THE LANGUAGE OF SCIENTIA: OCKHAM'S MENTAL LANGUAGE AS THE
SUBJECT MATTER OF ARISTOTELIAN SCIENCE

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by

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Abstract

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William of Ockham's theory of mental language is among the most studied aspects of his thought; yet, surprisingly, there is little scholarly consensus on just what it is supposed to be a theory of. The most widely held view today is that Ockham's mental language is intended to be an account of human cognitive operations, akin to the Language of Thought Hypothesis held by some contemporary cognitive scientists. In this dissertation, I first raise a series of objections to this interpretation, both philosophical and textual: Ockham refrains from endorsing the key doctrines this interpretation attributes to him, and his actual discussions of mental language seem disconnected from the theory of cognition he does indeed hold.

I then proceed to sketch an alternative interpretation, which takes as its starting point the sole argument that Ockham provides for positing mental language. On this interpretation, Ockham posits mental language in order to provide a collection of entities which are both compatible with his nominalist ontology and sufficient to fulfill the strictures of the Aristotelian account of scientific practice that he endorses.
To Faith, whose love, support, and long-suffering made this dissertation possible.
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PREFACE

There need not be any forms, or some one item apart from the many, in order for there to be demonstrations. It must, however, be true to say that one thing holds of many.¹

William of Ockham's theory of mental language is among the most studied aspects of his thought; yet, surprisingly, there is little scholarly consensus on just what it is supposed to be a theory of. The most widely held view today is that Ockham's mental language is intended to be an account of human cognitive operations, akin to the Language of Thought Hypothesis held by some contemporary cognitive scientists. In this dissertation, I first raise a series of objections to this interpretation, both philosophical and textual: Ockham refrains from endorsing the key doctrines this interpretation attributes to him, and his actual discussions of mental language seem disconnected from the theory of cognition he does indeed hold.

I then proceed to sketch an alternative interpretation, which takes as its starting point the sole argument that Ockham provides for positing mental language. On this interpretation, Ockham posits mental language in order to provide a collection of entities which are both compatible with his nominalist ontology and sufficient to fulfill the strictures of the Aristotelian account of scientific practice that he endorses.

¹ Aristotle, *Posterior Analytics* I.11 (77a5-7; translation by Jonathan Barnes in Aristotle 1993, p. 16)
In the first chapter, I briefly sketch the core elements of Ockham's theory of mental language, elements which all interpreters of Ockham agree belong to the theory. These include mental language's status as a medium of communication for immaterial intellects, as well as the central features of mental language: the differences between non-complex concepts, complex concepts, and mental sentences; Ockham's account of mental grammar; the key semantic properties of signification and supposition; and a host of distinctions, including the distinctions between absolute and connotative concepts and between syncategorematic and non-syncategorematic concepts.

I conclude chapter 1 with a brief history of the scholarly debate concerning Ockham's mental language; for much of the latter half of the twentieth century, scholars believed that Ockham's intent was to posit a sort of Fregean ideal language, free of equivocation, synonymy, and redundant expressions, as a suitable subject-matter for logic. In the 1990s, scholars came to believe that this interpretation was radically mistaken, as Claude Panaccio and others pointed out that Ockham rejected nearly every key claim this interpretation attributed to him. With the ideal language interpretation rejected, a new interpretation of mental language was needed; and this Panaccio and others provided, by pointing to important and striking similarities between Ockham's work and that of the twentieth-century philosopher Jerry Fodor. On this new, "cognitive" interpretation of mental language, Ockham's theory was read as an attempt to provide an account of the representative medium underlying human and angelic cognition, much as Fodor attempts to do with his "Language of Thought" hypothesis.

In chapters 2 and 3, I voice my dissatisfaction with this cognitive interpretation of Ockham's mental language by arguing that, much as the old ideal language interpretation
was in conflict with Ockham's own texts, so the cognitive-theory interpretation also does not fit well with Ockham's stated views. In the opening of chapter 2, I argue that Fodor is correct when he says that the essential feature of the Language of Thought hypothesis is its claim that some mental representations are syntactically complex. That is, the Language of Thought hypothesis states that some mental representations are "molecular": they have other mental representations as parts, and the semantic content of the composed representation is a function of the semantic contents of its component representations. As Fodor states, affirming this property of mental representations is sufficient for accepting the Language of Thought hypothesis, while rejecting it implies a rejection of the Language of Thought picture.

But, as I argue through the remainder of the second chapter, Ockham considers the question whether mental representations are syntactically complex but refrains from delivering a verdict. This alone makes any interpretative claim that Ockham presents a cognitive theory closely akin to the contemporary Language of Thought hypothesis a strained claim: Ockham neither openly endorses nor denies the sole essential claim of that hypothesis.

In chapter 3 I continue my case against the cognitive account of Ockham's mental language, noting that the connection drawn between Ockham's views and the Language of Thought hypothesis depends on two other interpretative claims: first, that Ockham endorses what I call the Representational Theory of Mind, the claim that an agent's having a given propositional attitude consists in that agent's bearing a certain psychological relation to a given mental representation; and second, that Ockham's
mental language can be directly tied to his broader account of cognition by means of his distinction between intuitive and abstractive cognition.

But, I argue, both of these interpretive claims are dubious. With respect to the first, Ockham does appear to endorse the Representational Theory of Mind, but only in certain contexts: for, as he claims in his *Quodlibeta septem*, the only propositional attitudes that consist in bearing a relation to a mental sentence are those which enter into the characteristic activity of philosophers and scientists; ordinary people, Ockham claims, are *not* related to mental sentences when engaging in ordinary acts of believing, hoping, fearing, and so on. The second interpretative claim is likewise dubious, I argue; in his one sustained discussion of the nature of the mental word, Ockham considers the precise connection between mental language and his theory of intuitive cognition which the cognitive interpretation imputes to him, but then refrains from endorsing it, noting only that *Augustine* would likely support such a proposal.

In chapters 4 and 5, I at last turn to my own interpretation of Ockham, according to which – *mirabile dictu* – Ockham has far more in common with a medieval Aristotelian than with a nineteenth-century logicist or contemporary cognitive scientist. In the fourth chapter, I present what I take to be the argument that Ockham himself presents for accepting mental language. (This is a curious argument, given that, by my count, it appears no less than four different times in Ockham's corpus, but many scholars deny that any such argument exists in Ockham; in the eyes of these scholars, Ockham expects his readers to accept the existence of a mental language based only on the authority of a few brief quotations from Boethius and Augustine.) Examination of this argument shows that Ockham's purpose in positing mental language is not to explain
features of cognition by appeal to some underlying representational medium; rather, it is to provide a nominalistically-acceptable set of entities which can fulfill the roles dictated by Aristotle's account of demonstrative science, roles the fulfillment of which Ockham's predecessors and contemporaries believed required there to be common natures. In chapter 5, then, I go on to show how all the features of Ockham's mental language can be seen to be part of an attempt to meet the requirements of Aristotlian demonstrative science. Thus Ockham's project looks far less contemporary and far more medieval than it is sometimes portrayed; and rather than belonging to the vanguard of the so-called "cognitive turn" in medieval philosophy, mental language is a key part of Ockham's attempt to be a nominalist Aristotelian.
ACKNOWLEDGMENTS

It has been said that it takes a village to raise a child; the same might well be said about dissertations. No project of this sort comes to be without the aid of numerous others, and I have no way to adequately thank those who contributed in the creating of this work; this small mention will have to suffice.

First, let me thank the members of my dissertation committee, Alfred Freddoso, John O'Callaghan, and Fritz Warfield, who provided much valuable advice and guidance, especially in the earliest stages of writing. I especially owe a great debt to my director, Richard Cross, who read each chapter multiple times, always finding new ways to improve them. His handiwork is evident in everything of value in this work; all the faults that remain are wholly my own.

Thanks also to audiences at the 2010 Pacific Division meeting of the American Philosophical Association and the 2011 University of Toronto Colloquium in Medieval Philosophy, who heard portions of this dissertation and provided both helpful suggestions and difficult objections to the material therein. Susan Brower-Toland deserves special mention here; many of the ideas in chapters 4 and 5 were solidified in light of discussions with her. Thanks also to the members of the Fall 2011 dissertation research seminar in the University of Notre Dame Philosophy Department, as well as anonymous referees at the Journal of the History of Philosophy and History of Philosophy Quarterly, all of whom gave numerous helpful comments on earlier versions of chapter 2.
Thanks also go to the members of the philosophy departments at Iowa State University, the University of Colorado Boulder, and the University of Notre Dame for demonstrating to me how to do philosophy, and how to do it well. I am especially grateful to the following teachers for modelling how to be an excellent philosopher who is both appreciative of and sensitive to the history of philosophy: Travis Butler, Richard Cross, Marian David, Jack Davidson, Stephen Dumont, Alfred Freddoso, Michael Loux, John O'Callaghan, Robert Pasnau, and Alex Tuckness. I thank also my fellow students at each of these institutions for the formative conversations had over the years; there is not room here to mention all of those to whom I owe thanks, but let me make special mention of Amelia Hicks, Richard Kim, Dennis Knapp, Matthew Lee, Tony Lombardo, Shane Moe, and Anna Rafalski.

