody ever held it in this simplistic form.) For if it is conceived as a general theory of predication, applying to any predicate whatsoever, then in this simple form the theory clearly implies

a very close and homogeneous correspondence between linguistic items and items of reality. For in this simple form the theory says that for any true predicate of a thing there is a corresponding form, or property actually inhering in the thing, regardless of what kind of a property it is. But such a close and homogeneous correspondence cannot be maintained for a variety of reasons.

First, since this would mean that, e.g., if Socrates is white, he would not only possess the property of whiteness, but, of necessity, also all negations of the corresponding contrary properties, e.g., the properties of being non-red, non-green, non-blue, etc. But these 'negative colours' seem not to be properties of Socrates of the same kind as his whiteness, for clearly his colour, the property whose existence verifies the predicate 'coloured' of him, is his whiteness, but not any of these 'negative colours'.

Second, this one-one correspondence would imply that whenever something else changed in the world Socrates would gain and lose an infinite multitude of properties as his relations to other things changed with this change. Indeed, he would not only gain and lose properties while he himself exists, but also before and after his lifetime, as even nowadays, whenever a new student of philosophy comes to admire him, he should acquire the actually existing property of being admired by the student in question, that is, he would undergo change, even if he himself does not exist, which seems to be absurd.

Third, since to have a privative or negative property is nothing but not to have the corresponding positive property, as to be blind is nothing but not to have sight, the existence of the privative or negative property should be nothing but the non-existence of the corresponding positive property. But since nothing can be both existence and nonexistence in the same sense, if we want to maintain that such negative and privative predicates are true of the thing in virtue of the existence of the corresponding negative and privative properties, we have to conclude that these properties have a different kind of existence from the one enjoyed by the corresponding positive properties.

So, for such and similar reasons it seems that if we accept the inherence theory as our general theory of predication, we cannot maintain a completely homogeneous ontology, with a single domain of entities containing equally all the properties signified by our predicates, but we have to distinguish between at least two kinds of entities, namely, between those that really exist, either as complete substances or the properties really informing them, and those that exist only in a derivative sense, as consequent upon the actual state of the former, and somehow superimposed on this actual state by the mind conceiving this state in some manner.

Indeed, it is precisely this feature of St. Thomas's distinction that is brought out very clearly by his famous commentator Cajetan, in his commentary on St. Thomas's *De Ente et Essentia*:

[A]lthough Socrates may be blind without any intellect considering this, and does not become more or less blind because an intellect does consider it, yet blindness has no being (esse) in Socrates when an intellect does not consider it; for both of these propositions are true at the same time. This is explained thus. For Socrates to be blind as such is not for Socrates to have any substantial being (esse), as is clear, nor accidental, because Socrates is blind by the sole absence of visual power, and this adds nothing to Socrates; whence blindness adds no being (esse) whatever to Socrates. Thus, because the power of vision is lacking in Socrates without the consideration of any intellect, Socrates must be blind without any intellect considering it. A question arises here because one does not correctly see that to be blind is not to be something, but to lack the power of vision. For example, a ship is without a pilot, and no intellect considers this. The absence of the pilot does not give the ship any substantial or accidental being (esse), whence for the ship to be without a pilot is not to be something outside the soul, but not to be piloted. For privations and negations acquire being (esse) and become beings [in the second sense] because the intellect, conceiving (intelligens) privations through positive properties (habitus) and negations through affirmations, in some way forms in itself some sort of image of the thing lacking. For example, when the intellect forms in itself a kind of image of a ship without a pilot, which is this mental proposition, the ship is without a pilot, the non-presence of the pilot, which is nothing outside the soul, becomes a being in the soul because the intellect makes it the term of a proposition; and since this being (esse) is in the soul and it has no other being (esse), the result is that negations and privations of this kind are not beings except in the soul objectively. Thus their being (esse) is nothing else than to be thought of (intelligi), the only manner in which all beings of reason have being (esse).<sup>9</sup>

From this lengthy quotation I think at least this much is clear: that the derivative existence of a being of reason is such that beyond the actual state of affairs being in reality as it is, for the existence – to wit, existence in the second sense – of such a being something more is required, namely the activity of a mind, which is able to conceive this state of affairs in such a way as to *project*, as it were, into it this being of reason, as a kind of summation of this state of affairs.

To see this in more detail, let us consider again the example of blindness. According to the inherence theory, someone is blind if and only if there is blindness in his eyes. But, as we could see, this blindness cannot be said to exist in the blind eye in the same sense as sight exists in the seeing eye. Sight exists in the first, while blindness only in the second of the senses of being distinguished above. This second sense is expressed by the copula of categorical propositions. In the case of this particular blindness, its existence in the second sense is expressed by the copula of the proposition by which this eye is said to be blind. But the same situation may also be expressed by saying that this blindness is, or exists, in which case the verb 'is', or 'exists', is not a copula, but an absolute predicate of this blindness. However, of course, in this case this verb can also express the existence of this blindness only in the second sense, for, as we said, blindness can exist only in this second, derivative sense. For this blindness has no existence in the first sense at all, since for it to be (in the second sense) is precisely for something, namely for the sight of this eye, not to be (in the first sense). It is only because the intellect forms the concept of blindness so that it includes the lack of sight from an eye that the eye lacking sight can be said to have blindness, and so blindness can be said to be in this eve.

We can also illustrate the dependence of blindness on the activity of mind, as opposed to the independence of a real being from the same, by saying that if there were no minds at all forming the concept of blindness, then there would be no blindness either, even if there were eyes lacking sight. By opposition, however, even if there were no minds forming the concept of whiteness, still, there would be whitenesses in reality, provided there would be white things. The difference between the two cases is that since the concept of blindness includes some mental act, namely negation, for there to be anything characterisable as blindness, it is not enough that such and such real things should exist in such and such a way, but it is also required that there be a human mind capable of exercising this mental act.

But now I think we are already in a position to see a consistent interpretation of the points of St. Thomas's distinction listed above. The background theory of this interpretation is the inherence theory of predication: for every true predicate of a thing there is some property inhering in the thing. It is precisely the existence, or actual inherence, of such a property that verifies the predicate of the thing. But since it cannot be the case that every true predicate of a thing should pick out some really existing property, a distinction had to be made between two senses of being, one of them predicable of the truly existing things, substances as well as their properties, while the other predicable of those significates of true predicates of things that cannot be regarded as their real properties. The mode of existence of the latter is said to be expressed by the copula of categorical propositions, which, however, is claimed to be also expressed by 'is' as an absolute predicate, for it is the same sense of *esse* that is applied both in '*Aliquid est caecum*' and in '*Caecitas est*'. (See again the passage quoted from St. Thomas's *Metaphysics* commentary above.) I think this is how we can account for St. Thomas's seemingly confused remarks concerning the copulative '*esse*' as a predicate.<sup>10</sup>

Nevertheless, it would be rash to conclude from this that the copula of a proposition attributes existence directly to a significate of its predicate. As Cajetan warns us in his commentary on the *Categories*:

And pay attention carefully to the fact that Aristotle's maxim put forward here: 'it is on account of whether the thing is or not that a proposition is said to be true or false' is not to be understood as concerning the thing which is [signified by] the subject or the predicate [term] of the proposition, but of the thing that is signified by the proposition itself. For example, when it is said that a man is white, this is not true because a man or a white thing is, but because *a man being white* is; for this is signified by this proposition.<sup>11</sup>

This is why, regardless of whether the predicate term of the proposition signifies real or rationate properties, its copula always expresses existence in the second sense, namely, the existence of the propositional complex signified by the proposition.

