6 Ockham's Semantics and Ontology of the Categories

Ockham's treatment of the ten Aristotelian categories plays a crucial role in his innovative nominalist program. One of his main complaints against "the moderns," as he is wont to call his opponents, is that they treat the categories as comprising ten mutually exclusive classes of distinct entities. Indeed, the unknown author of a work written against Ockham’s logic (characteristically entitled "A very useful and realist logic of Campsall the Englishman against Ockham"), writes:

To such most general genera there are subjected individuals that are really distinct from the individuals of another most general genus, [and] of which [this genus] is properly and directly predicated; for example, we can truly assert ‘This is [a] when’ pointing to the relation which is caused by the motion of the first movable in the inferior things, so that, if that individual had a distinct proper name imposed on it, one could just as truly respond to the question ‘What is it?’ by saying: ‘[A] when,’ as one can reply to the question ‘What is it?’ asked about a man, by saying: ‘A substance.’

As should be clear even from this brief passage, the disagreement between Ockham and his realist opponent here does not concern universals. On the contrary, regardless of whether there are universal entities other than universal terms (be they written, spoken, or mental terms), the question here is whether we have to admit distinct particulars falling under our universal terms in each of the ten categories.

However, Ockham's disagreement with this position is not simply a matter of his espousing a different ontology. For Ockham thinks this ontological position is the consequence of an even more fundamental error in his opponents' semantic theory: a radically mistaken conception of how our words and the concepts that render them meaningful are related to the things they represent. In general, according to Ockham, this conception would entail that "a column is to the right by to-the-rightness, God is creating by creation, is good by 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 chimera is nothing by nothingness, someone blind is blind by blindness, a body is mobile by mobility, and so on for other, innumerable cases." And this is nothing but "to multiply beings according to the multiplicity of terms . . . which, however, is erroneous and leads far away from the truth."

As we shall see, Ockham's complaints are not entirely justified. Yet they might appear as an entirely credible motivation for advancing his radically new approach to some basic issues in semantics and ontology. To see exactly what is and what is not justified in Ockham's complaints, we have to start by considering at least a sketch of the semantic conception to which Ockham objects. Then we will have to examine whether this semantic conception does indeed have the ontological commitments Ockham claims it does, and if – as I claim – not entirely, then to what extent, and why. These considerations will then provide us with a solid basis for the analysis and brief evaluation of Ockham's alternative approach.

Semantics and Ontology of Categories

The semantic conception Ockham finds fault with can be characterized at least by the following principles:

1. Common terms ultimately signify whatever the concepts to which these terms are subordinated directly represent.
2. Common terms as the subject terms of categorical propositions supposit personally for the things that are actual in respect of their ultimate significata. (Henceforth, by 'significata' of a common term without further qualification I will mean its ultimate significata, and by 'supposita' of a common term without further qualification I will mean its personal supposita.)
3. The significata and supposita of the abstract counterparts of concrete common terms are the same as the significata of the concrete terms.
Affirmative categorical propositions in the present tense are true if and only if the supposita of their subjects are actual in respect of the significata of their predicates (as required by the quantity of the proposition).

As indicated, this "minimalist" characterization of the semantic theory in question does not have the ontological commitment Ockham claims his opponents' theory has. Indeed, I provided this "minimalist" characterization precisely because in this way it will be easier for us to see exactly what further assumptions would need to be added to these principles to yield the ontological commitment Ockham is talking about. But before discussing the issue of their ontological commitment, we need a brief clarification of these principles themselves.

1.1. The Semantic Triangle

The first of these principles, being basically a reformulation of Aristotle's "semantic triangle" from the beginning of *On Interpretation,* is also accepted by Ockham. Indeed, among medieval authors it was generally agreed that all our words are meaningful only in virtue of their being subordinated to our concepts. Obviously, the utterance or the inscription 'arbor' is meaningful in Latin only because it is subordinated to the concept by which we conceive trees in general, but since it is not thus subordinated to this concept in English, it is not meaningful in English. And since the utterance or inscription 'bitrix' is not subordinated to any concept in either English or Latin, it is not meaningful in either of these two languages. To be sure, there were serious differences of opinion among medieval authors as to what concepts are, what kinds of concepts there are, and how the several kinds are related to what they represent. Nevertheless, since from our present point of view concepts are relevant only in their semantic function, we do not have to go into these questions at this point. Therefore, it is sufficient here to distinguish between the immediate and the ultimate significata of common terms by saying that the immediate significata of (written or spoken) common terms are the concepts of human minds (whatever entities concepts are in themselves), and the ultimate significata of the same are whatever these concepts directly represent (whatever sort of entities the things thus represented are in themselves).

1.2. Supposition of Common Terms

Supposition is the referring function of terms, which, according to most authors, they have only in propositional contexts. To stick with our previous example, the term 'arbor' has significatio in Latin, because in Latin it is subordinated to the concept of trees whether it is used in the context of a proposition or considered outside a propositional context—say, in a dictionary. But when we use this term in the context of a proposition, its function is to stand for or to refer to things somehow related to this concept. According to the most commonly accepted main divisions of the kinds of supposition a term may have, depending on how the concept is related to the things thus referred to, a spoken or written term was said to have material, simple, or personal supposition. A term has material supposition if it refers to itself or to any other similar term subordinated to its concept. For example, in 'Arbor est nomen' ("tree" is a noun), the subject term stands for itself and for any other occurrence of a similar inscription or utterance subordinated to the concept of trees. The same term has simple supposition if it stands for what it immediately signifies, that is, the concept to which it is subordinated. For example, in 'Arbor est genus plantarum' ("Tree is a genus of plants"), it stands for the concept of trees. Finally, the same term has personal supposition if it refers to any of the things that are actual (relative to the time and modality of the proposition) in respect of what the concept it is subordinated to directly represents, and thus the term ultimately signifies, namely when it refers to the things that actually fall under the concept. For example, in 'Omnis arbor est planta' ('Every tree is a plant') the subject refers to actual trees because it is actual trees that are actual in respect of what the concept of trees directly represents, whether what is thus represented is said to be one universal nature (whether numerically or merely formally one) common to all individual trees, or is numerically distinct "treenesses" inhering in, but still distinct from, individual trees, or is nothing but the individual trees themselves.