Lastly, I thank my family for their unending support and encouragement. More than anyone else, I thank my wife Faith, for her years of steadfast love and her unshakeable belief that I would complete this dissertation – a belief I did not always share. My life would be far less rich were it not for her companionship.
# ABBREVIATIONS

William of Ockham, Critical Edition:

<table>
<thead>
<tr>
<th>Abbreviation</th>
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<tbody>
<tr>
<td>OPh</td>
<td>Guillelmi de Ockham Opera Philosophica</td>
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<tr>
<td>OTh</td>
<td>Guillelmi de Ockham Opera Theologica</td>
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William of Ockham, Individual Works:

<table>
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<th>Abbreviation</th>
<th>Full Name</th>
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<tbody>
<tr>
<td>BrevSumma</td>
<td>Brevis summa libri physicorum</td>
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<tr>
<td>De corpore</td>
<td>Tractatus de corpore Christi</td>
</tr>
<tr>
<td>De imperatorum</td>
<td>De imperatorum et pontificum potestate</td>
</tr>
<tr>
<td>De quantitate</td>
<td>Tractatus de quantitate</td>
</tr>
<tr>
<td>ExpPhys</td>
<td>Expositio in libros physicorum Aristotelis</td>
</tr>
<tr>
<td>InPeri</td>
<td>Expositio in librum perihermenias Aristotelis</td>
</tr>
<tr>
<td>InPred</td>
<td>Expositio in librum praedicamentorum Aristotelis</td>
</tr>
<tr>
<td>Ord.</td>
<td>Scriptum in librum primum sententiarum, Ordinatio</td>
</tr>
<tr>
<td>QuesPhys</td>
<td>Quaestiones in libros physicorum Aristotelis</td>
</tr>
<tr>
<td>Quod.</td>
<td>Quodlibeta septem</td>
</tr>
<tr>
<td>Rep.</td>
<td>Quaestiones in libros II, III, IV sententiarum, Reportatio</td>
</tr>
<tr>
<td>SL</td>
<td>Summa logicae</td>
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Works by Other Authors:

<table>
<thead>
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<th>Abbreviation</th>
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<tbody>
<tr>
<td>PA</td>
<td>Aristotle, Posterior Analytics</td>
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<tr>
<td>ST</td>
<td>Thomas Aquinas, Summa theologiae</td>
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CHAPTER 1:
THE BASICS OF OCKHAM'S MENTAL LANGUAGE

1.1 Introduction

I begin by sketching, at some length, the relatively uncontroversial details of Ockham's account of mental language (e.g., the distinction between absolute and connotative concepts, the properties of signification and supposition, etc.). I then move on to the more controversial elements: I first rehearse the older, "ideal language" interpretation of Ockham's mental language, as found, for instance, in Trentman and Spade, according to which mental language is an "ideal language," free of synonymy, equivocation, and any grammatical features unnecessary for determining truth-value; according to this interpretation, the primary purpose of Ockham's mental language is to provide a suitable subject matter for logic, a subject matter free of the stylistic flourishes of ordinary human languages such as English and Latin. Next, I detail the problems for the old interpretation—identified by Panaccio and others—that led to the development and adoption of a new, "cognitive" interpretation of Ockham's mental language, according to which the theory of mental language is an account of the workings of human cognition. I finish by mentioning the key claims of this new interpretation, claims which I will be addressing at greater length in chapters 2 and 3 of this work.
1.2 A Brief Survey of Ockham's Mental Language

Ockham's most sustained—though by no means his final—treatment of the theory of mental language is found in his magisterial *Summa logicae*, a comprehensive analysis of all aspects of logic (at least as it was conceived in the fourteenth century), which runs to over eight hundred pages in the Latin critical edition. Already on the first page of this mammoth tome, Ockham introduces his theory of mental language:

It should be known that (as Boethius says in his commentary on Aristotle's *De interpretatione*) there are three kinds of speech [oratio]²: namely written, spoken, and conceived.³

He clarifies the respect in which mental language can be properly called a *language* by emphasizing that mental language is made up of mental words and sentences, just as spoken and written languages are made of spoken words and sentences:

In the same way [as there are three kinds of speech], so there are three kinds of terms—namely, written, spoken, and conceived. A written term is a part of a sentence inscribed in some corporal thing, which is (or can be) seen by the corporal eye. A spoken term is a part of a sentence uttered by the mouth and apt to be heard by a corporal ear. A conceived term is an intention or passion of the soul that signifies or consignifies something naturally, which is apt to be a part of a mental sentence and is apt to supposit for what it signifies.⁴

---

² There is a crucial ambiguity in the word 'oratio' here; in classical Latin, the word means *speech, discourse, language, oration*, etc.; but in medieval linguistics, 'oratio' was a technical term standing for a composite linguistic expression. (For example, in *InPeri* I.3, Ockham defines an 'oratio' as "a significative spoken expression with parts that are significative when taken separately" [*…oratio est vox significativa, cuius partes sunt significativae separatae.*] *OPh* II, p. 389). Cf. John Buridan, *Summulae* I.2.3; Buridan 2001, p. 20) So, when Ockham quotes Boethius's dictum, he could be understood as claiming that there are three kinds of *language* or merely that there are three kinds of *complex expressions*.

³ "Est autem sciendum quod sicut secundum Boethium, in I Perihermenias, triplex est oratio, scilicet scripta, prolata et concepta…" (*SL* I.1; *OPh* I, p. 7). Unless otherwise noted, all translations in this dissertation are my own (though I have compared my translations to existing ones).

⁴ "Sicut…sic triplex est terminus, scilicet scriptus, prolatus et conceptus. Terminus scriptus est pars propositionis descriptae in aliquo corpore, quae oculo corporali videtur vel videri potest. Terminus
One might wish that Ockham would go on to defend this claim by clearly presenting an argument that there is indeed a mental language in addition to the spoken and written languages with which all of us are well-acquainted. This he does not do.\(^5\)

Rather, he begins to lay out an elaborate account of mental language, apparently assuming that doubters will be won over either by the lucidity and explanatory power of his account or by a few seemingly supportive quotations from Aristotle, Augustine, and Boethius.\(^6\)

In this chapter, I intend to set aside, as Ockham appears to, the question why one ought to accept the theory of mental language he sets out (I will return to this question in later chapters). Instead, in the following pages I want to present a brief account of the theory, especially as it is presented in the *Summa logicae*, with particular focus upon those aspects of the theory upon which nearly all scholars agree. My presentation will be quite compact in some places and will raise as many questions as it solves; discussion of some of these issues will occupy later chapters of this work.\(^7\)

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\(^{5}\) Indeed, Ockham does not clearly do this *anywhere* in his lengthy corpus. As Normore 2009 notes, "Early fourteenth century thinkers like Burley and Ockham do not argue for [the theory of mental language], but suggest that it is the natural way to understand such writers as Aristotle and Augustine." (p. 297) However, see chapter 4 of this present work for a discussion of what I take to be Ockham's argument for postulating mental language.

\(^{6}\) One looking for philosophical justification for Ockham's account might look up the cited passages in Aristotle, Augustine, and Boethius, hoping to find in those places an explicit argument for the claim that there is a mental language. Such a seeker will almost certainly come away frustrated.

1.2.1 Preliminary: Mental Language as Communication

Before getting too deep into the technical details of Ockham's account, it is important to mention why Ockham takes mental language to be a language at all. In the contemporary scene, when a philosopher such as Jerry Fodor proposes a language of thought, what he is proposing is a system of mental representations such that the representations have a combinatorial syntax and semantics; so-called "molecular" mental representations are constructed from simpler, "atomic" representations, and the semantic value of a composite representation is a function of the semantic values of its constituents together with its syntax. The Language of Thought is thus called a *language* because of this feature it shares – namely, being a representational system with a combinatorial syntax – with conventional and formal languages.\(^8\)

On one popular reading, the mental language proposals offered by Ockham and his successors largely share this feature of the Language of Thought.\(^9\) But for Ockham at least, mental language is deserving of the name 'language' for an even more basic reason: just as conventional languages\(^10\) like English, Latin, and Swahili are mediums of

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\(^8\) The *locus classicus* for Fodor's Language of Thought is Fodor 1975, though Fodor 1987 (pp. 135-154) is perhaps the most straightforward and lucid presentation of the view. For more on the Language of Thought Hypothesis, see section 2.2.

\(^9\) For more on this reading of Ockham and his successors, see section 1.3.3 and chapter 2.