Unfortunately, St. Thomas himself is not very explicit about the significate of propositions,<sup>12</sup> but what the anonymous author of the twelfth-century tract *Ars Burana* says about *enuntiabilia* would fit in very nicely with Aquinas's conception of *entia rationis*:

Note that whether we speak about the dictum of a proposition or of the significate of a proposition or of an *enuntiabile* it is the same. For an *enuntiabile* is what is signified by a proposition. For example: 'a man is an animal', this proposition is true, because what it signifies is true; and that true thing that you in this way understand is the *enuntiabile*, whatever it is. Similarly, when I say: 'Socrates is an ass', this proposition is false, because what it signifies is false, and the false thing that you conceive in this way is the *enuntiabile*. And this cannot be seen, nor heard or sensed, but it is only perceivable by the intellect. If you ask in which category of things it belongs, whether it is a substance or an accident, of the *enuntiabile* we have to say that it is neither a substance nor an accident nor does it belong to any of the categories. For it has its own peculiar type of existence. And it is said to be extrapredicamental, not because it does not belong to any category, but because it does not belong to any of the category that can be called the category of *enuntiabilia*. And in this category the most general item will be that consignified by the term '*enuntiabile*'. And

this can be divided further as follows. Some *enuntiabilia* are of the present, some are of the past and some are of the future. Furthermore, some *enuntibilia* are true and some are false. And further: of the true ones some are necessary and some are not necessary, and of the false ones some are possible and some are impossible. So it is to be understood what an *enuntiabile* is. (de Rijk, 1967, pp. 357-59)

So enuntiabilia so understood would form just another type of entia rationis beyond the ones already discussed. Those discussed explicitly by St. Thomas and by Cajetan in the passages quoted above may be characterised as significates of certain predicates in their subjects, namely, of those predicates which in their concept involve some operation of the mind, such as negation, and which, consequently, cannot be regarded as constituents of 'intact reality'. Rather, these are to be construed as objects of thought, formed by the operation of the intellect, although having a foundation in reality, the actual way real beings are. In the same way, enuntiabilia are objects of thought formed by the operation of the intellect, though having a foundation in reality. The difference is that they are not significates of predicates, but of whole propositions, including somehow what is signified by both the predicate and the subject and the other, syncategorematic elements of the proposition, most notably, the copula.

In view of these considerations we may say that in this semantic construction there is a three-layer structure underlying a simple categorical proposition with a predicate term signifying some non-real property, such as the property of blindness. What immediately accounts for the truth of, say, 'Homer is blind' is the existence of the enuntiabile signified by this proposition, namely, the state of affairs that Homer is blind. But this state of affairs can exist, in the sense signified by the copula of the proposition, only if Homer actually has the property signified by the predicate, that is if his blindness actually exists, but, again, only in the sense of existence expressed by the copula. However, in virtue of the concept of blindness involving the negation of the corresponding positive property, this privative term applies to the subject, namely Homer, only if he lacks sight, i.e., if his sight, the significate of the corresponding positive term, does not exist, this time in the sense of real existence expressed by 'est' used as an absolute, substantial predicate of real beings.

But even this three-layer structure has some further, inner complexity, namely, that expressed by the syntactic structure of the proposition. For to this syntactic structure, according to St. Thomas, there corresponds a conceptual structure, existing in the mind, which reflects the composition of the things conceived by this conceptual structure.<sup>13</sup>

Indeed, this conceptual structure existing in the mind also has two aspects to it. For, as Cajetan explains, we can speak about "being in the mind" in two senses:

To be in the intellect can occur in two ways, namely subjectively and objectively. To be in the intellect subjectively is to inhere in it, like an accident inheres in its subject, as whiteness inheres in a surface. To be in the intellect objectively is to terminate the act of the intellect. (Cajetan, 1590, p. 327)

What are subjectively in the mind are its real qualities, existing in the first sense of the two senses of 'esse' distinguished by St. Thomas. These are the mental acts, or thoughts, by which individual minds conceive external things, forming their specific and proper thought objects, the universal concepts, existing merely objectively in the mind.

Our concepts, as we are taught by St. Thomas,<sup>14</sup> are the result of an operation of our mind, which uses as its principle of activity a species intelligibilis abstracted by the active intellect, intellectus agens, from the sensual representations of particulars, from phantasms. In the process of abstraction the active intellect separates the universal nature intuited within the phantasms from its individuating conditions, though without the exclusion of these, and creates in the receptive intellect, intellectus possibilis, a universal similitude of the individuated natures of individual things, a so-called species intelligibilis. This species intelligibilis serves as the principle of the operation of the receptive intellect called formatio, the term, or result, of which is the concept, intention, or mental verb signified immediately by the external, vocal verb.<sup>15</sup> By forming this universal concept the mind is directed to things sharing the nature represented by this concept, and this is why the external word signifying immediately this concept, through the mediation of the concept, signifies ultimately all things falling under it.

But the intellect forms not only concepts, but by their composition or division it also forms judgements about how things are. These judgements, again, can be regarded from two perspectives. As they are subjectively in the mind, they are its individual qualities, individual acts of human thought occurring in this or that human mind. But as they are the objects of the mind, they exist in it merely objectively, as some complex *entia rationis*, formed by the activity of the mind. I suggest that we identify these complex *entia rationis* as the *enuntiabilia* signified by propositions as described by our anonymous twelfth-century author in the passage quoted above. It is, then, the actual existence or nonexistence (in the second sense of 'esse') of such an enuntiabile that verifies immediately the proposition signifying it, but this, as we have seen, depends ultimately on the way real things are. This would be then the 'thing' referred to by Aristotle's maxim quoted above – 'it is on account of whether the thing is or not that a proposition is said to be true or false' – the existence of which is expressed by the copula of the proposition that signifies it.

# A SKETCH OF A 'VIA ANTIQUA SEMANTICS'

As from this account of St. Thomas's distinction there emerged the outline of a rather complicated semantic and ontological picture; at this point it may be worthwhile to give at least a sketch of a systematic reconstruction of it.

At the heart of this picture, as we have seen, lay the inherence theory of predication. This theory, however, presupposes a more basic theory, a peculiar theory of signification. According to this theory, a categorematic term signifies individualised properties of particulars, either inherent forms, really informing the matter of material substances, or *entia rationis*, i.e., properties of things that do not really inhere in them, but belong to them in virtue of some more complex pattern of reality conceived by the intellect in this property.

But these properties, as we have seen, were not the only kind of *entia rationis* required by this theory. For the terms signifying any properties of things do so only in virtue of signifying immediately the universal concepts formed by the intellect, by which it conceives the things sharing these properties. These universal concepts, as they are formed by the intellect to direct its thinking towards the objects having the nature or property represented by these concepts, are also *entia rationis*, which do not exist in reality according to their proper nature, i.e. in their universality, though they have a foundation in real beings, namely the individual natures or individualised properties, represented in an abstract, universal manner by these concepts. On the other hand, these *objective concepts*, as they came to be called in late-scholasticism, owe their existence to the *formal concepts* inhering in individual minds, i.e., to individual thought-acts by which the human intellect forms to itself its peculiar, immediate thought objects, the universals.<sup>16</sup> It is only

through this twofold conceptual structure that our simple words are related to what they ultimately signify, the natures, forms, or properties of things existing in reality. But then, proportionally, our propositions are related through a similar twofold structure to the way things are, which ultimately accounts for the truth and falsity of our judgements. For judgements are formed by the human intellect through its second operation, by which it combines the concepts formed by its first operation. But just as our concepts have a twofold structure, so should our judgements: just as the conceptus formales inhere in particular minds as their real qualities, so do the judgements formed from them; while just as the conceptus objectales exist merely objectively in the mind, so do the propositional complexes formed from them.<sup>17</sup> These propositional complexes, the objective contents of our judgements, then form a further class of entia rationis, which we identified as the enuntiabilia signified by our propositions.<sup>18</sup> It is the actuality of such a propositional significate that verifies immediately the proposition signifying it, though, of course, depending on the complexity of the structure of the proposition and the meaning of its terms, this may require a rather complex situation to obtain in reality. For example, what immediately verifies the proposition 'Some men are not white' is the actual state of affairs signified by this proposition, namely, that some men are not white. However, what is required a parte rei for this state of affairs to be actual is that the individualised properties signified by the predicate of this proposition in some individuals referred to by the subject term should be non-actual. As this example shows, in this framework the syntactic structure of a proposition serves not only to identify the state of affairs signified by the proposition as a whole, but also indicates what conditions should hold in reality so that this state of affairs obtains. This is why the Aristotelian definition of truth can be put in one sentence referring to the existence of what is signified by the proposition as a whole, instead of the recursive satisfaction clauses of a Tarskian truth-definition. On the other hand, in a fully fledged semantic theory constructed in this style one would have to give the recursive clauses for identifying the significata of propositions in terms of the semantic values of their components and specifying the conditions for their actuality on the basis of the syntactic structure of the propositions signifying them. By providing these clauses one may give a unique assignment of significata to propositions and a literal formal equivalent of the Aristotelian definition of truth quoted above. If, on the other hand, one also

gives the relevant clauses for identifying the mental acts giving rise to these *entia rationis*, namely the *formal concepts* and the *judgements* formed from them, one may also give precise meaning to St. Thomas's concept of truth as consisting in what he called *adaequatio intellectus* et rei.<sup>19</sup>