Given our present interest, we need not delve into the further complexities of medieval supposition theory. What we need here
is only the semantic distinction between the ultimate significata and personal supposita of common terms and the understanding that this semantic distinction may, but need not, reflect any ontological distinction even within the framework of "via antiqua semantics." \(^{20}\)

1.3. Supposition of Concrete Versus Abstract Common Terms

Another common feature of via antiqua semantics is to treat abstract terms as agreeing in their signification with their concrete counterparts (that is, whatever the concrete terms signify, the abstract terms also signify) but differing from them in their mode of signification. \(^{21}\) The upshot of this difference was held to be that abstract terms could be used to refer to what their concrete counterparts ultimately signified. Therefore, whenever reference needs to be made to the ultimate significata of a concrete common term (as opposed to the supposita of it, which can be referred to by the concrete term itself), the reference is supplied by the corresponding abstract term, even in cases when the vernacular does not have such a corresponding abstract term. It is this systematic need of this semantic framework for abstract terms that explains the proliferation of the "barbaric" coinages of the technical Latin of "the schools," the constant target of mockery in postmedieval authors, who no longer shared this need with their medieval predecessors. But Ockham's complaints were certainly not motivated by such humanistic squeamishness; his concern was not so much the proliferation of these terms but the apparent proliferation of the alleged corresponding entities.

II. THE ONTOLOGICAL COMMITMENT OF VIA ANTIQUA SEMANTICS

Despite the apparent plausibility of Ockham's charge, commitment to the preceding semantic principles does not entail commitment to any entities other than those Ockham himself would endorse. The reason is the simple fact that these principles in themselves just as much allow the identification of the semantic values of abstract and concrete terms in diverse categories as Ockham's alternative principles do. This is precisely why Domingo Soto, who describes himself as someone "born among nominalists and raised by realists," \(^{23}\) could make the declaration:

It does not escape our attention how difficult it is to ascertain that all the ten categories are really distinct in such a manner as many realists seem to contend, namely, that all of them are distinct from one another, just as whiteness is distinct from substance, which we certainly believe to exist without substance in the sacrament of the altar. However, I shall never be persuaded that relation and the last six categories are distinct in this way from substance. \(^{24}\)

Clearly, if the entities in the categories of substance, quantity, and quality are not distinct from the entities in the other categories, then the charge of multiplying entities with the multiplicity of terms is unjustified. However, it may not be quite clear how anyone who endorses the preceding semantic principles can maintain this position. After all, according to these principles, if the proposition 'Socrates is white' is true, then Socrates is actual in respect of the whiteness signified by the predicate, which is another way of saying that Socrates' whiteness exists. But Socrates' whiteness cannot be identified with Socrates. For it is certainly possible for Socrates to exist while his whiteness does not exist, namely when Socrates gets a tan.

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The impression of the necessary proliferation of the corresponding entities should be reinforced by the last of the preceding principles of via antiqua semantics, which briefly summarizes the theory of predication often referred to in the secondary literature as the "inherence theory." \(^{25}\) For if an abstract term refers to what its concrete counterpart ultimately signifies, then according to this theory the concrete term is true of a thing if and only if what its abstract counterpart refers to actually exists. According to this theory, Socrates is a man if and only if he is actual in respect of humanity, which is another way of saying that Socrates is a man if and only if his humanity exists. But then it is indeed true that he is a man by his humanity, and by the same token it is true that he is tall by his tallness, that he is white by his whiteness, he is similar to Plato by his similarity to Plato, he is walking by his walking, he is somewhere by his somewhereness, and so forth, which indeed does appear to involve us in multiplying entities according to the multiplicity of terms, as Ockham claimed.

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and his whiteness ceases to exist. But if Socrates were identical with his whiteness, then, by substituting identicals, we would have to admit it is possible for Socrates to exist while his whiteness, that is, he himself, does not exist, which is a contradiction. Therefore, Socrates cannot be identical with his whiteness.

Apparently, the same type of reasoning can be applied to any term in any of the nine categories of accidents, for according to Porphyry's commonly endorsed definition, an accident is something that may or may not belong to a subject without the destruction of the subject. Thus, whatever is signified by any accidental predicate may or may not exist, while the subject may still stay in existence. For example, in accordance with the preceding principles, if the proposition 'Socrates is a father' is true, then an entity in the category of relation, Socrates' fatherhood, exists. But it is certainly possible for Socrates to exist while his fatherhood does not exist (for in fact he existed before he became a father, and he could have existed without ever becoming a father). But if Socrates were identical with his fatherhood, then this would mean it would be possible for the same thing, Socrates, who is supposed to be identical with his fatherhood, to exist and not to exist at the same time, which is an explicit contradiction. Therefore, Socrates cannot be identical with his fatherhood either. The same goes for all other accidents.