\(^10\) In contemporary linguistics, it is typical to contrast *natural languages* such as English, Latin, and Swahili with *constructed languages* like Esperanto or *formal languages* like those used in formal logic. The medievals, however, reserved the term 'natural language' for mental language as a way of marking out its independence from the conventions of individual linguistic communities. In this dissertation, I will adhere more closely to the medieval usage, calling written and spoken languages like English *conventional languages* (for their grammar depends upon linguistic conventions) to distinguish them from the alleged naturalness of mental language.
communication, so mental language can be a medium of communication—albeit not for human beings in the ordinary course of nature.\textsuperscript{11}

In a remarkable passage from the very beginning of Ockham's academic career, Ockham asserts that angels \textit{communicate} by means of mental language.\textsuperscript{12} We need not be troubled by all the details now, but roughly, in the passage at hand, Ockham is trying to work out how an angel—Michael, say—thinking of some singular object (e.g., Secretariat) could "point out" that singular to a second angel (e.g., Gabriel). Since angels are non-physical beings, Michael obviously can't just physically point at Secretariat. However, angels are able to "see" each other's mental representations, Ockham believes.\textsuperscript{13} But this alone isn't sufficient for Michael to be able to point out Secretariat for Gabriel, Ockham claims; for, he says, it is impossible for Michael to form some simple mental representation whose intrinsic features determine that it represent only Secretariat.\textsuperscript{14} The best Michael can do is form a simple representation that represents all horses equally; all Gabriel could tell from this is that Michael is thinking of \textit{either} some horse or other \textit{or} of horses in general. So what can Michael do? Well, according to Ockham,

\begin{enumerate}
\item I presume that God could give to human beings the sort of capacity for intellectual vision that Ockham attributes to angels. For details on this capacity, see immediately below.
\item \textit{Rep. II.16 (OTh V, pp. 359-381).}
\item See \textit{Rep. II.16 (OTh V, pp. 365-366)}. For additional discussion on the ability of angels to see the mental representations of other minds, see \textit{Quod. I.6 (OTh IX, pp. 36-41)} and \textit{Quod. IV.9 (OTh IX, pp. 342-345)}.
\item In light of this claim, many contemporary scholars believe that Ockham was an externalist with regards to (some) kinds of mental content. For a debate over this very point, see Panaccio forthcoming, Brower-Toland 2007a, and Panaccio in-progress A.
\end{enumerate}
Michael can display to Gabriel that this cognition is of one singular and not another. For, Michael can form and assent to a mental sentence in which some predicate is indicated that agrees with one singular and does not agree with the other. Gabriel can see Michael's act of forming and assenting to this sentence; and, by means of many such acts, Gabriel can reach a cognition of a singular previously unknown to him.

Ockham's answer to the question at hand—that Michael can specify any given singular by asserting enough predicates that are true of that singular—is irrelevant to the point I wish to draw attention to. What is important for my present purposes is the suggestion that an angel can communicate by forming mental sentences and "displaying" them to another angel. Ockham expounds on this point in a much later text:

Just as to speak by means of spoken speech is nothing other than to put forth spoken words so that someone else might hear by corporeal hearing and understand what is signified by the spoken words, so to speak mentally is nothing other than having a mental word so that someone else might hear by mental hearing and understand what is signified by the [mental] word. A mental word, however, is an actual cognition. So, to speak mentally is nothing other than to actually cognize so that the thinker or someone else might understand what is signified by the cognition. From this it is apparent that to hear mentally is nothing other than to see the actual cognition of another angel or another human being, just as to hear vocally is nothing other than to apprehend spoken words.

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15 Ockham regularly uses the word *complexus* to refer to mental sentences, as he does here; in other contexts, he also uses the term to denote a number of other mental entities with complex contents, such as whole arguments. Cf. ch. 2, n. 123.

16 "Angelus tamen loquens potest sibi—exprimendo—manifestare quod haec sit notitia unius singularis et non alterius, puta formare aliquod complexum et ei assentire, in quo denotatur aliquod praedicatum convenire uni singulari quod non convenit alteri. Et illum actum apprehensivum et iudicativum potest alius videre, et per tales multitius actus potest unus angelus devenire in cognitionem singularis sibi ignoti." (Rep II.16; OTh V, p. 376). I have supplied the names 'Michael' and 'Gabriel' to my translation; Ockham's text simply refers to "the one angel" and "the other angel."

17 "Circa primum dico quod sicut loqui locutione vocali non est nisi profferre verba vocalia ut alius audiat auditione corporali et intelligat illud quod per voces significatur, ita loqui mentaliter non est nisi habere verbum mentale ut alius audiat auditione mentali et illud intelligat quod per verbum significatur; verbum autem mentale est cognitio actualis. Ideo loqui mentaliter non est nisi actualiter cogitare ut ipsum et alius intelligat illud quod per cogitationem significatur. Ex quo apparet quod
We see here that, according to Ockham, thinking just is speaking in mental language. And, if you're the sort of being that can directly "see" mental states, then observing another thinker's cognizing and understanding the semantic content of their cognitions counts as "hearing" in mental language. But what exactly is it that these angels are seeing when they listen to each other's (and my) mental language?

1.2.2 The Building Blocks of Mental Language

As I mentioned above in section 1.2, mental language is made up of mental terms and mental sentences. For the next several sections, I will speak about the nature and function of mental terms in mental language, setting aside discussion of mental sentences for the time being.

To begin, what is a mental term? In the passage from *Summa logicae* I.1 quoted above, Ockham claims that mental terms are "intentions or passions of the soul." In many other places, he calls them "concepts," it is this usage that I will typically use throughout this work.

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18 For those worried about the possibility of having their thoughts spied on by angels and demons around the clock, Ockham reassures us that God typically doesn't allow angels to see our thoughts: "As a matter of fact, however, typically an angel does not see the cognitions of other angels or even of human beings, because it is not allowed by God..." ("Tamen de facto freuenter unus angelus non videt cogitationes alterius nec etiam hominis, quia non permittitur a Deo qui non coagit secum." Quod. I.6; *OTH* IX, pp. 39-40)

19 The term 'intention' [*intentio*] is taken from Latin translations of Arabic philosophy of mind, while 'passion of the soul' [*passio animae*] comes from Boethius's translation of Aristotle's *De interpretatione*. See Lagerlund 2007.

But what is a concept, and what sort of ontological status does it have? Ockham's answers to these two questions quite famously changed throughout his philosophical career. In this chapter, I will concentrate on the theory which he holds unquestioningly in all of his mature works, the so-called actus theory. According to the mature Ockham, a concept is a type of actus, a full-fledged entity in its own right that belongs to the Aristotelian category of Quality and that inheres as an accident in a rational soul. On this account, a human cognizer occurrently thinks of some content (say, of horses) when the actus HORSE inheres in their soul; furthermore, the actus just is the occurrent thought. It is frequently said by commentators on Ockham that, according to this theory, a concept is identical to an act of thinking or a mental action. But this can be a misleading turn of phrase, as Brower-Toland points out:

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21 In contemporary philosophy of mind, the word 'concept' is frequently (and confusingly) used both to name those psychological entities that are the bearers of semantic content as well as for the semantic contents that are borne by such psychological entities. In this text, I will always use 'concept' for the first of these two, referring to the content of a given concept by such words as 'content,' 'semantic content,' 'conceptual content,' and so on. For discussion of this dual use of the word 'concept,' see Margolis and Laurence 2007 (particularly p. 589, n.10). This same terminological confusion can be found in medieval writers, but I believe this usage is closer to their usage of the Latin 'conceptus': thus many medieval writers will ask whether a given concept is univocal – a question I take to be asking whether a certain psychological entity always picks out the same content – and Ockham and his contemporaries debate which ontological category concepts (that is, psychological entities) belong to.

22 It is not implausible to say that Ockham's transition from his early ficta account of concepts to his later actus account is perhaps the most famous development in the thought of any medieval thinker. It would take me much too far afield to rehearse the well-known contours of Ockham's intellectual development on this point. For the original account of this shift, see Boehner 1946. More recent discussions can be found in Boler 2003 and Panaccio 2004 (pp. 23-27), while the most extensive account remains Adams 1987 (pp. 73-107).

23 I will have more to say about his earlier "ficta" theory of concepts in later chapters.

24 I follow the practice of Fodor (and others) in using words in all capitals (such as DOG) to name concepts.

25 See, for example, Adams 1987, p. 105: "[Ockham] identifies concepts with really existent acts of intellect"; Loux 1974, p. 5: "[Concepts] are identified with the different acts of thinking themselves"; and Pasnau 1997, p. 84: "Ockham had concluded that mental concepts could be identified with acts of cognition."
Although it is standard for medieval philosophers to speak of belief, knowledge, and other cognitive states as mental acts, in so speaking they don’t mean by ‘act’ activity or action but something more like actualization. Medieval authors refer to belief and knowledge as mental ‘acts’ because, on their view, to believe or to know something is to actualize certain cognitive or rational capacities. 26

One might worry that Brower-Toland has just replaced a somewhat esoteric notion, that of an act of thinking, with an even more esoteric one, that of an actualization of a cognitive power. The important point that I take her to be stressing, though, is that an actus need not be volitional for Ockham. When one speaks of "mental acts" or "acts of thinking," we often most readily think of voluntary action; but for Ockham thinking can be, and often is, a non-volitional process. Thus, perhaps the most accurate way of expressing Ockham's theory is to say that on Ockham's mature theory a concept (say the concept DOG) is the activation or operation of a certain cognitive capacity, namely, the capacity of thinking about dogs. Thus the concept DOG just is the mental operation that one paradigmatically undergoes when thinking of dogs.