As can be seen, these ideas together form a comprehensive theory as to the ways words are related to thoughts and their objects, the things of extramental reality. In this sense this is a comprehensive semantic theory with an apparently enormous ontological commitment to all sorts of weird entities, in fact, to anything that can be thought of or signified by any means. But the 'hard' ontological commitments of this theory are (supposed to be) drastically reduced by making a distinction between what is merely signified, referred to, or thought of, i.e., what is merely an object of thought, what exists in a diminished sense only if some mind conceives it, on the one hand, and what is an object simpliciter, regardless of whether there are any minds conceiving it, on the other. 'Hard' ontological commitment therefore attaches only to objects that are claimed to exist in the first of the senses of St. Thomas's distinction discussed above. On the other hand, the theory has an enormous amount of 'soft' ontological commitment to several kinds of entities existing in the second sense of the distinction, as objects of thought. As we have seen, these objects were required by the peculiar construction of this semantic theory built on the concept of signification implied in the inherence theory of predication. So anyone who wants to get rid even of this 'soft' ontological commitment has to construct his semantic theory in a different way, built on a different concept of signification. This was precisely the course taken by William Ockham.

# OCKHAM'S SEMANTIC INNOVATIONS AND THEIR INFLUENCE ON THE CONCEPT OF ENTIA RATIONIS

That the basic source of the unwelcome ontological commitments of his predecessors' theories was the concept of signification implied in the inherence theory of predication was clearly realised by Ockham. For it is this concept of signification that requires that any true predicate of a thing should be verified by the property signified by the predicate actually inhering in the thing. But, then, this implies that

the column is to the right by to-the-rightness, God is creating by creation, is good by

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goodness, just by justice, mighty by might, an accident inheres by inherence, a subject is subjected by subjection, the apt is apt by aptitude, a chimaera is nothing by nothingness, a blind person is blind by blindness, a body is mobile by mobility, and so on for other, innumerable cases. (Ockham, 1974, p. 169)

And this is nothing, but "to multiply beings according to the multiplicity of terms...which, however, is abusive and leading far away from truth", says Ockham (ibid., p. 171). Indeed, he identifies this as "the root (*principium*) of many errors in philosophy: to want that to a distinct word there always corresponds a distinct significate, so that there is as much distinction between the things signified as between the nouns or words that signify" (Ockham, 1984, p. 270).

How then could Ockham free philosophy from such abuses and errors? By discarding the concept of signification that led to them, of course.

According to this conception, as we have seen, general terms ultimately signify those individualised properties of things that the concept immediately signified by the term represents in a universal, abstract manner in the mind. Indeed, St. Thomas, commenting on Aristotle's famous claim, at the beginning of his *Perihermeneias*, that words signify things not immediately but by the mediation of concepts, justifies this claim in the following way:

Therefore 'passions of the soul' must be understood here as conceptions of the intellect, and names, verbs, and speech signify these conceptions of the intellect immediately according to the teaching of Aristotle. They cannot immediately signify things, as is clear from the mode of signifying, for the name 'man' signifies human nature in abstraction from singulars; hence it is impossible that it immediately signify a singular man. The Platonists for this reason held that it signified the separated idea of man. But because in Aristotle's teaching man in the abstract does not really subsist, but is only in the mind, it was necessary for Aristotle to say that vocal sounds signify the conceptions of the intellect immediately and things by means of them. (Aristotle, 1962, p. 25)

That the word 'man' signifies human nature does not mean, however, that it does not *refer to*, or to apply a modern re-coinage of the mediae-val technical jargon, *supposit for* individual men in a proposition such as 'Some men are white'. For, as St. Thomas says:

In respect of any name we have to consider two things, namely that *from which* the name is imposed, what is called the quality of the name, and that *to which* the name is imposed, what is called the substance of the name. And the name, properly speaking, is said to *signify* the form, or quality *from which* the name is imposed, and is said to *supposit for* the thing *to which* it is imposed.<sup>20</sup>

So the term 'man' signifies human nature in abstraction from the singulars immediately, and signifies individual human natures ultimately, but normally supposits for the things bearing the nature it signifies, namely, individual men. It is only in virtue of some special adjunct that a term is made to refer to what it normally signifies: "[T]his term 'man' does not supposit for the common nature unless for the reason of something added, as when it is said 'man is a species'".<sup>21</sup> As is well known, in systematic treatises on the theory of supposition, this kind of supposition was distinguished as simple supposition, as contrasted with material supposition, when a term refers to itself, as in "man' is a noun", and with *personal supposition*, when the term refers to what falls under it, as in 'a man runs'.<sup>22</sup> So we can say that for Aquinas a term has simple supposition when it refers to what it (immediately) signifies,<sup>23</sup> while it has personal supposition when it refers to what falls under its significate. But it is precisely at this point where Ockham introduced a small, but, as we shall see, very significant innovation in semantic theory. As Walter Burleigh, a staunch defender of what I call via antiqua semantics, describes it:

Some people, however, reprove what is said, namely that a term has simple supposition when it supposits for its significate, for they say reprehending the *antiquiores* that that saying is false and impossible. They say on the contrary that it is personal supposition when the term supposits for its significate or significates; and it is simple supposition when the term supposits for the intention or intentions of the soul. And so they say that in this proposition 'Man is a species' the term 'man' has simple supposition but does not supposit for its significate, for the significates of this term are this man and that man. But in this: 'Man is a species', the term man supposits for an intention in the soul, which is really a species of Socrates and Plato. (Burleigh, 1955, p.7)

I think it is also significant that Burleigh, among several other arguments in defence of the view of the *antiquiores*, also provides the same kind of justification for this view that was alluded to by St. Thomas in the passage quoted above from his commentary on the *Perihermeneias*:

But beyond doubt this is very unreasonably said, for in this: 'Man is a species' this term 'man' supposits for its significate. For . . . this name: 'man' signifies something primarily, and does not signify primarily Socrates, nor Plato, for so someone hearing this word and knowing what it signifies would determinately and distinctly think of Socrates, which is false; therefore this name 'man' does not signify primarily some singular; so it signifies primarily something common, and that common thing is a species, whence that which is primarily signified by the name 'man' is a species. (Ibid., pp. 7–8)

Ockham does not accept this kind of justification:

For this noun 'man' does not signify primarily some nature common to all men, as is fancied erroneously by many, but signifies primarily all particular men.... For the one who first instituted this noun 'man', seeing some particular man, instituted it to signify that man and whatever substance of the same sort as him. So he did not have to think about a common nature, for there is nothing like such a common nature.<sup>24</sup>

So Ockham insists that what common terms primarily signify are not universal natures that can be found individualised in the singulars and exist in their universality, abstracted from all individuating conditions in the mind, but are the singulars themselves. As a consequence, for him, in contrast with the view of Burleigh's antiquiores,<sup>25</sup> the significata of common terms are their personal supposita, and not their simple supposita, the universal natures abstracted by the mind from their instances inhering in the personal supposita as their individualised natures (Ockham, 1974, pp. 95, 195-96). Indeed, Ockham deploys several arguments to show that there are no such natures inhering in, but distinct from, the individuals having them.<sup>26</sup> On the other hand, in this framework there is still need of some sort of universals to account for the difference between the significative function of general and of singular terms. However, these universals need not be abstract likenesses of the individualised natures of particulars existing merely objectively in the mind, but simply natural signs signifying many things and suppositing for the same:

But what is it in the soul that is such a sign? We have to say that concerning this question there are several opinions. Some people say that it is nothing but some sort of *fictum* of the soul. Others say that it is some quality existing subjectively in the mind, distinct from the act of understanding. Others say that it is the act of understanding. And in their favour is the principle that 'it is futile to do with more what can be done with fewer'. But anything that is explained by positing something distinct from the act of understanding can be explained without it, for the act of understanding can supposit and signify in the same way as any other sign. So there is no need to posit something beyond the act of understanding.<sup>27</sup>

So by this move, i.e. by identifying the ultimate *significata* of general terms with their personal *supposita*, Ockham was able to get rid at once both of universal natures and of their instances, what were traditionally conceived as the immediate and the ultimate *significata* of general terms. But this move, of course, affected not only those terms that traditionally were held to signify the individualised, distinct natures of individuals, i.e. substance-terms, but also those that were held to signify other properties, whether they be real accidents belonging in any of

the nine accidental categories, or *entia rationis*, privations, negations, or relations of reason.