However, we should notice here that in these arguments we exploited a hidden assumption that is crucial concerning the distinction of the categories. To make this assumption explicit, let us consider a similar argument. Apparently Socrates cannot be identical with a father, for it is certainly possible for Socrates to exist while he is not a father. Therefore, identifying Socrates with a father would entail the contradiction that it is possible for the same thing, namely Socrates who is supposed to be identical with a father, to exist and not to exist, which is an explicit contradiction. However, something is obviously wrong with this argument. For the assumption that Socrates is identical with a father should entail no impossibility, because when Socrates is a father, which is possible, he is identical with a father.

Clearly, what accounts for the invalidity of this argument is that Socrates can be identical or nonidentical with a father while continuing to exist. That is to say, the term 'father' refers only accidentally, not essentially, to Socrates. For in accordance with Porphyry's definition it is an accidental predicate of Socrates. Therefore, no contradiction is entailed by the claim that it is possible for the thing that is actually a father to exist without being a father, for the thing that is actually a father may be in existence while it is not a father.

But then the previous argument concerning the alleged impossibility of the identification of Socrates with his fatherhood may equally easily be invalidated. All we have to do is remove the implicit assumption that the term 'fatherhood' refers essentially to an entity in the category of relation, that is, the assumption that 'fatherhood' is an essential predicate of whatever it is true of. For if this assumption is removed, then no impossibility arises from identifying the entity in the category of relation referred to by this term with an entity in the category of substance, for then it is clearly possible for this same entity once to be referred to and then not to be referred to by the same term while the entity continues to exist. The same goes for the other categories.

Accordingly, we can conclude that the preceding principles of via antiqua semantics yield the ontological commitment Ockham claims his opponents' theory does only if we add to them the further assumption that abstract terms in the nine categories of accidents are essential predicates of their particulars. Therefore, whoever holds at least these principles and also maintains this assumption is indeed necessarily committed to the overpopulated ontology Ockham objects to, which is clearly the path taken by pseudo-Campsall.

But whoever abandons this assumption clearly can hold these principles without such an ontological commitment, and this is precisely what Soto did.

Indeed, the previous arguments should make it clear that the assumption in question need not even be coupled with all the preceding semantic principles to yield the ontological commitment Ockham refuses to accept. For what we needed to exploit in these arguments besides the assumption that an abstract term in one of the categories of accidents is an essential predicate of its supposita was merely the quite generally acceptable semantic intuition that a concrete term in one of the accidental categories is true of a subject if and only if a suppositum of the corresponding abstract term exists (which is of course entailed by these principles, but the converse entailment does not hold). Therefore, whoever wants to get rid of this ontological commitment, while maintaining this semantic intuition...
To discredit the "moderns," he appeals to the authority of the "ancients" to claim it is not necessary to assume such abstract terms are essential predicates of their supposita in every category: (regardless of whether he holds the preceding semantic principles), has to reject this assumption. This precisely is what Ockham did.

In SL, in the passage corresponding to the one quoted from pseudo-Campsall in the opening of this chapter, Ockham writes the following:

All authors posit ten categories, but it seems to me that many moderns disagree with the ancients in the way they posit them. For many moderns hold that in every category there are several items that can be ordered as superior and inferior, so that the superior ones are predicated essentially (per se prino modo) and in the nominative case of any inferior one, by means of a predication such as this: ‘Every a is b.’ Therefore, in order to have such predication, they make up abstract names from adverbs, as for example from ‘when,’ which is an adverb, they make up the abstract name ‘when-ness,’ and from ‘where,’ the name ‘where-ness,’ and so on.8

To discredit the “moderns,” he appeals to the authority of the “ancients” to claim it is not necessary to assume such abstract terms are essential predicates of their supposita in every category:

But it seems to me that the ancients did not posit such an order in every category. And so they used the name ‘category,’ and similarly the names ‘genus,’ ‘species’ and their likes more broadly than many moderns do. Therefore, when they said that the superior is always predicated of the inferior, and that any category has under itself species, they extended [the notion of] predication to verbs, in accordance with the way in which we say that ‘walks’ is predicated of man, in uttering ‘A man walks,’ and the same goes for ‘He is shod’ and ‘He is armed.’ And they also extended [the notion of] predication to the predication of adverbs and to prepositions together with the nouns they require in the appropriate cases, as we perform [the acts of predication] in propositions such as ‘This is today,’ ‘This was yesterday,’ ‘This is in the house,’ ‘This is in the city.’ And in this way there are such predications in any category. But it is not necessary that we should always have here predication in the strict sense, [predicating] a [term in the] nominative [case] of a [term in the] nominative [case]. Therefore, not every order between a superior [term] and an inferior [term] is in accordance with predication, taking predication in the strict sense, but some [order] is in accordance with entailment and predication, taking predication in a broad sense.29.30

After this rejection of the critical assumption, Ockham goes on to show that this was in fact what the “ancients” meant, by analyzing two passages, one from Aristotle and another from Saint John Damascus. Naturally, in the corresponding passage pseudo-Campsall is outraged and tries to show why these passages cannot be understood according to the “perverted” interpretation provided by Ockham.31 However, we need not go into the details of this philological disagreement. For, despite his appeal to authority here, Ockham had much more profound reasons to claim that abstract terms in accidental categories need not be essential predicates of their supposita.

III. Ockham’s Alternative Semantics

As we could see, the explicit rejection of the critical assumption concerning abstract terms in the accidental categories would have been sufficient to neutralize the apparent ontological commitment of via antiqua semantics, much along the lines we have noted in Soto. However, for Ockham this rejection was tightly connected with his alternative semantic theory, which “automatically” eliminated all unwanted commitments from his ontology.