Of course, the view is actually a bit more complex than this. Ockham distinguishes between an occurrent mental operation (an actus) and a dispositional mental operation (a habitus). He reserves the name 'concept' for the former—making it seem as if one only has the concept DOG while occurrently thinking of dogs—while endorsing the truism that, in the ordinary course of things, it is the presence of the disposition to think about dogs that allows one to occurrently think of them at will. 27 So, I do not think

26 Brower-Toland 2007b, p. 71. The same point is made by Panaccio 2004 (p. 21): "The act of something, in this vocabulary, is its actual operation, what it does, that is, in virtue of its internal powers somehow being set into activity."

27 Of course, one can only think about dogs at will after the concept has been acquired; I ignore here Ockham's account of concept acquisition. For details on Ockham's empiricism regarding concept acquisition, see section 3.3.2., as well as Panaccio 2004, pp. 6-8, 11-16, 106-109.
Ockham would balk at the claim that one who has the disposition to think about dogs has the relevant concept; for, of course, having the disposition to think about dogs just is, according to the mature Ockham, being disposed to have a tokening of the concept DOG.

Thus far, we have seen that Ockham's theory of mental language includes two major claims: the atomic elements of mental language are mental terms, and mental terms are concepts, i.e., occurrent mental operations.

1.2.3 The Semantic Properties of Mental Terms

Before moving on to a discussion of the kinds of mental terms and what Ockham calls their grammatical properties, it will be useful to give a quick overview of the semantic properties that Ockham and his contemporaries recognize. The two properties that will concern me for the time being are signification and supposition.

According to a long medieval tradition, linguistic expressions should be thought of as signs. That is, they should be thought of as entities that have a function of bringing other entities to mind; as such, linguistic entities are said to signify those things that they bring to mind. Ockham subscribes to this tradition, saying that a sign is "that which, when apprehended, makes something else come into cognition." Now, despite

28 This tradition goes back at least to Augustine. See De doctrina christiana II.1: "A sign is a thing that of itself makes something else…come into cognition." (translation by Paul Vincent Spade, in Spade 2002, p. 64).

29 It has been said that signification just is (or at least is roughly equivalent to) the property we now call meaning. This is false. The meaning of an expression can be both significantly narrower than its signification, since a given expression might bring far more to mind than its strict meaning (as, for example, Ockham tells us that sight is among the signification of 'blind'); or, an expression's meaning might be much broader than its signification, as Ockham thinks that—at least in some contexts—signification is extensional (and meaning, of course, is not extensional). See SL I.33 (OPh I, pp. 95-96).

30 "Est sciemendum quod signum dupliciter accipitur. Uno modo pro omni illo quod apprehensum aliquid aliiud facit in cognitionem venire..." (SL I.1; OPh I, pp. 8-9).
the fact that what a given word or expression brings to mind clearly appears to be a
contingent psychological fact that will be relative to the individuals who hear or read the
expression, the medievals treat signification as a stable semantic property of expressions
that is the same among all the speakers of a given language.

In the case of mental expressions in particular, Ockham tells us that they possess
their signification as an essential property; a mental expression "naturally signifies
whatever it signifies";31 as such, all who occurrently possess the relevant mental
expression will be thinking the same content. Spoken and written expressions, on the
other hand, do not have their significations essentially; yet despite this, there is still a
measure of semantic fixity among speakers of a given language. For, according to this
view, the signification of an expression of a conventional language is determined by the
expression's being subordinated to a given mental expression. This subordination takes
place as a result of a linguistic baptism: some speaker or set of speakers decrees that the
English word 'dog' will be subordinated to the concept DOG, and as a result 'dog' comes
to signify exactly what DOG signifies.32 Interestingly, Ockham takes the subordination
relation between spoken and mental expressions to be ongoing; if per impossible DOG
could change its signification to signify all felines, 'dog' would immediately change its

31 "Una est quod conceptus seu passio animae naturaliter significat quidquid significat..." (SL I.1;
OPh I, p. 8). For discussion relating Ockham's semantic essentialism to contemporary debates, see
Rescorla in-progress. Also, even though concepts have their signification essentially, Ockham thinks that
signification is ultimately explainable in terms of similarity and causality; a given concept is the concept it
is either in virtue of its causal history or in virtue of its similarity to some set of objects. For discussion, see
King 2007, as well as the papers cited in n. 14.

32 Ockham and his successors are clear, though, that various communities of speakers can decide
to change the signification of a term at their pleasure; so, in a classroom exercise, we may stipulate that
'dog' signify whatever JUSTIFIED TRUE BELIEF signifies, or the scientific community may change the
signification of a term of measurement like 'second' by giving it a more exact formulation. For elaboration
on this point, see John Buridan, Summulae I.1.6 (Buridan 2001, p. 12).
signification as well. (Of course, the linguistic community could then collectively decide to make 'dog' signify all canines, but doing so would entail subordinating 'dog' to some different concept, since, by supposition, DOG no longer signifies all canines.)

The second semantic property I want to discuss in this section is \textit{supposition}. It is sometimes said that supposition is the medieval equivalent of reference, and this is in many ways accurate. Supposition is a property that an expression (written, spoken, or mental) only has in a sentential context, and the supposition of a given term just is all the entities that the term is (presently and actually) true of.

One important difference between supposition and reference is that we now treat 'dog' and 'dog' as two different terms, the former having for its referents four-legged mammals and the latter having for its referents three-letter English words. In contrast, Ockham and his contemporaries account for such differences by distinguishing different referential functions that a single term can fulfill in varying sentential contexts; at the most basic level, the medievals distinguish \textit{personal supposition} from \textit{material supposition}. It is widely agreed that a given term $T$ supposits materially iff $T$'s

\begin{itemize}
\item \textit{SL I.1} (\textit{OPh} I, p. 8). The picture is slightly more complicated than I say in the text. Ockham's view is that a given written term is subordinated to some spoken term, and that spoken term is subordinated to some mental expression. Thus, the written term may be said to be subordinated to the mental expression, but only at a second-remove. Though he never discusses this as far as I am aware, this move seems designed to account for the fact that we could, if we so chose, radically change our written alphabet while continuing to speak the same language (as, for example, took place in the romanization of various Oriental languages).
\item When used in a present-tense, non-modal sentence, its supposition is \textit{ampliated} so that the supposition of the term is all the entities that the term is \textit{or was} true of. In future-tense sentences, the supposition of the term is all the entities that the term is \textit{or will be} true of. And, in modal contexts, the supposition of the term is all the entities that the term is \textit{or can be} true of. For treatments of Ockham's theory of supposition, see Loux 1974b, Spade 1974, Freddoso 1980, and Adams 1987 (ch. 10). For a discussion of whether ampliation in modal contexts commits Ockham to merely possible individuals, see Adams 1987, pp. 400-416.
\item In addition, most medievals recognize a third branch of supposition, \textit{simple supposition}. For medieval realists, a term supposits simply iff its supposition is a common nature (i.e., a universal).
\end{itemize}
supposition is all the linguistic tokens of the same type as $T$ (thus 'dog' supposits materially in "dog is monosyllabic"). The medievals found it much more difficult to adequately define personal supposition, in large part because of disputes over whether the personal supposition of a term could be defined in terms of that term's signification. Ockham for his part, tells us that $T$ supposits personally iff $T$'s supposition is exactly the entity or entities that $T$ signifies (for instance, 'dog' supposits personally in "dogs are four-legged animals").

1.2.4 The Grammar of Mental Terms

In the first ten chapters of Summa logicae, Ockham applies a number of grammatical categories to mental terms. In this section, I will talk about three of these: first, I will briefly touch upon his division of mental terms into lexical categories (noun, verb, participle, etc.) with accompanying grammatical attributes (case, number, mood, voice, etc.); I will then move on to his distinction between categorematic and syncategorematic mental terms; finally, I will provide a lengthier exposition of his division between absolute and connotative terms, which will set up an important

Nominalists such as Ockham obviously reject this definition, opting instead to say that a term supposits simply when it supposits for a token concept (see SL I.64; OPh I, p. 196). Buridan rightly points out that nominalists should take simple supposition to just be a form of material supposition, due to the identification of concepts with mental terms (see John Buridan, Summulae IV.3.2; Buridan 2001, p. 253).