As is well known, Ockham divided terms into absolute and connotative ones. Absolute terms are those that signify equally all their significata primarily, while connotative terms are those that signify some of their significata primarily, and some of them secondarily.<sup>28</sup> The primary significata of the latter are those that they supposit for in propositions, i.e. their personal supposita, while their secondary significata are those in relation to which they supposit for their primary significata. But given this conception of the signification of connotative terms, there would in principle be no need to posit any inherent properties at all: an absolute term signifies equally all and only those things that it can supposit for in propositions in no relation to other things, while a connotative term signifies primarily all and only those things that it can supposit for in propositions in relation to those things that it signifies secondarily. But these things, whether signified primarily or secondarily by a term, in principle, as far as the semantic theory is concerned, could belong to any of the categories, indeed, they might all belong to the category of substance alone. As is also well known, however, for independent reasons, Ockham also retained distinct entities in the category of quality.<sup>29</sup> But from a semantic point of view, terms connoting such real qualities do not differ essentially from those that would only connote substances: these terms signify what they can supposit for in propositions, namely the subjects of these qualities, in relation to the qualities of which they are the subjects.

In any case, this new conception of signification gave Ockham the chance to get rid not only of universals and distinct individualised natures answering them *a parte rei*, but also of privations and relations, in brief, any sort of inherent properties that were required by the semantic framework discussed above. Indeed, as in this new framework, predicate terms of propositions no longer signify inherent forms, but directly the individuals falling under them – the affirmative copula is no longer taken to express the existence of inherent forms through attributing existence to a propositional complex, but the identity of the supposita of the terms of the proposition in which it occurs. So the resulting theory of truth need not commit itself to the (merely objective) existence of *dicta, enuntiabilia*, or their fourteenth-century counterparts, *complexe significabilia*, i.e., to adequate significates of whole propositions either.<sup>30</sup> As a matter of fact, Ockham himself never ad-

dresses explicitly the question of the ontological status of the adequate significate of the whole proposition.<sup>31</sup> But what may be regarded as a consistent extension of Ockham's account in this respect is Buridan's, wherein he explicitly refuses to admit *complexe significabilia* in his ontology and provides an account of truth much closer to contemporary truth-definitions, by determining the truth-values of propositions of different syntactical complexity separately in terms of the semantic values of their components.<sup>32</sup>

So, as a result of Ockham's new semantic approach, in principle all *entia rationis* became dispensable.<sup>33</sup> But is there, then, any room for the mere concept of *entia rationis* in this new conceptual framework? Ockham's answer is affirmative. However, he gives a radically new interpretation to this concept:

[S]omething is not said to be a being of reason because it is not some real thing existing in the nature of things, but because it is only in reason, as something that the mind uses for something or for the sake of something. And in this way all propositions and all consequences and all mental terms are beings of reason, nevertheless, they are really existing in the nature of things, and are, indeed, more perfect and more real beings, than any corporeal qualities. (Ibid., p. 113)

So for Ockham *entia rationis* are not a special sort of entities enjoying a peculiar sort of existence, totally different from the one had by ordinary beings; on the contrary, they are ordinary beings, having a totally ordinary kind of existence, differing from the rest only in that they have this ordinary existence in the mind. But it is not only qualities of the mind that Ockham regards as *entia rationis*. Although apparently considering it as a kind of concession, he is also prepared to regard some relations as *entia rationis*:

[A]lthough 'relation of reason' is not a philosophical expression, for I believe that this expression does not occur in Aristotle's philosophy, nevertheless, for the sake of what is commonly said, namely that a relation of reason is something, I say that real relations and relations of reason are to be distinguished. And this is clear from the following. For whenever without the operation of the intellect a thing is not such as it is denoted to be by the relation or by its concrete form, then it is a relation of reason. For example  $\ldots$  since a coin is not the price of something, unless by voluntary institution, which is preceded by an act of the intellect, price can be called a relation of reason  $\ldots$ . But whenever a thing is such as it is denoted to be by the relation of the intellect, so that the operation of the intellect does nothing to this effect, then it can be said to be a real relation. (Ockham, 1980, p. 699)

But, as we can see, these relations of reason, again, are not some

inherent properties, distinct from the things having them, but just the ordinary things themselves, as conceived or signified by some relative concept or term, such as a coin, when it is considered to be the price of something.<sup>34</sup> Indeed, since relations in general are not some "tiny things" (*res parvae*) inhering in and distinct from other, absolute things, a claim argued for in several places by Ockham, neither can relations of reason be such "tiny things".<sup>35</sup>

However, one may feel somewhat uneasy about Ockham's characterisation of these relations of reason. For the mind-dependence of beings of reason in the via antiqua sense was clear enough: such a being of reason can exist, in the sense of mere objective existence, only as long as some intellect thinks it, because its esse is nothing but intelligi: for it to be is to be thought of. But Ockham's relations of reason being identical with real beings conceived in some way, they surely can continue to exist whether a human intellect thinks of them or not. On the other hand, what Ockham says here is not that something is a relation of reason if it would *cease to be* without the operation of the intellect. but that if it would cease to be such as it is denoted to be by a relative concept. But this again can be understood in two ways. First: it would cease to be such as it is denoted to be by this concept, i.e., it would undergo change if the operation of any human intellect would cease to be, which is certainly not meant here, since no thing can be said to undergo change by ceasing to be thought of by any human intellect. Second: it would cease to be such as it is denoted to be by the concept, i.e., it would be signified no longer by the concept, if the operations of any human intellect would cease to be. But this again cannot be meant here, since by removing all operations of all human intellects we remove all concepts, and so after this removal nothing would be signified by any concept whatsoever.

But there is still another way of understanding the mind-dependence of Ockham's *entia rationis*. In this way a relation of reason would be something that would cease to be such as it is denoted to be by a relative concept, provided all acts of any human intellect would cease to be except for the concept in question signifying it. So understood, an *ens rationis* would cease to be signified by the concept signifying it, provided all other mental acts were removed, although the concept itself would not cease to be. This can be precisely the case when a concept signifies something connoting, i.e. only in relation to, some mental act. For example, a banknote is signified to be the price of something only in relation to the mental acts of those people who acknowledge it as a suitable means of payment for goods: were these acts removed, the banknote would still exist, but would be just a worthless scrap of paper, no longer properly signified by the term 'price' or, for that matter, even by the term 'banknote'. Similarly, a once meaningful inscription remaining carved in rock after the extinction of the community to whose idiom it belonged ceases to be meaningful by the demise of the mental acts connoted by the term 'meaningful' that once conferred meaning on it. In view of these considerations, we can simply say in general that for Ockham a being of reason is something that is signified by a term or concept that signifies or connotes an act of mind.<sup>36</sup>

With this new interpretation of what an *ens rationis* is Ockham was able to save, at least verbally, an old distinction, but in a radically different conceptual framework, which opened the way to a new research programme for ontology.

# CONCLUSION: A RECONSTRUCTION OF OCKHAM'S SEMANTIC INNOVATIONS

In conclusion let me present a simple reconstruction of what I take to be Ockham's basic semantic innovation. I want to suggest that Ockham's crucial move in semantics can be very simply described as a certain sort of type-lowering of the signification of categorematic terms. But to make sense of this claim, of course, I have to explain what I mean by this type-lowering, which will also involve some further suggestions as to how we could reconstruct the different semantic and ontological frameworks discussed above.