To facilitate the comparison with the previously sketched via antiqua semantics, here is a parallel summary of the relevant principles of Ockham’s semantics:

[1] Common terms ultimately signify whatever the concepts to which these terms are subordinated in any way represent.
[2] Common terms, whether the subject terms or the predicate terms of categorical propositions, supposit personally for their actual ultimate significata if the term is absolute, or for the things actually related to their connotata in the manner required by the term’s connotation if the term is connotative.
[3] The significata and supposita of abstract common terms are the same either as the ultimate significata, or as the connotata of their concrete counterpart, or the same as several of these significata or connotata taken together.
[4] An affirmative categorical proposition the subject of which supposes personally is true if its predicate supposit for some or all the same things as its predicate, depending on the quantity of the proposition.

III.1. Ockham’s Semantic Triangle

Ockham’s “semantic triangle,” as noted earlier, is the same in outline as that of the via antiqua. However, according to Ockham, the
concepts to which categorematic written or spoken terms are subordinated fall into two classes: they are either absolute or connotative. Because these terms are meaningful only insofar as they are subordinated to such concepts, the terms themselves are also to be classified as either absolute or connotative.

The precise characterization of this distinction is a disputed question in contemporary secondary literature. For present purposes, the following characterization will certainly be sufficient. A connotative term is one that signifies any of its (ultimate) significata in respect of something, whereas an absolute term, ex opposto, is one that signifies any of its significata absolutely, that is, not in respect of anything. The major difference here from the via antiqua conception is that via antiqua authors would not accept Ockham's conception of absolute terms as ones that signify the things Ockham takes to be their ultimate significata directly and not in respect of anything. Rather, they would say that the things Ockham takes to be their ultimate significata are not the ultimate significata of these terms (rather they are their personal supposita), and even if they can be said to be signified by these terms somehow (as Soto would say, materially, or as Burley and pseudo-Campsall would say, secondarily), they should be said to be signified in respect of the direct ultimate significata of these terms (for Soto, their formal significata, or for Burley and pseudo-Campsall, their primary significata).

Consider again the example of the concept of trees, and the Latin term 'arbor' subordinated to it. According to the via antiqua conception, the universal concept of trees directly represents the nature of trees in general in abstraction from individual trees. However, individual trees are trees only because they are actual in respect of this nature, whereas, for example, a cat is not a tree precisely because it is not actual in respect of this nature. Now, whatever it is on account of which an individual tree is a tree (and, say, not a cat), whether it is taken to be distinct from the tree itself or not, is called the nature of this tree. The tree itself is represented by this concept only with respect to this nature, which is directly represented by the concept. Therefore, what the term 'arbor' ultimately signifies in respect of this tree is not the nature of this tree (again, regardless of whether the nature of this tree is taken to be distinct from this tree or not). But of course the term represents the tree universally, in abstraction from this tree or from that tree (that is, not as the treeness of this tree but as treeness in general). Therefore, the immediate significate of the term 'arbor' is the concept of trees, whereas the ultimate significate of it in respect of this tree is the nature of this tree insofar as it is on account of this nature that the tree is a tree. But the tree itself, insofar as it is something actual in respect of this nature, is not what is directly (formally or primarily) signified by this term; rather it is something that can be said to be signified only indirectly (materially or secondarily) and that therefore can be supposed for by this term by personal supposition in the context of a proposition.

As can be seen, whether universals were regarded as real entities having numerical unity or as existing only in their individualized instances having some lesser-than-numerical unity that had to be recognized by the abstractive activity of the intellect, in their semantic function they were always conceived as the entities in respect of which the concepts of the mind represented the particulars falling under them, and hence as the entities in respect of which universal terms were related to these particulars as to their personal supposita. But then Ockham's uncompromising rejection of universals even in this semantic function inevitably led to his doctrine of absolute concepts and the corresponding absolute terms, which represent particulars not in respect of anything. Consequently, all universal absolute terms directly signify only particulars. And thus any other term that signifies particulars not absolutely but in some respect can be construed as signifying these particulars only with the connotation of some other (or occasionally the same) particulars, which again can be signified directly by absolute terms. Therefore, as far as Ockham is concerned, the term 'arbor' signifies all trees (including past, present, and merely possible ones) directly and not in respect of anything because the concept of trees equally directly (primarily) represents them. On the other hand, connotative terms in general always signify particular things in respect of some things, which are said to be their connotata.

iii.2. Common Personal Supposition of Absolute Versus Connotative Terms

In view of these considerations, the personal supposition of absolute terms is unproblematic for Ockham. Absolute terms signify
what their concepts directly represent, namely, the particular things falling under these concepts. Thus, these terms supposit for these same particulars in a propositional context if these particulars are actual (relative to the tense and modality of the proposition). Connotative terms, on the other hand, signify particulars in respect of their connotata. Therefore, they will supposit for their significata only if these connotata are also actual, provided they are connoted positively, or, if these connotata are nonactual, when they are connoted negatively. For instance, the term ‘sighted’ signifies animals with respect to their sight. But obviously this term will supposit for an animal only if the animal in question actually has sight (relative to the tense and modality of the proposition). For example, in the proposition ‘Socrates was sighted’ the predicate term supposit for Socrates (among all animals that were sighted in the past) because Socrates actually had sight in the past. On the other hand, the term ‘blind,’ which signifies animals while negatively connoting their sight will only supposit for an animal if the animal actually does not have sight. For example, in the proposition ‘Homer was blind’ the predicate term negatively connotes Homer’s sight and thus supposit for Homer (among all animals that lacked sight in the past) precisely because, since he lacked sight, Homer’s sight was not actual.\(^{15}\)