36 It is widely agreed that a natural kind term supposits personally just in case its supposition is all the token members of that kind; however, not all of Ockham's contemporaries can agree with his defining personal supposition in terms of signification because many of them deny that natural kind terms signify all the token members of that kind (claiming instead that such terms signify universals).

37 It's widely assumed that mental grammar is a syntactic property of mental terms. I dispute this contention, though saying why would take me too far afield. See Hagedorn in-progress A.
scholarly dispute later in this chapter. In this section I intend merely to expound
Ockham's doctrine; critical commentary will be left for later.

Ockham thinks that mental language is both prior to and independent of written
and spoken languages. Mental language is prior in the sense that the semantic values of
written and spoken expressions are parasitic upon the semantic values of a corresponding
mental expression;\textsuperscript{38} it is independent in the sense that it is possible for a person to
possess and "speak" mental language without possessing any conventional languages.\textsuperscript{39}
Yet despite this priority and independence, the grammar of mental language looks
suspiciously like Latin grammar.\textsuperscript{40} Ockham assures us some mental terms are nouns,
others verbs, still others adverbs, conjunctions, and so on.\textsuperscript{41} Furthermore, each of these
lexical items has an accompanying array of grammatical accidents: mental nouns are
subject to case (nominative, genitive, etc.) and number (singular or plural); while mental
verbs are subject to number, tense, mood (indicative, subjunctive, etc.), voice (active or
passive), and person (first, second, or third).\textsuperscript{42} Thus it appears to make perfectly good

\textsuperscript{38} \textit{SL} I.1; \textit{OPh} I, p. 8: "Spoken words are imposed in order to signify the same things that it
signified by a concept of the mind, so that first a concept naturally signifies something and second the
spoken word signifies that very thing." ("...voces imponuntur ad significandum illa eadem quae per
conceptus mentis significantur, ita quod conceptus primo naturaliter significat aliquid et secundario vox
significat illud idem...").

\textsuperscript{39} See my discussion of angelic language in sec. 1.2.1. Cf. \textit{SL} I.12 (\textit{OPh} I, p. 42): "Mental
sentences belong to no language in such a way that many people frequently internally form sentences that
they nevertheless do not know how to express because of a lack of language." ("...unam propositionem
mentalem, quae nullius idiomaticis est, in tantum quod multi frequenter formant interius propositiones quas
tamen propter defectum idiomaticis exprimere nesciunt.").

\textsuperscript{40} So much so that Geach 1957 accuses Ockham of "merely transfer[ing] features of Latin
grammar to Mental, and then regard[ing] this as explaining why such features occur in Latin" (p. 102).

\textsuperscript{41} \textit{SL} I.3 (\textit{OPh} I, pp. 11-14). Ockham expresses doubts concerning the existence of mental
participles; he addresses this doubt (answering that there are \textit{not}) in \textit{Quod.} V.8 (\textit{OTh} IX, pp. 508-513).

\textsuperscript{42} The attentive reader will notice that some of the grammatical features of Latin are not included
here, most notably grammatical gender. See sec. 1.3 for discussion of the reasons behind this exclusion.
sense, on Ockham's account, to speak of the genitive plural of DOG or the third-person singular future active indicative of RUN (though I should note that Ockham doesn't seem to actually speak in such ways).

In addition to the division of mental terms into nouns, verbs, and so on, Ockham says that all mental terms are either *categorematic* or *syncategorematic*. Categorematic terms, he says, are those that "have a limited and fixed signification," while syncategorematic terms are those that

\[\text{do not have a limited and fixed signification...but rather, which added to another [expression] makes [that expression] signify something, or makes it supposit in a determinate way for something (or some things), or plays some other role with respect to categorematic terms.}\]

43

That definition is somewhat opaque on an initial reading; Ockham's examples, however, make it clear what he has in mind. As paradigmatic examples of syncategorematic terms, he provides EVERY, NONE, SOME, ALL, EXCEPT, ONLY, and INASMUCH AS. Thus, the distinction between syncategorematic and categorematic terms is roughly the distinction we now draw between logical and non-logical vocabulary. Most of Ockham's own examples of syncategorematics are quantifiers. But it is clear that he thinks sentential connectives (such as AND, OR, etc.) are also syncategorematics, as well as the copula itself, which has the function of joining together other terms to make declarative sentences. Such terms do not have a signification when occurring on their own; rather, they extend or modify the semantic values (e.g., the signification, the supposition, the truth value, etc.) of the expressions they're joined to.

\[\ldots\text{non habent finitam significationem et certam...sed magis additum alteri facit ipsum aliquid significare sive facit ipsum pro aliquo vel aliquidus modo determinato supponere vel aliud officium circa categrema exercet.}\] (SL I.4; OPh I, p. 15).
We can thus see syncategorematic terms are terms that act as functions from semantic values to semantic values.

The last distinction I wish to discuss in this section is Ockham's division of terms into *absolute* and *connotative*.\(^{44}\) The distinction between these two kinds of terms may be marked by a difference in the signification of such terms; absolute terms, Ockham tells us,

> are those that do not signify one thing principally and another thing (or the same thing) secondarily, but rather everything that is signified [by an absolute term] is signified equally primarily.\(^{45}\)

Connotative terms, conversely, "signify something primarily and also signify something secondarily."\(^{46}\) This distinction is perhaps best explained by means of examples. Among the archetypal absolute terms are proper names and natural-kind terms. A proper name signifies—brings to mind—exactly one object, namely, its referent. Natural-kind terms signify multiple objects—namely, every member of the kind—but every object that the term signifies is "signified equally"; so, Ockham thinks, 'dog' signifies every single dog, but does so in such a way that no individual dog is signified more than any other (and similarly for other substance kinds like 'horse,' 'human

\(^{44}\) While discussing this distinction, I restrict myself to examples of absolute and connotative terms in conventional (that is, spoken and written) languages. This is because it is a point of dispute among scholars whether Ockham admits the existence of connotative terms in mental language; for more, see section 1.3. In other words, it is somewhat disputed whether the distinction between absolute and connotative terms is a distinction that applies *only* to conventional languages or to mental language as well as conventional languages.

\(^{45}\) "Nomina mere absoluta sunt illa quae non significant aliquid principaliter et aliquid vel idem secundario, sed quidquid significatur per illud nomen, aequo primo significatur..." (SL I.10; OPh I, p. 35).

\(^{46}\) "Nomen autem connotativum est illud quod significat aliquid primario et aliquid secundario." (SL I.10; OPh I., p. 36). In other places, Ockham uses the words 'consignify' or 'connote' in place of 'signify secondarily.'
being,' 'mammal,' and so on). Furthermore, the objects signified by proper names and absolute terms are signified "principally" or "primarily": that is, such terms signify only those objects for which they supposit (and this, I take it, is all that is meant by primary signification: a term primarily signifies what it typically refers to).

The archetypical connotative terms, on the other hand, are relational terms like 'parent.' A word like this, he claims, signifies (that is, brings to mind) each of its relata; so 'parent' signifies all parents as well as all children. But the parents are not signified in the same way as the children; the parents are signified primarily, while the children are signified "secondarily." That parents are the things that are primarily signified by 'parent' is indicated by the fact that 'parent' (personally) supposits for parents in sentential contexts; parents are the ordinary referents of the expression. The children, conversely, are signified secondarily: the term signifies them but only insofar as they are related to the term's primary significates. In other words, 'parent' brings children to mind, but does not supposit for children.47

Another set of paradigmatically connotative terms are attributive adjectives like 'white.' Ockham claims that 'white' primarily signifies (thus supposits for) the substances that are white; but it secondarily signifies (and does not supposit for) the whiteness tropes in virtue of which those substances are white. (Though he insists that 'whiteness' is an absolute term, for, he claims, the only objects signified by 'whiteness' are whiteness tropes, which are also the typical referents of the term.)

47 Or, more precisely it does not supposit for children insofar as they children. In other words, 'parent' can supposit for Mary, who is someone's child, but it does not supposit for her in virtue of the fact that she is someone's child.
The distinction between connotative and absolute terms may also be drawn by attending to a difference in the definitions of such terms; every connotative term, Ockham claims, has what medievalists now call a "nominal definition" (definitio exprimens quid nominis – lit., "a definition expressing 'the what' of a name"), while no absolute term has a nominal definition. Conversely, every absolute term that has any definition at all has a "real definition" (definitio exprimens quid rei – lit., "a definition expressing 'the what' of a real thing"), while all connotative terms lack such definitions.

A real definition of a term specifies the essential character of the substance or quality signified by the term by locating it in the categorical tree. For instance, a real definition of 'human being' (namely, 'rational animal') specifies the genus that human beings belong to (namely, animal) and the characteristic by which humans differ from every other species in the genus (namely, rationality). However, real definitions are not necessary for knowing how to use the associated term; a speaker of English can competently use the term 'human being', Ockham thinks, without knowing what the essential character of human beings is. Nor are real definitions unique; there can be a

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48 SL I.10 (OPh I, pp. 35-36).