According to the concept of signification that I take to be characteristic of the via antiqua tradition, a general term ultimately signifies numerically distinct inherent natures, forms, or properties of individuals, distinguishable from one another by which individuals they belong to. Therefore we can say that such a term signifies these individualised properties in respect of the individuals in which they inhere, i.e., it signifies such a property for this individual, and another for that one, etc. But so we may represent the signification of a general term as a function assigning inherent properties to individuals. This means that in a semantic model we need to distinguish between two types of individuals, namely, individual substances, and their inherent properties

(including really distinct natures, inherent forms, and merely objectively existing properties). So the domain of our model W will contain two subclasses: S, the class of substances, and P, the class of properties. A significate of a one-place general term, therefore, can be denoted as the value of the signification function of this general term for a substance from S such as:  $SGT(T^1)(u) \in P$ , where  $u \in S$ . Notice here that SGT is not a two-place function, with a term in its first and a thing in its second argument-place, but a one-place function, which for a oneplace term in its argument-place yields another one-place function, which for a thing in its argument-place yields an individualised property (the property signified by this term in this thing). In this way, applying the same trick, we can give a uniform treatment of the signification of general terms of any arity,<sup>37</sup> and so, generally speaking, we can denote a significate of an *n*-place general term such as:  $SGT(T^n)(u_1)$ ...  $(u_n) \in P$ . Now we can classify these functions and the entities they operate on in different types as follows: let elements of S and P be of type s and p, respectively; and let a mapping from entities of type  $t_1$ to entities of type  $t_2$  be of type  $\langle t_1, t_2 \rangle$ .

In this way, if we designate the type of an entity e as TYPE(e), then, e.g.:

TYPE(SGT(T<sup>2</sup>)(u<sub>1</sub>)(u<sub>2</sub>)) = p. TYPE(SGT(T<sup>2</sup>)(u<sub>1</sub>)) =  $\langle s, p \rangle$ . TYPE(SGT(T<sup>2</sup>)) =  $\langle s, \langle s, p \rangle \rangle$ , etc.

We can define the *level* of each of these types as follows: let the level of type s and of p be 1 and 2, respectively; and let the level of type  $\langle t_1, t_2 \rangle$  be the sum of the levels of  $t_1$  and of  $t_2$ . That is to say, denoting the level of type t as LEVEL(t):

LEVEL(s) = 1.  
LEVEL(p) = 2.  
LEVEL(
$$\langle t_1, t_2 \rangle$$
) = LEVEL( $t_1$ ) + LEVEL( $t_2$ ).