### III.3. Common Supposition of Abstract Versus Concrete Terms

Because concrete absolute terms for Ockham ultimately signify only the particulars falling under them, the abstract terms corresponding to them will signify and supposit for the same things. Accordingly, for example, the term ‘arboreitas’ (‘treeness’) will signify and supposit for individual trees just as the term ‘arbor’ (‘tree’) does.\(^{37}\)

Abstract connotative terms, on the other hand, should be judged on a case-by-case basis according to Ockham. Some such terms signify and supposit for the same things that their concrete counterparts supposit for. Say the term ‘fatherhood’ supposit for the same persons that the term ‘father’ does, and the term ‘blindness’ supposit for the same blind animals that the term ‘blind’ does. Other such terms signify and supposit for the connotata of their concrete counterparts. For example, the term ‘whiteness’ supposit for the connotata of the term ‘white,’ namely the individual whitenesses of individual white things. Yet other such terms are taken to signify and stand for several connotata of the corresponding concrete terms. For example, ‘similarity,’ at least in one plausible analysis according to Ockham, can supposit for the individualized qualities of those individuals that are similar to one another in respect of that quality, say the whiteness of Plato and the whiteness of Socrates together, in the same way as collective names such as ‘army’ stand for several individuals taken together.\(^{38}\)

### III.4. The Two-Name Theory of Predication\(^{39}\)

Ockham’s theory of predication is clearly intended to eliminate the systematic need for the inherent entities seemingly required by the “inherence theory” of the via antiqua. As he writes:

Therefore, if in the proposition ‘This is an angel’ the subject and the predicate supposit for the same thing, the proposition will be true. And so it is not denoted that this has angelity, or that there is angelity in this, or something like this, but what is denoted is that this is truly an angel; but not that he is that predicate, but that he is that for which the predicate supposits.s”

Ockham was not the first to propose analyzing the truth conditions of categorical propositions in terms of the identity of the supposita of their terms. For example, Aquinas explicitly uses this type of analysis side by side with the inherence theory although he remarks that the inherence analysis is the more “proper” of the two.\(^{40}\) Ockham’s innovation here is rather the systematic application of this analysis to eliminate the need for the inherent entities apparently required by the inherence analysis. Indeed, together with Ockham’s rules of supposition and his account of the signification of absolute and connotative terms, this approach “automatically” eliminates the apparent ontological commitments of the via antiqua.

### IV. Ockham’s “Reductionist Ontology” of the Categories

With these semantic rules at hand, it is easy to see that, according to Ockham’s theory, all terms connoting something other than what they supposit for in a proposition are nonessential predicates of their supposita. For such a term supposit for one of its ultimate significata
only if the thing in question is actually related to another thing (or some other things) connoted by the term in the manner required by this connotation. Because this significatum and this connotatum (or these connotata) are supposed to be distinct entities, it is at least logically possible for them to exist or not to exist independently of one another (and hence this is always possible by God’s absolute power).

Thus, it is always possible for the same term once to supposit and then not to supposit for the same thing on account of the existence (or non-existence) of this connotatum (or at least one of these connotata). This is precisely what it means for the term to be an accidental predicate of this suppositum.

But as we have seen, what was required for the ontological commitment to ten distinct entities under the ten categories was the assumption that the abstract terms in the nine accidental categories were essential predicates of their supposita, yielding together with substance the “ten distinct, tiny things, according to the imagination of the moderns, which imagination is false and impossible.” Thus, to get rid of the unwanted commitment to the “ten distinct, tiny things,” all Ockham needs to do is show these abstract terms are connotative rather than absolute. But how can we decide whether a term is connotative or absolute? Because this is a question concerning the signification of terms (an absolute term is one that signifies things absolutely, whereas a connotative term is one that signifies things in relation to some thing or things), we can answer it by considering the significations of terms. If, as a result of this consideration, we are able to come up with a nominal definition of the term we are considering, then according to Ockham we can be sure the term is connotative, for this is precisely what such an analysis of its signification shows. But if the term is absolute, no such analysis is available. As Ockham writes:

In fact, properly speaking, such names do not have a definition expressing what the name means. For, properly speaking, for a name that has a definition expressing what the name means, there is [only] one definition explicating what the name means – that is, in such a way that for such a name there are not several expressions expressing what the name means [and] having distinct parts, one of which signifies something that is not conveyed in the same way by some part of the other expression. Instead, such names, insofar as what they mean is concerned, can be explicated after a fashion by several expressions that do not signify the same things by their parts. And so

none of those [expressions] is properly a definition expressing what the name means.

For example, ‘angel’ is a merely absolute name (at least if it is not the name of a job, but of the substance only). For this name there is not some one definition expressing what the name means. For one [person] explains what this name means by saying “I understand by an angel a substance abstracted from matter,” another [person] by “An angel is an intellectual and incorruptible substance,” and [yet] another [person] by “An angel is a simple substance that does not enter into composition with [anything] else.” The one [person] explains what the name means just as well as the other [person] does. Nevertheless, some term occurring in the one expression signifies something that is not signified in the same way by [any] term of the other expression. Therefore, none of them is properly a definition expressing what the name means.

As a consequence, because any categorematic term is either absolute or connotative, to show a term is connotative it is sufficient to show it has a nominal definition. Ockham observes the following on this point:

But a connotative name is one that signifies something primarily and something secondarily. Such a name does properly have a definition expressing what the name means. And often you have to put one [term] of that definition in the nominative and another [term] in an oblique case. This happens for the name ‘white.’ For ‘white’ has a definition expressing what the name means, in which one word is put in the nominative and another one in an oblique case. Thus, if you ask what the name ‘white’ signifies, you will say that [it signifies] the same as [does] the whole expression ‘something informed by a whiteness’ or ‘something having a whiteness.’ It is clear that one part of this expression is put in the nominative and another [part] in an oblique case.