49 Not all absolute terms have definitions since there are some terms that are undefinable according to Aristotelian orthodoxy. Among them are the names of singulars and the names of the ten highest genera ('substance', 'quality', 'quantity', and so on).

50 SL I.26 (OPh I, pp. 84-89). Additional discussion can be found in SL III-2.28 (OPh I, pp. 555-556) and SL III-3.22-23 (OPh I, pp. 679-683).

51 SL III-2.28 (OPh I, p. 555).
plurality of non-synonymous definitions that all correctly locate a thing in the categorical
tree.\footnote{Thus Ockham claims that 'angel' can be (correctly) defined as 'a substance abstracted from
matter', 'an intellectual and incorruptible substance', and 'a simple substance that is not a proper part of
something else [\textit{non componens cum alio}].' \textit{SL I.10 (OPh I, p. 36)}.}

A nominal definition, conversely, is "nothing other than a complex expression
that expresses what the name signifies."\footnote{"\textit{Aliae sunt definitiones importantes quid nominis, quae non sunt nisi orationes exprimentes
quid significant nomina.}" (\textit{SL III-2.28; OPh I, p. 556})} In order to competently use a connotative
term, one must know the nominal definition of that term; someone who doesn't know that
'white' means 'a thing that has whiteness' would fail to use the term correctly, Ockham
claims. Furthermore, every connotative term has a \textit{unique} nominal definition.\footnote{"Properly speaking, there is \textit{one} nominal definition of a name that has a nominal definition."} (\"\textit{...proprie loquendo unius nominis habentis definitionem exprimentem quid nominis est una definitio
explicans quid nominis...}\") (\textit{SL I.10, OPh I, pp. 35-36}. Though one must qualify that 'unique' here must
mean only that every nominal definition of a term will be semantically equivalent, given that, for instance,
Ockham defines 'white' both as 'something \textit{informed by} whiteness' and 'something \textit{having} whiteness.' (\textit{SL}
I.10, \textit{OPh I, p. 36}) Lastly, a
typical nominal definition (at least in Latin) will have some expression in the nominative
case and some other expression in an oblique case; these expressions correspond to the
entities that the term signifies primarily (what is signified by the nominative expression)
and those that the term signifies secondarily (what is signified by the oblique expression).
Thus, since in the (unique) nominal definition of 'white' ('something having whiteness')
\[\textit{aliquid habens albedinem}\], 'white' primarily signifies things that are white, '\textit{aliquid}' is in
the nominative case; conversely, 'white' secondarily signifies whiteness, and so
'\textit{albedinem}' is in the accusative.
1.2.5 Complex Mental Expressions

In addition to simple concepts, the building blocks of mental language, Ockham recognizes at least two kinds of composite mental expressions. First, there are composite concepts: concepts that have other concepts as components, and whose semantic value depends on the semantic value of its components.\(^{55}\) We have just seen an example of such composite concepts: every nominal definition in mental language just is a composite concept.

In addition to composite concepts, Ockham also recognizes the existence of mental sentences. A mental sentence, like a composite concept, has concepts as components, but among its components is a copula, a concept such as IS or IS NOT. It is the presence of the copula (along with other concepts to fill the roles of subject and predicate) that makes a given complex of concepts into a sentence.\(^{56}\)

A problem arises here, though. Ockham regularly says that a copula is a necessary part of a mental sentence; by this, he means that all (atomic) mental sentences are subject-predicate sentences (roughly) of the form \(S\) IS \(P\).\(^{57}\) But, of course, not all the sentences of conventional language are of the form "\(s\) is \(p\)"; for instance, some sentences

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\(^{55}\) SL I.2 (OPh I, p. 10): "According to this way of taking 'term', not only a simple [concept or word] can be a term, but also what is composed from two simples (such as what is composed from an adjective and a substantive, from a participle and an adverb, or a preposition with its object) can be a term." ("Non solum autem unum incomplexum potest esse terminum, sic accepto termino, sed etiam compositum ex duobus incomplexis, scilicet compositum ex adiectivo et substantivo; et etiam compositum ex participio et adverbio vel praepositione cum suo casuli potest esse terminus...") As I will argue at length in chapter 2, I read Ockham as not having a considered view on just how seriously to take the composition language at use here.

\(^{56}\) SL II.1 (OPh I, pp. 241-249). See also Quod. III.12 (OTh IX, p. 249): "...every [mental] sentence is composed of a subject, a predicate, and a copula..." ("omnis propositio componitur ex subiecto et praedicato et copula").

\(^{57}\) I say "atomic" because Ockham recognizes the existence of compound mental sentences joined by sentential operators such as conjunction, disjunction, etc. I say "roughly" because some atomic mental sentences will also include quantifiers, negation, etc.
(such as "John runs") simply have a subject plus a finite verb (indeed, Ockham often uses sentences of this form as examples). So, what then is the mental language equivalent of "John runs"? How is this sentence to be subordinated to some mental sentence of the form $S IS P$?

One way Ockham could handle this problem would be to have a spoken sentence like "John runs" be subordinated to the mental sentence JOHN IS RUNNING, which does contain a copula and predicate. However, when Ockham is asked whether there are participles in mental language, he decides that mental language contains finite verbs rather than participles. So, it seems that mental language contains the sentence JOHN RUNS and does not contain the sentence JOHN IS RUNNING. Thus, there appear to be mental sentences without a copula; so perhaps all that is necessary for a mental sentence is a subject concept along with some finite verb. But then it is difficult to understand why Ockham insists on the necessity of the copula in mental sentences. So, either (1) not all mental sentences are of the form $S IS P$, or (2) there are participles in mental language. But Ockham clearly denies both (1) and (2) in his quodlibetal discussions, which are widely agreed to be among his most mature thought. It's hard not to come to the conclusion that Ockham's views are just straightforwardly inconsistent here; happily,

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58 Subordinating 'runs' to IS RUNNING is licit because Ockham believes that any finite verb is synonymous with a copula plus some participle. See Quod. V.5 (OTh IX, pp. 512-513).

59 Quod V.8 (OTh IX, pp. 512-513).

60 Or, alternatively, the grammar of mental language results in constructions like JOHN IS RUNS and MARY IS NOT WILL LOVED BY JOHN as the analogues of "John runs" and "Mary will not be loved by John." But given the overall similarity between Ockham's mental grammar and Latin grammar, I find it hard to believe that he would have been content with this.
affirming (2), that there are participles in mental language, appears to make Ockham's theory consistent, with little or no cost elsewhere.\textsuperscript{61}

I will have much more to say about the nature of mental sentences and the role they play in mental language in the following chapters, so I leave this discussion for now.

1.3 Two Interpretations of Mental Language

Thus ends my brief overview of the uncontroversial points of Ockham's mental language. Now, in contemporary discussion of Ockham's theory of mental language, there are two main interpretations of the theory. These rival interpretations differ both with respect to some of the theory's details as well as their understanding of Ockham's purposes in discussing mental language. The first of these interpretations has its roots in a short paper written some forty years ago by John Trentman, while the latter is most prominent in the works of Claude Panaccio.

1.3.1 The Ideal Language Interpretation of Mental Language

According to the first of these interpretations, what Ockham is doing when he details the features of mental language is to set forth an ideal language, much as some analytic philosophers in the first half of the twentieth century tried to do.\textsuperscript{62} This ideal

\textsuperscript{61} Indeed, it seems that Ockham just came to the wrong conclusion in Quod. V.8. In his desire to eliminate redundant constructions in mental language, he jettisoned participles in favor of finite verbs; but clearly he should have eliminated finite verbs in favor of participles (provided he is correct that every finite verb is synonymous with the copula and some participle).

\textsuperscript{62} Few of the purveyors of this interpretation of Ockham ever clearly specify which early analytic philosophers they have in mind here. Trentman mentions in passing a close affinity between Ockham's doctrine and the "slightly old-fashioned ideal languages of twentieth-century philosophers"; Spade 1980 and Normore 1990 both cite approvingly Trentman's claim without further comment. I take it that the sort
mental language would be the object of the logician's study and would have exactly the amount of expressive power needed for a complete, true description of the actual world, while lacking the semantic ambiguity and rhetorical redundancy of conventional languages. As such, this language would provide the logician a more suitable specimen for his analysis than English, Latin, or any other conventional language; by being immune to the possibility of informal fallacies such as equivocation, mental language provides an ideal venue for the investigation of formal inference.  

This understanding of Ockham's program was widely held among scholars of medieval logic and language for nearly thirty years. Perhaps more than anyone else, Paul Vincent Spade propounded this interpretation by means of a series of articles and a self-published manuscript. Spade's interpretation makes three main claims about the structure and content of mental language.

of philosophers in mind here primarily include Frege and Carnap, though Normore 1997 and King 2005a both mention Russell in particular.