So, e.g.:

```
LEVEL(TYPE(SGT(T<sup>2</sup>)(u<sub>1</sub>)(u<sub>2</sub>))) = LEVEL(p) = 2.

LEVEL(TYPE(SGT(T<sup>2</sup>)(u<sub>1</sub>))) = LEVEL(\langle s, p \rangle) = 1 + 2 = 3.

LEVEL(TYPE(SGT(T<sup>2</sup>))) = LEVEL(\langle s, \langle s, p \rangle)) = 1 + (1 + 2) = 4, etc.
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Now if we denote the signification function modelling the via antiqua concept of signification as  $SGT_a$  and that modelling Ockham's as  $SGT_o$ , then we can express their relationship by the following simple formula (provided T is not a concrete quality term):

$$LEVEL(TYPE(SGT_o(T^n))) = LEVEL(TYPE(SGT_a(T^n))) - 2,$$

which clearly shows why we can speak here of a sort of type-lowering. For example, the one-place term '*homo*' in the *via antiqua* framework was supposed to signify individual human natures of singular men, consequently:

LEVEL(TYPE(SGT<sub>a</sub>('homo'))) = LEVEL(
$$\langle s, p \rangle$$
) = 1 + 2 = 3.

On the other hand, for Ockham the same term signifies directly individual men, that is:

 $LEVEL(TYPE(SGT_o(`homo'))) = LEVEL(s) = 1,$ 

which, by the way, shows nicely why such a term is regarded by Ockham as *absolute*, i.e., not signifying its *significata* in relation to other things. It should also be noted here that for Ockham the *significata* of absolute terms constitute some subset of the whole universe, and that two absolute terms never have the same set of *significata* unless they are synonymous. So generally, if T is an absolute term, then  $SGT(T) \in U$ , where U is some subset of W, determined by the natural signification of the concept to which T is subordinated.<sup>38</sup>

Similarly, the two-place term '*pater*', in the *via antiqua* framework, was supposed to signify an inherent relation, paternity, signified by this term in a person in respect to another, his child. Therefore:

$$LEVEL(TYPE(SGT_a(`pater'))) = LEVEL(\langle s, \langle s, p \rangle \rangle) = 1 + 1 + 2 = 4.$$

For Ockham the same term signifies individual men, in respect to others, their children, and so:

LEVEL(TYPE(SGT<sub>o</sub>('pater'))) = LEVEL(
$$\langle s, s \rangle$$
) = 1 + 1 = 2.

However, as Ockham did not eliminate all inherent properties, but retained qualities, in the case of concrete quality-terms the level of the

signification type of these terms remained the same. What was changed by Ockham, however, was the type of the signification of these terms itself. For while according to the older view these terms signify qualities in substances, in Ockham's view, conversely, they signify substances connoting qualities,<sup>39</sup> i.e., if  $u \in S$  and  $f \in P$ , then  $SGT_a(T)(u) = f$ , while  $SGT_a(f) = u$ , and so

> TYPE(SGT<sub>a</sub>(T)) =  $\langle s, p \rangle$ , while TYPE(SGT<sub>o</sub>(T)) =  $\langle p, s \rangle$ .

This type-change naturally leads to Ockham's move to identify the personal *supposita* of these terms with their *significata*. If we denote a *suppositum* of such a term at a time t (namely, the time connoted by the copula of the proposition in which the term supposits for this thing) as SUP(T)(t) and the set of things that are actual at this time as A(t), then we can write:

SUP(T)(t) = u, if SGT<sub>a</sub>(T)(u) =  $f \in A(t)$ , otherwise SUP(T)(t) = 0, while SUP(T)(t) = SGT<sub>o</sub>(T)(f), if  $f \in A(t)$ , otherwise SUP(T)(t) = 0,

where A(t) is a part of W, 0 is a zero-entity falling outside the universe of discourse W,<sup>40</sup>  $u \in S$  and  $f \in P$ .

And this comparison takes us immediately to a (if not *the*) basic problem of Ockham's semantics.

As we can see, determining the *supposita* of terms is vital for Ockham's logical semantics, for the truth or falsity of propositions is ultimately determined by the identity or non-identity of the *supposita* of their terms. The personal *supposita* of a simple connotative term are those things that it signifies in relation to its *connotata*. But the grammatical category of the term in itself says nothing about what the *connotata* of such a term should be. What tells us this, according to Ockham, is the term's nominal definition.

Let us take, for example, Ockham's 'favourite' connotative term, 'album' (white). According to Ockham, this term is connotative, since it has a nominal definition; for the sake of simplicity let's say: 'habens albedinem' (whiteness haver). This being so, we can construct a significate of the term 'album' in a semantic model out of the significates of 'habens' and 'albedo' in the following manner:

SGT('album')(SGT('albedo')) = SGT('habens')(SGT('albedo')) = SGT('habens albedinem').

In this way, however, we cannot treat 'album' in a semantic reconstruction as *primitive*, for its *significata* are not determined by a freechoice function, but are constructed from the *significata* of expressions entering its nominal definition, even if it is *simple*, in the sense that syntactically it is not composed of more primitive parts evaluated separately in the semantics.

Now in this nominal definition, 'habens', being a relative term, is also connotative. So on Ockham's principles it also has to have a nominal definition possibly revealing even further connotata not yet taken into account in this first approach. But what can we supply here by way of such a nominal definition? And even if we are able to think up something the same question will recur, if in the proposed definition another connotative term occurs. And since according to Ockham only substance and abstract quality terms are absolute terms, the question in effect is whether we are eventually able to come up with a nominal definition that contains only substance and abstract quality terms plus syncategoremata (which, of course, in the last analysis also signify qualities, namely mental acts, the inherent qualities of the intellective soul). Indeed, this would fit in nicely with Ockham's ontological programme of eliminating all apparent reference to things other than substances or qualities. But however appealing such a programme may be from an ontological point of view, it has rather disastrous consequences in semantics. For, since one cannot, in principle, determine what the significata, and hence the supposita, of a connotative term in a proposition are without having its nominal definition, in this framework we could not even begin the evaluation of a simple predication containing a connotative term, until this programme is carried out.

Perhaps, it was something like this recognition that motivated Buridan to admit the existence of simple connotative concepts.<sup>41</sup> Indeed, he could do so without any ontological compromise, for these simple connotative concepts may signify the same absolute things *ad extra* as Ockham's complex connotative concepts. The only difference is that these are not constructed out of simple absolute concepts plus syncategoremata as Ockham's putative connotative concepts, but simply they signify absolute things connoting others as adjacent or non-adjacent to what they signify.<sup>42</sup>

For example, 'videns' connotes sight as adjacent, while 'caecum' as non-adjacent to what it signifies. For Buridan, however, this fact alone will not determine whether these terms are subordinated to simple or to complex concepts. This latter depends rather on the further question whether we are able to supply their nominal definition, a complex expression which signifies and connotes and in the same way all and only those things which these terms do, i.e., which are synonymous with these terms.

If so, then we cannot regard this term as primitive, but have to construct its *significata* and *supposita* as depending on its nominal definition (as we did in the case of 'album' above). If, however, we cannot supply a nominal definition of this term, then we can regard it as a simple connotative term, connoting some simple quality, namely sight, as non-adjacent to what it signifies, which simply means that it will signify something only if this *connotatum* does not exist.<sup>43</sup>

Accordingly, we can define the signification of 'caecum' as follows: SGT('caecum')(u)  $\in$  U!, where U is a part of W, namely the set of the significata of the absolute term 'animal', and U! = U  $\cup$  {0}, while u  $\in$ V!, where V is another subset of W, namely the set of the significata of the absolute term 'visus', and V! = V  $\cup$  {0}. The negative connotation of 'caecum' may be expressed by stipulating further that SGT('caecum')(u)  $\in$  A(t), iff u  $\notin$  A(t).

Hence, a *suppositum* of the term '*caecum*' in a proposition the copula of which connotes some time t is definable as:

$$\begin{split} & \text{SUP}(`caecum')(t) = \text{SGT}(`caecum')(\text{SUP}(`visus')(t)), \\ & \text{if SGT}(`caecum')(\text{SUP}(`visus')(t)) \in A(t), \\ & \text{otherwise SUP}(`caecum')(t) = 0, \\ & \text{where} \\ & \text{SUP}(`visus')(t) = \text{SGT}(`visus') \text{ if SGT}(`visus') \in A(t), \\ & \text{otherwise SUP}(`visus')(t) = 0. \end{split}$$

That is to say, the term 'caecus', in accordance with its negative connotation, refers to an animal only if what it connotes, namely the sight of the animal, and purportedly referred to by the term 'visus', is not actual, i.e., if the animal does not have sight. But since a simple affirmative sentence, such as 'Homerus fuit caecus' ('Homer was blind') is true only if its terms supposit for the same, this sentence will be true only if Homer, at the time connoted by the copula of the sentence, i.e. some time earlier than the present time of its utterance, lacked sight.

Notice, here, that in this sketchy reconstruction of a Buridanian account of the semantics of this sentence, '*caecus*' is treated as a primitive term with an appropriate negative connotation of a simple positive quality. In this way this treatment eliminates both the apparent need for *entia rationis* in the analysis of a sentence of this type and the apparent need for nominal definitions to achieve this purpose.

Let us suppose now that 'caecum' is not primitive, but has as its nominal definition (for the sake of simplicity omitting its restriction to animals) 'non habens visum'.

A significate of the term 'non habens visum', then, may be constructed in the following manner:

> SGT ('caecum')(SGT('visus')) = SGT ('non habens visum') = SGT('non')(SGT ('habens')(SGT('visus'))) where SGT('habens')(u)  $\in$  W! and u  $\in$  W!, while SGT('habens')(u)  $\in$  A(t) iff u  $\in$  A(t), SGT('non')(u)  $\in$  W! and SGT ('non')(u)  $\in$  A(t) iff u  $\notin$  A(t), where u  $\in$  W!, and W = W  $\cup$  {0}.<sup>44</sup>