Accordingly, to eliminate unwanted ontological commitment in any of the accidental categories, all Ockham has to do is show the abstract terms in that category are connotative, and to show this, all he has to do is provide a nominal definition of the terms. Indeed, this is precisely how he treats abstract terms in the category of quantity:

Such [connotative] names also include all names pertaining to the category of quantity, according to those who maintain that quantity is not another thing than substance and quality. For example, ‘body,’ according to them, should be held [to be] a connotative name. Thus, according to them, it should
This analysis immediately allows him to treat in a similar manner even some terms in the category of quality, namely, those belonging to the species of shape (figura):

be said that a body is nothing but “some thing having [one] part distant from [another] part according to length, breadth and depth.” And continuous and permanent quantity is nothing but “a thing having [one] part distant from [another] part,” in such a way that this is the definition expressing what the name means.¹⁵

This analysis immediately allows him to treat in a similar manner even some terms in the category of quality, namely, those belonging to the species of shape (figura):

These [people] also have to maintain that ‘figure,’ ‘curvedness,’ ‘rightness,’ ‘length,’ ‘breadth’ and the like are connotative names. Indeed, those who maintain that every thing is [either] a substance or a quality have to hold that all the contents in categories other than substance and quality are connotative names. Even certain [names] in the category of quality are connotative, as will be shown below.⁴⁶

In the passage he apparently refers to, Ockham argues that such predicables as ‘curved’ and ‘straight’ could be successively true of the same thing because of locomotion alone. For when something is straight, if the parts are brought closer together, so that they are less distant than before, by locomotion without any other thing coming to it, it is called ‘curved.’ For this reason, ‘curvature’ and ‘straightness’ do not signify things (res) other than the straight or curved things. Likewise for ‘figure,’ since by the mere locomotion of some of its parts a thing can come to have different figures.⁴⁷

In fact, this passage provides us with a typical example of Ockham’s general “eliminative” strategy. The apparent need for positing a distinct straightness in accounting for something straight becoming nonstraight is eliminated here by analyzing the concept of straightness in terms of the distance of the parts of the thing connoted by the term. Perhaps an explicit nominal definition of the term for Ockham could be ‘a thing whose parts are maximally distant along its length,’ or something like this. (Because in his merely programmatic and illustrative analyses Ockham does not care much about particular details, neither should I.) Thus, the analysis shows that the term ‘straightness’ need not be an essential predicate of whatever it supposits for. But then ‘straightness’ can clearly become false of something it supposited for without the destruction of this suppositum merely on account of the change in what it connoted, namely the distance of the parts of the thing, by locomotion. Thus, this term did not have to supposit for anything distinct from the thing whose parts were maximally distant along its length when it was straight and whose parts are not maximally distant now when it is curved.

In fact, it is easy to see that precisely this type of analysis accounts for Ockham’s general rule:

It is convenient to use this method for knowing when a quality should be assumed to be a thing other than a substance and when not: when some predicables can be truly asserted of the same thing successively but not simultaneously because of locomotion alone, it is not necessary for these predicables to signify distinct things.⁴⁸

For what changes by locomotion is merely the relative positions of quantitative parts of bodies, which Ockham has already “analyzed away” by analyzing quantity terms as denoting bodies with the connotation of the relative positions of their parts.⁴⁹

However, strictly speaking, all these considerations can achieve is the elimination of the apparent ontological commitment of the theory of the categories by removing the critical assumption of the essentiality of abstract terms in the accidental categories. That is, all these considerations show is that the doctrine of the categories alone need not entail commitment to ten mutually exclusive classes of entities. But the preceding considerations do not show in themselves that there are in fact no distinct entities corresponding to the categories. To be sure, applying his famed “Razor,” Ockham could get rid of any unwanted entities already on the basis of not having to posit them. But this still does not prove they do not exist. To prove this, Ockham needs further arguments to show that the opposite position would entail all sorts of absurdities. Ockham’s arguments to this effect can be classified as concluding various sorts of logical, metaphysical, physical, and theological absurdities running through the whole range of the categories of accidents. For the sake of brevity, I present here only two typical arguments concerning the category of relation to illustrate the types of difficulties that face the opposite position, represented by pseudo-Campossall in its most extreme form.

One type of argument is based on the separability of any two really distinct entities, at least by divine power. If, for example, the
fatherhood of Socrates is distinct from both Socrates and his children, then it is possible for God to create this fatherhood in Socrates without Socrates begetting any children, and thus Socrates could be a father without having any children. Indeed, by the same token, God could create a man first, and then some others who would not be his children, nor would he be their son. However, if filiation [the relation of being somebody's son] is distinct from both father and son, God could create it in this man, and thus he would be a son. But he certainly would not be the son of anything but a man. However, all the men there are are younger than he, and thus the father would have to be younger than the son, which is a contradiction.\footnote{136}

Another type of objection concludes some physical absurdity. If any relation is really distinct from the things related, then so is the spatial relation of distance. If so, then any change of relative position by locomotion would entail the generation and corruption of an infinity of such relations in the things distant from one another on account of such a relation. Thus, whenever an ass would move over on earth, an infinity of such relations would be generated and corrupted in the heavenly bodies and their parts, for they would be related to the ass differently than they were before. But it seems physically absurd to claim that the movement of the ass could cause any change in the heavenly bodies.\footnote{137}