63 "Mental is, for Ockham…the study proper to the logician. It is precisely the structure of such an ideal language that must concern him…In this way the study of logic is not tied to the grammatical peculiarities of any given natural language" (Trentman 1970, p. 589). Normore 1990 repeats Trentman's point: "[J]ust as the structure of an ideal language was thought to be the proper study of the logician, so for Ockham…the proper study of the logician is the structure of mental language." (p. 55). Peter King, in the introduction to Buridan 1985, gives perhaps the most rigorous construal of the ideal language interpretation, claiming it is equivalent to the conjunction of five theses: "(1) Mental is a universal language [i.e., its structure is the same for all cognizers]. (2) Mental is adequate in expressive power. (3) Mental is disambiguated. (4) Mental is nonredundant. (5) Mental sentences display their logical form." (pp. 10-11)

64 Among them Spade 1974, Spade 1975, Spade 1980, Spade 1990, and Spade 2002. It is perhaps ironic that these works, which detail at length the ideal language interpretation of Ockham's mental language, are primarily dedicated to pointing out the abject failure of Ockham's "ideal language".

65 Spade 1980, p. 9. This article attributes these three claims to Trentman 1970, but Spade makes it clear that he agrees with imputing these claims to Ockham (indeed, the paper is a defense of attributing the second and third claims to Ockham).
The first of these three key claims is that mental language contains all and only those grammatical features that contribute to determining the truth value of expressions. Furthermore, in order to identify what these features are, Ockham provides a criterion: if a given grammatical feature contributes to the truth-value of expressions of conventional languages, then that feature is found in mental language and plays the same role in contributing to the truth-value of mental expressions. This is why, Trentman and Spade claim, Ockham says that mental grammar includes, for example, plural nouns and tensed verbs, for the truth value of a conventional expression can vary by substituting a plural noun for a singular one, or a past-tense verb for a present-tense one. Mental language does not, however, contain grammatical markers like grammatical gender, for substituting a feminine noun for a synonymous neuter noun does not change the truth value of conventional expressions.

The second key claim that Spade argues for is that there is no possibility of equivocation in Ockham's mental language. Equivocation in conventional language occurs when a single term is subordinated to multiple concepts (as when 'bank' is subordinated both to the concept of a saving-and-lending institution and to that of the side of a river). But concepts are not subordinated to some still more primitive language;

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66 Evidence for attributing this claim to Ockham can be found in *SL* I.3 (*OPh* I, p. 12): "Gender and figure [do not pertain to mental terms] for such accidents do not pertain to names due to the needs of signification" ("[Genus et figura] nominibus propter necessitatem significationis non conveniunt.") and *Quod* V.8 (*OTh* IX, p. 512): "...to these [spoken sentences] there correspond distinct mental expressions which have distinct predicates that differ [according to tense], and this difference causes truth or falsity in a sentence..." ("...ita istis correspondent distinctae orationes mentales habentes distincta praedicta eodem modo variata per accidentia, quae variatio causat veritatem vel falsitatem in propositione...").

67 Provided that we are willing to overlook the fact that the resulting sentence may be ill-formed as a result of a mismatch in grammatical gender between, say, a noun and its complementary adjective.

68 *SL* I.13 (*OPh* I, p. 45): "An equivocal spoken word is one that signifies several things and is not a sign subordinated to one concept, but is a single sign subordinated to several concepts or intentions of the
rather, they naturally signify whatever they signify, and so there is no possibility for a mental term to be equivocal.

Finally, the ideal language interpretation claims that there are not—nor can there be—any synonymous expressions, either simple or complex, in mental language. Thus there are no concepts with identical semantic values (for instance, 'catsup' and 'ketchup' must be subordinated to the same concept); there are no two mental sentences with identical semantic values; and, most importantly, there are no simple concepts whose semantic value is identical to some complex expression (so, for example, if 'white' is synonymous with 'thing having whiteness', then in mental language either there is no simple concept WHITE or there is no composite concept THING HAVING WHITENESS). Trentman and Spade hold this for two reasons: first, if there were synonymy in mental language, then it would not be ideal; rather, it would contain an unnecessary redundancy of expression. Second, Ockham clearly states (i) that synonyms in conventional language map onto a single concept, and (ii) that synonymy exists in conventional languages only for rhetorical purposes; these two claims, taken together, seem to leave little reason to posit synonymy in mental language.

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soul." ("Est autem vox illa aequivoca quae significans plura non est signum subordinatum uni conceptui, sed est signum unum pluribus conceptibus seu intentionibus animae subordinatum."

69 SL I.3 (OPh I, p. 11): "Whatever is signified by all [spoken or written] synonyms can be sufficiently expressed by one of them, and so a multitude of concepts does not correspond to a plurality of synonyms." ("…quidquid per omnia synonyma significatur posset per unum illorum exprimi sufficienter, et ideo multitudine conceptuum tali pluralitati synonymorum non correspondet…")

70 Quod. V.8 (OTh IX, p. 510).

71 Furthermore, even if there were mental synonyms, they would be inaccessible to conventional language. For example, if there were two mental synonyms, CATSUP and KETCHUP, since the spoken synonyms 'catsup' and 'ketchup' are subordinated to the same mental term (see n.69), one of the two synonymous mental terms would have no expression of conventional language subordinated to it.
The ideal language interpretation was widely held among Ockham scholars for over two decades, despite the fact that each of its three central claims faced intractable problems that were recognized early on.

1.3.2 Some Problems for the Ideal Language Interpretation

The first claim—that Ockham thinks mental language has precisely those grammatical features that have the power to affect truth value—has not been disputed since Trentman attributed it to Ockham, as far as I know. But Spade has, rightly to my mind, argued that Ockham's criterion for mental grammar is fatally misguided, and thus the grammatical features that he actually assigns to mental terms are quite obviously flawed. Spade first divides Ockham's criterion into two distinct claims, one positive and one negative:

Ockham's Criterion [that is, if a grammatical feature of conventional language can affect truth conditions, it is found in mental language, otherwise not] may be divided into two parts: (a) the positive claim that all grammatical features of spoken and written language that affect truth conditions are present also in mental language, and (b) the negative claim that all grammatical features of spoken and written language that do not affect truth conditions are not present in mental language.

Spade points out that claim (a) can be read in two ways: either, (i) a grammatical feature belongs to mental language if it belongs to and affects truth conditions in every conventional language, or (ii) a grammatical feature belongs to mental language if it belongs to and affects truth conditions in some conventional language or other. But

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72 Though it was disputed prior to that; Trentman's paper was largely a reply to Peter Geach's appraisal of Ockham's mental grammar as arbitrary and unmotivated. See n. 40 above.

73 Spade 1980, p. 10.
either reading is straightforwardly problematic ("unacceptable", as Spade sees it): given that there are almost certainly no truth-affecting grammatical features that belong to each and every conventional language, the first reading would result in attributing no grammatical features at all to mental language.\(^{74}\) The second reading, on the other hand, would result in an overabundant and redundant mental grammar since different conventional languages use different grammatical features to play the same role.\(^{75}\)

Spade does think that the negative side of Ockham's criterion ((b) in the quoted passage) is acceptable. Though I agree with his critique of claim (a), I think he is wrong here; for, just as with claim (a), claim (b) can be given two readings. Ockham's (negative) criterion could be that (iii) if a grammatical feature belongs to but does not affect truth conditions in every conventional language, then it does not belong to mental language, or the much less liberal claim that (iv) if a grammatical feature belongs to but does not affect truth conditions in some conventional language, then it does not belong to mental language. Unlike with claim (a), the first of these readings is acceptable in principle, but it again would require an extensive survey of existing conventional languages before making any definitive claims about mental grammar. The second reading, though (which seems far more in line with Ockham's practice of denying a feature of mental grammar because of its impotency in Latin), might result in denying too

\(^{74}\) Even if there were such universal features, a huge number of conventional languages would need to be surveyed prior to making any claims about mental grammar; I take it as given that Ockham performed no such survey.

\(^{75}\) Spade 1980, p. 11. Spade also puts forth a middle reading, according to which mental language has some grammatical feature or other corresponding to every truth-determining grammatical features of every conventional language. But this criterion fails to provide anything like the specific mental grammar Ockham actually provides: "It tells us which distinctions must be made in mental language, but it says nothing at all about how mental language makes them; it does not give us a single rule of mental grammar, but only what is to be accomplished by such rules."
much of mental language; for, it could be a grammatical feature which is impotent in one language (such as grammatical gender in Latin) actually affects truth conditions in another language. Surely it could be the case that some language used grammatical gender to mark the distinction between singular and plural nouns, or between past-, present-, and future-tense (say, by varying the gender of the subject of the verb). And without doing comparative linguistics, how would we know?