We can construct the *supposita* of this term as follows:

SUP(`caecum')(t) = SGT(`caecum')(SUP(`visus')(t))= SGT('non')(SGT('habens')(SUP(`visus')(t))).

As can be seen, these definitions guarantee again that 'Homerus fuit caecus' would be true just as above, only in this construction 'caecus' is not a semantically primitive term, but its semantic values are determined by its nominal definition. Still, even though in this nominal definition another connotative term – 'habens' – occurs, taking this term as primitive, we may stop here and need not go on with the elimination of connotative terms in favour of absolute ones plus syncategoremata.

So it seems that with Buridan's approach in principle we would not have to delay our semantics until we had provided nominal definitions of all connotative terms. And so it may seem that along these lines we might eventually be able to produce a working semantics incorporating Ockham's basic semantic innovations, thereby eliminating all the unwanted ontological commitments of a *via antiqua*-style semantics.

We must notice here, however, that if one sticks with Ockham's ontological programme of reducing the number of distinct categories to two, then even with this Buridanian approach there is an enormous amount of analysis to be done before the actual semantic features of several connotative terms are established. For one still would have to provide the nominal definitions of all those terms that cannot be regarded as semantically primitive in terms of absolute terms, syncategoremata, and those connotative terms that are regarded as primitive, making sure all the time that the things signified or connoted by these will fall in the 'permitted' ontological categories. All that this Buridanian approach achieves is to show that treating at least some syntactically simple connotative terms as also semantically primitive does not impose such severe restrictions on the vocabulary available for this analysis as Ockham's original conception. But even so the semantic theory backing Ockham's ontological programme presented subsequent generations with an alternative way of construing the relationships between language, mind, and reality that promised to render the ontological commitments of the older way dispensable, thereby serving as a suitable framework for a different kind of logical and metaphysical research.<sup>45</sup>

#### NOTES

<sup>1</sup> One of course has to be very cautious when applying such an expression so much involved in scholarly debate. In the rest of this paper I want to use it in a very restricted, technical sense, referring to a particular way of constructing semantic theory, sharply distinguishable from Ockham's and his followers' way (both to be described later). What I think may justify such a usage is the clear connection of these ways of doing semantics with the manners in which broader philosophical, theological, and methodological issues were treated in the two great trends getting separated later in mediaeval thought. Indeed, this paper may perhaps serve as a modest contribution to the characterisation of the two *viae* from the point of view of the connections between semantics and ontology. As to the debates concerning the proper characterisation of *via antiqua* vs. *via moderna*, see, e.g., Moore (1989).

<sup>2</sup> To be sure, by presenting Aquinas's views as representative of what I call 'via antiqua semantics' I do not want to deny the immense variety of semantic views in mediaeval philosophy even before Ockham. I take Aquinas's views as typical, however, as contrasted with Ockham's, precisely in those of their features that rendered the via antiqua framework unacceptable for Ockham.

<sup>3</sup> The notorious lack of the use/mention distinction in St. Thomas's texts sometimes renders their translation extremely difficult, and in some places faithfulness inevitably results at least in clumsiness of style, if not in confusion. With due apologies for clumsiness I only hope that the subsequent discussion will at least help dispel confusion. Translations in this paper if not otherwise indicated are mine. Texts from St. Thomas translated here are from Aquinas (1980). References to Aquinas's single works are by their standard abbreviations and divisions.

<sup>4</sup> 2SN 34.1.1. Cf. 1SN 19.5.1.ad1, 33.1.1.ad1; 2SN 37.1.2.ad1, ad3; De Ente 1; De Pot 7.2.ad1; De Malo 1.1.ad19; Quodl 9.2.2; In Meta 4.1, 5.9, 6.2, 6.4, 9.11, 11.8; ST1 3.4.ad2, 16.3.ad2; 48.2.ad2; ST1-2 36.1; ScG 1.12, 1.58, 3.9. Cf. also Cajetan (1964, 1590, c.1); Alamannus (1888, Tom.1, Sec. II.5.1); Schmidt (1966, Pt. II, Chap. 4, Pt. III, Chap. 8).

<sup>5</sup> In Meta 5.9.n.896.

<sup>6</sup> To help settle these worries let me refer the reader to Klima (1988b). For more on Frege's "ambiguity thesis" in a historical perspective, see Knuuttila and Hintikka (1986). <sup>7</sup> Cf. "Cum enim dicimus aliquid esse, significamus propositionem esse veram. Et cum dicimus non esse, significamus non esse veram; et hoc, sive in affirmando sive in negando. In affirmando quidem, sicut dicimus quod Socrates est albus, quia hoc verum est. In negando vero, ut Socrates non est albus, quia hoc est verum, scilicet ipsum non esse album" (In Meta 5.9.n.895).

<sup>8</sup> Concerning the inherence theory in general, as opposed to the identity theory, see de Rijk's *Introduction* to Abaelard (1956, pp. 37–38) and Henry (1972, pp. 55–56). Concerning St. Thomas's inherence theory in particular, see Weidemann (1986) and Schmidt (1966).
<sup>9</sup> The translation is from Cajetan (1964, pp. 64–65), which I slightly modified at some

<sup>9</sup> The translation is from Cajetan (1964, pp. 64–65), which I slightly modified at some points on the basis of Cajetan (1590, pp. 299–300). <sup>10</sup> For a formal reconstruction and more detailed discussion of St. Thomas's distinction,

<sup>10</sup> For a formal reconstruction and more detailed discussion of St. Thomas's distinction, see Klima (1990).

Et adverte hic diligenter quod illa maxima Aristotelis hic posita: 'ab eo quod res est vel non est oratio dicitur vera vel falsa', non intelligit de re quae est subiectum aut praedicatum orationis, sed de re significata per ipsam orationem, verbi gratia: cum dicitur homo est albus, non ideo est vera ista quia homo vel album sit, sed ideo, quia hominem esse album est: hoc enim est significatum per illam orationem. (Cajetan, 1939, p. 87)

Cf. St. Thomas (in Peri I.9). Of course, by "res quae est subjectum or praedicatum orationis" Cajetan understands the things signified by the corresponding terms of the proposition, hence my additions in the translation. For an excellent modern discussion of Aristotle's relevant texts, see Matthen (1983).

<sup>12</sup> I would tentatively identify the significate of a proposition as the *enuntiabile* expressed by the proposition, expressly called by St. Thomas an *ens rationis* in 1SN 41.1.5. I say 'tentatively', because of St. Thomas's tendency to use the term *enuntiabile* as a synonym for *enuntiatio* (although "emphasizing the objective meaning of enunciation" as remarks Schmidt (1966, p. 223, n. 84)). For St. Thomas's use of the term, see 3SN 24.1.1b; 1SN 38.1.3; De Ver 2.13.ad7, 1.6, 14.8, 2.7, 1.5, 14.12; Quodl 4.9.2; ST1 14.14; 14.15.ad3, 16.7; ST3 1.2.ad2. For a clear thirteenth-century expression of the view that an *enuntiabile* is the significate of a proposition, see, e.g., Peter of Spain (1972, pp. 205–07). Cf. also Nuchelmans (1973, pp. 165–94).

<sup>13</sup> "Cum autem intellectus compositionem format . . . oportet quod in compositis substan-

tiis ipsa compositio formae ad materiam ... vel etiam compositio accidentis ad subiectum respondeat, quasi fundamentum et causa veritatis, compositioni quam intellectus interius format et exprimit voce" (In Meta 9.11.n.749).

<sup>14</sup> For a detailed analysis of and a wealth of references to this doctrine of St. Thomas, see Schmidt (1966, pp. 94–122).

<sup>15</sup> See, e.g., ST1.85.2.ad3; ScG 1.53, 4.11.

Supponenda imprimis est vulgaris distinctio conceptus formalis et obiectivi: conceptus formalis dicitur actus ipse, seu (quod idem est) verbum quo intellectus rem aliquam seu communem rationem concipit; qui dicitur conceptus, quia est veluti proles mentis; formalis autem appellatur, vel quia est ultima forma mentis, vel quia formaliter representat menti rem cognitam, vel quia revera est intrinsecus et formalis terminus conceptionis mentalis, in quo differt a conceptu obiectivo, ut ita dicam. Conceptus objectivus dicitur res illa, vel ratio, quae proprie et immediate per conceptum formalem cognoscitur seu representatur; ut, verbi gratia, cum hominem concipimus, ille actus, quem in mente efficimus ad concipiendum hominem, vocatur conceptus formalis; homo autem cognitus et representatus illo actu dicitur conceptus objectivus, conceptus quidem per denominationem extrinsecam a conceptu formali, per quem objectum eius concipi dicitur, et ideo recte dicitur objectivus, quia non est conceptus ut forma intrinsece terminans conceptionem, sed ut objectum et materia, circa quam versatur formalis conceptio, et ad quam mentis acies directe tendit, propter quod ab aliquibus, ex Averroe, intentio intellecta appellatur; et ab aliis dicitur ratio objectiva. Unde colligitur differentia inter conceptum formalem et objectivum, quod formalis semper est vera ac positiva res et in creaturis qualitas menti inhaerens, obiectivus vero non semper est vera res positiva; concipimus enim interdum privationes et alia, quae vocantur entia rationis, quia solum habent esse obiective intellectu. Item conceptus formalis semper est res singularis et individua, quia est res producta per intellectum eique inhaerens; conceptus autem objectivus interdum quidem esse potest res singularis et individua, quatenus menti obiici potest, et per actum formalem concipi, saepe vero res est universalis vel confusa et communis, ut est homo, substantia, et similia. (Suarez, 1960, pp. 360-61)

For a somewhat different interpretation of the same distinction, however, compare Cajetan (1590, pp. 301, 316–17). For a translation, see Cajetan (1964, pp. 67–71, 121–24).

<sup>17</sup> Cf. Nuchelmans (1980, pp. 50–52). Although here, instead of referring to the conceptus formalis vs. obiectalis distinction, Nuchelmans refers to the distinction between species intelligibilis impressa vs. expressa. Nevertheless, from the point of view of the contrast between subjectively vs. objectively existing concepts of the mind, the former seems to be more to the point than the latter. Cf. Suarez (1960, pp. 451–52). On the other hand, in Cajetan's terminology it is indeed the species intelligibilis impressa vs. expressa distinction that applies here. Cf. previous note and Cajetan (1590, p. 327).