V. CONCLUSION: ONTOLOGICAL ALTERNATIVES VERSUS ALTERNATIVE SEMANTICS

Pseudo-Campsall was quite unmoved by these and similar arguments. Because he was explicitly committed to these distinct entities, he argued either that the alleged absurd conclusion does not follow from positing them, or that the conclusion is not absurd, or that the absurd conclusion follows only because of some contradictory assumption in the objection itself.\footnote{53}

However, whatever we should think of the merits and demerits of either Ockham’s objections or pseudo-Campsall’s replies, the interesting thing from our point of view is that Soto, for all his \textit{via antiqua} semantics, is moved to reject the real distinction of relations and the remaining six categories on the basis of precisely the same type of arguments one can find in Ockham.\footnote{54} Indeed, if we look earlier, we can see that arguments of this type figured in the discussions of many authors before Ockham, especially concerning the hotly disputed issue of the real distinction of relations from their foundations.\footnote{55} What is more, we can safely assert that the uncompromisingly exuberant ontology of pseudo-Campsall was rather the exception than the rule even in pre-Ockhamist philosophy.\footnote{56} Thus, Ockham’s ontological “reductions” were hardly as radical as he himself makes them appear by his contrast with the \textit{moderni}. Nevertheless, Ockham is still an innovator, not with respect to what he achieves in his ontology but with respect to how he achieves it.

As we have seen, the driving force behind Ockham’s ontological program is his new semantics. In fact, if Ockham’s sole purpose had been to achieve a simplified ontology to avoid the sort of absurdities pseudo-Campsall was bound to handle, he could have done so simply by abandoning the critical assumption of the essentiality of abstract terms in all accidental categories, as many had done before him with respect to several categories, while leaving the main semantic framework intact. But Ockham had a much more ambitious project. He set out to simplify the conceptual edifice of all theoretical sciences by ridding them of what he perceived as unnecessary recent accretions that were unjustifiable both theoretically and on the grounds of “pure Aristotelian” principles.\footnote{57} It is only the requirements of this overall project that can explain why Ockham could not rest content with the ontological alternatives provided by the old semantic framework ranging from the extreme position of pseudo-Campsall to the much more parsimonious ontology of Soto and others. Therefore, despite whatever Ockham tells us about the ontological calamities allegedly inevitably incurred by the semantics of the “moderns,” those calamities alone would not be sufficient to justify his abandonment of the old framework and the introduction of his alternative semantics.

NOTES
1. Substance and the nine categories of accidents: quantity, quality, relation, action, passion, time, place, position, and habit.
2. Obviously, this designation is quite tendentious in Ockham’s usage: besides identifying his opponents as being relatively recent, and thus not carrying as much authority as well-established older authors, this enables him to pose as someone who only reclaims the genuine Aristotle from his more recent distorted interpretations.
3. The “most general genera” are the ten categories listed in n. 1, which then are divided by specific differences into their species, which in turn are also divided by further differences into their species, of which they are the genera, but not the most general genera, for they are species of some higher genus. This process of subdivision continues until we reach “the most specific species,” which cannot be divided further by any specific differences, for the individuals contained under them are essentially the same and are distinct from one another only by their individuating conditions. For example, descending the famous “tree of Porphyry” in the category of substance, we get the following series of divisions: A substance is either material or immaterial. A material substance is a body (and this is how we get the essential or quidditative definition of ‘body,’ constituted by its genus, ‘substance,’ and its specific difference, ‘material’). A body is either living or nonliving. A living body is either sensitive or nonsensitive; nonsensitive living substances are plants, sensitive living substances are animals. An animal is either rational or irrational; irrational animals are brutes, rational animals are human beings. But human beings differ from one another only by nonessential differences such as gender, color, height, weight, virtues and vices, and so forth. Therefore, the species of humans is a most specific species, not divisible by any further essential differences. This is how we get the essential definition of ‘man’ (‘homo’ of course, in the sense of ‘human being,’ not in the sense of ‘human male’) constituted by the genus ‘animal’ and the specific difference ‘rational.’

4. To be sure, this sentence would be as strange in vernacular Latin as it is in English. However, we must not forget that in the technical Latin of Scholastic philosophy ‘quando’ (‘when’) or its contrived abstract form ‘quandoletas’ or ‘quandalitas’ (‘when-ness’) functioned precisely as our author describes it: as the most universal, essential predicate of all temporal determinations.

5. The “first movable” is the outermost sphere of the Aristotelian cosmos, the sphere of the fixed stars, the daily rotation of which was held to be the first movable cause (itself being moved by some immaterial, and hence locally immovable separate substance – for the Christian medievals, by some angel) and the first measure of every other motion of inferior things. According to our realist author, this motion causes in inferior things a certain temporal determination that is a really inherent accident distinct from the substance as well as from the substance’s other accidents.


7. SL I 51. [Compare Loux 1974, 169.]

8. SL I 51. [Compare Loux 1974, 171.] Here Ockham explicitly claims this is the root of the errors of the moderns.

9. To be sure, this designation is both somewhat anachronistic and simplistic in this context. Nevertheless, it is not entirely unjustified and with proper reservations in mind can safely be applied to the set of semantic principles commonly endorsed by the majority of thinkers before Ockham and by those after Ockham who expressed their commitment to these or similar principles already in conscious opposition to Ockham’s views or even later in opposition to the relevant views of the “nominalists” in general. In any case, I find this designation potentially less misleading than the term ‘realist’ (despite the fact that in late-medieval debates the opponents of the nominalists would often identify themselves as “realists”), which would inevitably suggest primarily some ontological difference in their treatment of universals. But the point here, as we shall see, is precisely that the difference between the treatment of the categories by the adherents of a via antiqua semantics and by Ockham is not primarily an ontological matter and not primarily a matter of how they treat universals. For a detailed historical discussion of the late-medieval contrast between via antiqua and via moderna, see Moore 1989.

10. That is, all or only some supposita are such, depending on whether the proposition is universal or particular. Also, we assume here that the proposition is interpreted as expressing some actual fact about the actually existing supposita of its subject, not as a definitive “eternal truth,” in which case it may be true even if the supposita of its subject do not exist. According to the latter interpretation, such an affirmative proposition was analyzed by several authors in a number of different ways, either taking it to be equivalent to a hypothetical, or taking its subject to have natural supposition, or taking it to express some necessary possibility, or taking it to express a mere conceptual connection regardless of the existence of the supposita of its subject, and so forth. See Klima forthcoming b. See also n. 17.


12. ‘Biltrix’ is one of several standard examples of a meaningless utterance (along with ‘bu,’ ‘ba,’ ‘baba,’ etc.) one can find in medieval commentaries on Aristotle’s passage and in the corresponding sections of medieval logical treatises.

13. Some authors also attributed supposition to terms outside the context of a proposition. Perhaps the most notable example is Peter of Spain’s treatment of natural supposition. Peter of Spain 1972, 81 (tract. VI.4).

14. The Latin technical term for this function was ‘supponere pro,’ which has often been transcribed in the secondary literature as ‘to supposit for’
just to keep the medieval theory apart from the burgeoning contemporary theories of reference.

15 Or according to some realists, the universal nature immediately represented by the concept. (See n. 16.) But many authors were willing to call that nature an "objective" concept insofar as it was regarded as the direct, immediate object of the human mind considering the individualized natures of particulars in abstraction from their individuating conditions. See Suarez 1980, 360–1; Cajetan 1964, 67–71, 121–4. For a discussion of some complications involved especially in the case of Aquinas, see Klima 1995a, 25–59, and Klima 1995b, 489–504.

16 Or again, the universal nature of trees immediately represented by this concept. See, for example, Lambert of Auxerre 1971, 206–9; Burley 1955, 7. It should also be noted here that pseudo-Campsall reserves a different kind of supposition, "formal supposition," for reference to the nature immediately represented by the concept, to distinguish it from simple supposition, in which reference is made to the concept. In fact he attributes this formal supposition even to proper nouns. For example, in 'Socrates is numerically one, primarily and by himself,' the term 'Socrates' is taken to refer to Socrates' individual difference, his haecceity – Socraticity. Pseudo-Campsall 1982, 333 §53.08.

17 Modifications in the referring function of terms caused by tense and modality were usually handled by medieval logicians in the theory of ampliation. For a detailed discussion and technical reconstruction, see Klima forthcoming b. Ockham's treatment was the exception, not the rule. See Priest and Read 1981, also SL I.72 ad 1.

18 Again, this proposition is being taken to express some actual fact about actually existing trees and not a definitive "eternal truth." See n. 10.

19 Most medieval "realist" authors would describe the ultimate significata of spoken terms as the forms signified by these terms. However, they would add the proviso that 'form' in logical contexts need not refer to something that is a form in the metaphysical sense, namely some determination of an act of real being. See Thomas Aquinas, De potentia 7.10, ad 8; Cajetan 1939, 18. In fact, Domingo Soto, a late-medieval "realist" who denies any ontological distinction between the ultimate significata and personal supposita of concrete common terms in the category of substance, would still draw the semantic distinction between their "formal" and "material" significata even though, according to him, ontologically these are one and the same thing. See Soto 1554, I.7, II.10, II.14. In any case, this is the reason I tried to provide an "ontologically neutral" formulation of the general semantic rule.

20 For more detailed discussion of this claim in connection with Aquinas, see Klima 1996.

21 For an explicit statement of this view, see Cajetan 1939, 16–17. For a detailed reconstruction, see Klima 1996.
When Galileo Galilei succeeded in transforming physics into a quantitative, mathematical science, his effort was the culmination of a tradition that we can trace to the Greeks. At the same time, the success of Galileo's effort represents the end of the fundamentally qualitative approach to nature that is characteristic of Aristotelian natural philosophy. Aristotle's philosophy of nature comprises all of the texts related to the study of nature, the metaphysical principles of nature, change and motion, earth, the heavens, his studies in biology, and the shorter treatises on the senses and perception, all culminating in his major work on the soul.

In the Middle Ages the interpretation of Aristotle's natural philosophy continued the classical tradition of interpretation in the context of Peripatetic, Neoplatonic, Stoic, Christian, Islamic, and other agendas. Although there were scholars who contributed to the exact sciences, in texts that fit in the tradition of medieval natural philosophy we find for the most part philosophical discussions of texts, typically of Peter Lombard's Sentences, Aristotle's Physics, and of other treatises by Aristotle as well as of the commentaries of Averroes. William of Ockham wrote two very long texts on natural philosophy, two shorter accounts, and numerous comments dealing with questions on natural philosophy in his massive Commentary on the Sentences. Yet, even when he shows himself to have some familiarity with a specific discipline (as in theories of vision), his use of it tends to be sketchy and highly selective. He says virtually nothing about astronomy, about the mathematical models of astronomy, or about their relation to the principles of Aristotelian physics. There is almost nothing in Ockham's texts about music and the mathematics of musical theory. Ockham does discuss topics in geometry, but