<sup>18</sup> Note here that this classification of beings of reason, according to what linguistic items signify them and in which ways, does not contradict the traditional division of *entia rationis* into negations, privations, and relations (cf., e.g., Suarez (1960, pp. 92–93) and

McInerny (1961, p. 44)). I simply use this division because this discussion centres on the semantic function of entia rationis, as semantic values of different expressions.

<sup>19</sup> For a complete technical description of a model theoretical semantics constructed along the lines described, here see the Appendix of Klima (1988c). Further formal approximations of the finer details of St. Thomas's semantic theory can be found in Klima (1988d, 1990). <sup>20</sup> 3SN d.6.q.1.a.3.

<sup>21</sup> ST I. q.39.a.4, cf. ST III. q.16.a.7.

<sup>22</sup> For good bibliographies on the vast recent literature on supposition theory, see, e.g., Ashworth (1978) and Kretzmann et al. (1982). For more recent references, see Kretzmann

(1988).  $^{23}$  For a detailed discussion of Aquinas's treatment of the problems connected with the supposition of 'man' in 'man is a species', see Klima (1988d).

<sup>24</sup> Ockham (1974, p. 124). Cf.:

Et si dicas: nomina communia, puta talia 'homo', 'animal' et huiusmodi, significant aliquas res substantiales et non significant substantias singulares, quia tunc 'homo' significaret omnes homines, quod videtur falsum, igitur talia nomina significant aliquas substantias praeter substantias signulares: dicendum est quod talia nomina significant praecise res singulares. Unde hoc nomen 'homo' nullam rem significat nisi illam quae est homo singularis, et ideo nunquam supponit pro substantia nisi quando supponit pro homine particulari. Et ideo concedendum est quod hoc nomen 'homo' aeque primo significat omnes homines particulares .... (Ockham, 1974, p. 60)

Cf. also:

Hic primo notandum est quod non intendit Philosophus quod voces omnes proprie et primo significant passiones animae, quasi sint impositae ad significandum principaliter passiones animae. Sed multae voces et nomina primae intentionis sunt impositae ad significandum primo res, sicut haec vox 'homo' imponitur primo ad significandum omnes homines . . . (Ockham, 1978, p. 347)

<sup>25</sup> Whom, however, Ockham himself frequently refers to as *moderni*. Cf. Adams (1987, Vol. I, p. 144).

<sup>26</sup> See, e.g., Ockham (1974, pp. 23-34; 1980, pp. 518-28).

<sup>27</sup> Ockham (1974, p. 43). For a compendious description of the development of Ockham's view on the matter, see Adams (1987, Vol. I, p. 74, n. 10). For a detailed analysis of Ockham's earlier theory of universals in terms of esse objectivum and a presentation of the ideas of his immediate predecessors, see Read (1977).

<sup>28</sup> For detailed analysis of this distinction and ample references, see Adams (1987, pp. 319-27).

<sup>29</sup> For a discussion of Ockham's reasons, see Adams (1987, pp. 277-85).

<sup>30</sup> For an excellent, comprehensive account of the later developments of the problem, see Nuchelmans (1980). See also relevant chapters of Ashworth (1974).

<sup>31</sup> Cf. Adams (1987, pp. 310-13; 1985).

<sup>32</sup> For Buridan's refusal of *complexe significabilia* and for his own positive theory of the signification of propositions, according to which, roughly, propositions signify whatever their parts signify, see Buridan (1977, pp. 23-24, 32-34; 1964a, lb.4, q.10, f.20); for his theory of truth see Buridan (1977, c.2; 1976, lb.1, cc.1-2).

<sup>33</sup> Cf.: "[D]ico quod non sunt talia esse obiectiva, quae non sunt nec possunt esse entia realia; nec est unus parvus mundus alius entium obiectivorum; sed illud quod nulla res est, omnino nihil est ...." (Ockham, 1980, pp. 218–19).

<sup>34</sup> At least according to the opinion held by Ockham, but which, in his view, was not Aristotle's, whose '*relatio*' is a noun of first, and not of second, intention. Cf. Ockham (1980, p. 700; 1974, p. 155). Although Buridan calls this improper usage: "[P]rout improprie vocamus relationem illam rem pro qua terminus relativus supponit" (Buridan, 1964a, 1.5, q.9, f.33).

<sup>35</sup> For discussion and references, see Adams (1987, pp. 215-76).

<sup>36</sup> In any case it is precisely this concept that seems to be operative in Buridan's discussion of the question whether there would be time, if there were no intellect to count it. See Buridan (1964b, lb.4, q.16, ff.84–85).

<sup>37</sup> To be sure, determining a term's arity even in the highly formal Latin of the mediaevals is far from being unproblematic. Nevertheless, since discussion of this problem would exceed the limits of this paper, with this reservation in mind, for the sake of this discussion let me simply *call* a term *n*-ary, if it were represented in standard quantification theory by an *n*-ary predicate parameter. For a more detailed discussion of this problem within the framework of Buridanian semantics, see Klima (1991b).

<sup>38</sup> As a matter of fact, I think that the need to restrict the range of the signification functions of general terms to subsets of the domain of discourse in such an Ockhamist construction of semantics is significant: this may be quite relevant to the question whether Ockham was after all really able to get rid of objectively existing universals.

<sup>39</sup> "Whether or not Ockham's criteria of primary and secondary signification are adequate, his predecessors and contemporaries thought that Ockham had the priorities exactly reversed" (Adams, 1987, p. 325). For detailed discussions of the niceties connected to earlier views, see Ebbesen (1988), Andrews (1989), and Huelsen (1988).

<sup>40</sup> Of course, there is nothing mystical to be supposed behind this zero-entity, which, after all, not being an element of the universe of discourse is not an entity at all. It is simply a convenient metalinguistic device for uniformly representing the cases when some expression of our object-language lacks an appropriate semantic value. Consequently, I use 0 as a technical convenience to represent the case when a term supposits for nothing, or when a term signifies or connotes nothing. In these descriptions it is sometimes convenient to let metavariables range over the whole universe plus the zero-entity: in such a case I will denote this enhanced domain as W!, that is to say, W! =  $W \cup \{0\}$ . For more on the technical advantages of introducing 0, see Ruzsa (1991) and the essays in Klima (1988a). Note also that the introduction of 0 need not affect the type-assignments given above: a mapping with a range and domain enhanced with 0 may be assigned the same type as without this enhancement, while we may stipulate that TYPE(0) = LEVEL(0) = 0.

Comme on le sait, Occam pense qu'il est toujours possible de donner une *definitio quid nominis* des termes connotatifs. (SL III-2, 28. p. 556. III-3, 26. pp. 689-91.) La position de Buridan est différente.... Buridan réserve explicitement la *definitio exprimens quid nominis* aux termes vocaux simples auxquels corresponde un terme

mental complexe. (Soph. I. concl. 11.; Summulae VIII, 2, f. 100ra.) Le problème de savoir si 'res alba' et 'nasus cavus' sont les *orationes dicentes quid nominis* respectivement de 'album' et de 'simum' s'étant posé, Buridan répond *conditionaliter:* si à 'album' correspond dans la pensée un concept complexe, 'res alba' sera sa *definitio dicens quid nominis* (il en est de même pour 'simum' et 'nasus cavus'); si au contraire, à 'album' et à 'simum' 'correspondent in mente conceptus incomplexi quibus confuse et indistincte substantiam et albedinem, vel nasum et simitatem concipimus, et non substantiam uno conceptu et albedinem alio, nec nasum uno conceptu et simitatem alio, tunc istae definitiones non sunt dicentes quid nominis sed quid rei'. (Summulae VIII, 2. f.102va; cf. Meta VII, 5). (Maierù, 1976, pp. 110-11)

For the niceties of the differences between Ockham's and Buridan's ontological views, see Normore (1985).

<sup>42</sup> However, in his excellent paper (Panaccio, 1990), Claude Panaccio argues that Ockham could also consistently endorse the existence of simple connotative concepts, not admitting, though, that a simple connotative term is synonymous with its nominal definition. It is an open question, however, whether Ockham can consistently maintain this latter position. It may well be the case that on the basis of his general semantic principles Ockham is after all committed to holding that nominal definitions are synonymous with their *definita*, being subordinated to the same concepts. But this would need further inquiry. In any case, if Panaccio is right, then Ockham can indeed avoid the inconvenient consequences of the above reasoning. I am grateful to Sten Ebbesen for having called my attention to Panaccio's important paper. For a more detailed discussion and reconstruction of Buridan's theory of *appellation*, dealing with reference and co-reference of connotative terms, see Klima (1991a).

<sup>43</sup> Cf. Buridan (1977, p. 61).

<sup>44</sup> The *significate* of '*non*', of course, is the concept of negation, a quality of mind operating on other concepts, modifying the ways they are related to external things, just as the other syncategorematic concepts. For more on this, see Klima (1991b).

<sup>45</sup> Research for this paper was done during my stay in Helsinki as a member of Simo Knuuttila's project "Ockham and the *via moderna*". I want to thank the Finnish Academy for their generous financial assistance, and all my Finnish friends and colleagues for their hospitality, help, and encouragement. The actual writing of this paper took place during my stay in St. Andrews, Scotland, as Gifford Visiting Fellow of the Department of Logic and Metaphysics. I owe special thanks to Stephen Read, chairman of the department, for his helpful comments and correcting the English of the paper.

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to G. Klima, 'The Changing Role of *Entia Rationis* in Mediaeval Semantics and Ontology', *Synthese* 96: 25–58, 1993.

p. 49, 1. 20:  $W! = W \cup \{0\}$ p. 54, 1. 7: a noun of second, and not of first, intention p. 57, 1. -4 and 11. 3 and 4: 1993

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