The second claim of the ideal language interpretation—that there is no equivocation in mental language—faced significant textual problems as soon as it was explicated.76 Despite the evident problem such texts posed for the ideal language interpretation, there was little discussion of this matter among Ockham scholars, and I similarly pass over it here.77

It is the third claim—that there is no mental synonymy—that has been the most widely-discussed in the literature over the last several decades.78 If the ideal language interpretation is correct, then it appears that mental language has no atomic connotative terms. For, given that (i) every connotative term has a nominal definition, (ii) a connotative term and its nominal definition are synonyms, and (iii) there is no synonymy in mental language, it follows that the only connotative terms in mental language just are nominal definitions, which are, by definition, composite expressions. So, mental

76 Spade, to his credit, recognizes that Ockham does appear to explicitly allow equivocation in mental language; in particular, he affirms that there are some mental sentences in which a concept can supposit either simply (for instances of the concept itself) or personally (for things other than instances of the concept itself); in these cases, sentential context fails to uniquely determine the supposition of the component concepts. But Spade argues that this is contrary to "the very notion of mental language" and "should not be regarded as [Ockham's] 'better doctrine.'" Spade 1980, pp. 17-22.

77 The last half of Spade 1980 (pp. 13-22) attempts to deal with these texts, as does Normore 1997.

78 For a nice recap of the recent debate over synonymy in Ockham's mental language—including references to nearly every contribution to the discussion—see Amerini 2009, pp. 375-380.
language contains only absolute terms, syncategoremata, and nominal definitions, where the latter are (allegedly) composite concepts comprising only absolute terms and syncategoremata.

Furthermore, this was seen as one of the intended consequences of mental language. By pairing this interpretation with a sort of Quinean meta-ontology (according to which we are ontologically committed only to the atomic elements of mental language), we quickly end up with Ockham's preferred ontology. For Ockham claims that all (spoken and written) terms purporting to name universals, fictional beings like unicorns, or entities in the Aristotelian categories other than Substance and Quality are connotative terms; thus, all such conventional terms correspond to composite mental expressions made up of absolute terms and syncategoremata. But all absolute terms name either token substances or token qualities. Thus, our ontological commitments extend only to token substances and token qualities; and this just is Ockham's official ontology.

But here too a problem was found: if this was Ockham's project, then it fails, miserably. For, as Spade argues, "[T]he promised reductions [to sentences containing only absolute terms] simply cannot be successfully carried out." Ockham never gives an example of a "fully-expanded" nominal definition; that is, a nominal definition that contains nothing other than absolute terms and syncategorematic terms. He never does so, Spade claims, because it is impossible to do so. Take a paradigmatic nominal definition: 'a thing having a whiteness.' Here are two absolute terms ('thing', 'white') joined by the 'having' relation. But since 'having' is a relation, it too is a connotative term

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(primarily signifying the havers and secondarily signifying the things had, as Spade points out). Thus, according to Spade, in order to produce the kind of nominal definition demanded by the ideal language interpretation, 'having' must be replaced with its nominal definition. But there seems to be no way to do so that does not quickly lead to regress; thus it is impossible to eliminate atomic mental connotative terms like WHITE in favor of composite expressions that contain no connotative mental terms.\(^{80}\)

Though he recognized all these difficulties, Spade did not reject the interpretation from which they arose; rather, he held onto the ideal language interpretation but downplayed the importance of mental language for Ockham:

All this indicates that Ockham's notion of mental language was not very thoroughly worked out. However interesting, suggestive, or even important we may find the theory today, it was perhaps not the center and focus of Ockham's own logical thought to the extent that it has been of much of our own thinking about Ockham.\(^{81}\)

In the mid-1990s, however, this interpretation lost its luster as a number of scholars (Claude Panaccio et al.) pointed out that, contrary to the claims of the "ideal language" school of thought, Ockham quite clearly commits himself to the existence of simple connotative terms.\(^{82}\) But if such terms are admitted, then mental language will contain synonymous expressions; there will be both the simple connotative terms and

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\(^{80}\) Spade 1990, pp. 603-606. Spade suggests that the only way to stop the regress is to posit a plurality of fundamental syncategoremata such as informing, doing, located at, etc., each corresponding to one of the nine Aristotelian accidental categories. Spade attributes this response to Buridan, Sophismata 5.

\(^{81}\) Spade 1980, p. 22.

\(^{82}\) Spade 2002 puts it as follows: "It was Panaccio who forced researchers in this area (including me) to recognize finally that Ockham did explicitly allow simple connotative terms in mental language, whether he should have done so or not, and that he did it in enough passages that it could not be just a momentary lapse on his part." (p. 233) For a brief survey of Panaccio's argument against the ideal interpretation's understanding of synonymy, see Panaccio 2004, pp. 63-77 (esp. pp. 66-73). For a more recent defense of the ideal language interpretation, see Gaskin 2001.
their complex nominal definitions. And so, Ockham's mental language does not have precisely the amount of expressive power needed for a true description of the world; rather, there are redundancies in mental language. But that Ockham happily and knowingly allowed the existence of such redundancies appears to show that, whatever he was up to, he was not seeking to craft an ideal language. So, a new interpretation was needed; and indeed, one was provided.

1.3.3 Panaccio's "Language of Thought" Interpretation of Ockham's Mental Language

Whereas the ideal-language interpretation claimed that Ockham's theory of mental language was ultimately a logician's tool, intended to provide a venue for the study of formal inference, Panaccio believes that mental language belongs firmly within Ockham's philosophy of mind, particularly his account of cognition. Ockham's innovation, according to Panaccio, is that he was the first to rigorously apply medieval linguistic theory (which had been actively researched since the twelfth century) to thinking, rather than just to conventional languages. In particular, Panaccio argues that the key claim of the theory of mental language is that thoughts have a combinatorial signification and supposition.  

When described in just this way, it is impossible to overlook the alleged similarities between Ockham and the views of Jerry Fodor; both Fodor and Panaccio's

83 Panaccio 2007a: "The theme of mental language was radically reoriented in this new context, mainly by Ockham, with the compositionality of thought now at the centre of it...His ultimate aim in the *Summa logicae* is to use the technical apparatus of grammar and terminist logic for the fine-grained analysis of the compositionality of human thought." (pp. 280-281). See also Panaccio 2007b: "The main point of Ockham's doctrine of mental language, as I see it, was that it allowed him to transfer the technical vocabulary of terminist logic—especially supposition-theory—to the fine-grained analysis of inner thought." (p. 45)
Ockham believe that thought has both a syntax and a semantics; that the semantic value of a complex mental expression is determined by the semantic values of its components, according to the rules of mental grammar; and that the main philosophical reason to attribute these properties to thought is because the combinatorial semantics of mental expressions will serve to explain and ground the combinatorial semantics of the expressions of conventional languages.

We should always be wary in attributing to some historical figure the philosophical views of a well-known contemporary philosopher; the risks of anachronism are great. And one might find it odd that this new understanding of Ockham's mental language has come to prominence only in the last two decades, so soon after the dissemination of Fodor's own views on these matters.  

In the next two chapters, I argue that this "cognitive" interpretation of Ockham's mental language is just as guilty of historical anachronism as was the ideal language interpretation; in presenting an account of mental language as a Fodorian Language of Thought, Panaccio and others have ignored or glossed over aspects, both of Ockham's own account of mental language as well as other accounts of mental language that are found in the writings of other fourteenth- and fifteenth-century thinkers, which cast doubt upon such a reading of medieval mental language. In chapters 4 and 5, after arguing against Panaccio's interpretation, I will offer my own rival interpretation of Ockham's mental language. Details will have to wait until then, but according to my picture,

84 Ironically, Trentman, when offering his own interpretation according to which Ockham's theory is a prefiguring of the views of Frege, Russell, and Carnap, complains of anachronistic readings of Ockham that were circulating in the middle of the twentieth century according to which Ockham was an ordinary-language philosopher in the vein of J.L. Austin! (Trentman 1970, p. 590)
Ockham's mental language has a very specific purpose: to harmonize his nominalist ontology with his commitment to a broadly Aristotelian account of the end of scientific practice, the epistemic state known as *scientia*. On the traditional picture, *scientia* has for its subject a panoply of eternal, immutable, and necessary objects, namely, natures. But Ockham's nominalism has no room for such objects (apart from God himself); he thus needs some entity or entities to play the role that natures play for his realist contemporaries, and it is to fill this role that he posits the existence of mental language. But before discussing this further, I must dispense with the cognitive interpretation of mental language.
CHAPTER 2:
THE QUESTION OF SYNTACTIC COMPLEXITY

2.1 Ockham's Mental Language and the Language of Thought

The previous chapter concluded by briefly mentioning the new "cognitive" interpretation of Ockham's mental language, which has been promulgated chiefly by Claude Panaccio in a series of papers and books written over the last twenty years. According to this interpretation, Ockham's mental language is primarily an account of cognitive psychology, especially of the representational medium of cognition, largely akin to Jerry Fodor's Language of Thought (henceforth LOT). Thus, the introduction to Panaccio's most recent book tells us that, in studying aspects of Ockham's mental language (as well as his philosophy of mind more generally),

[m]any striking similarities with recent ideas in analytic philosophy of mind and language will become more and more apparent, as we go on, to those who are familiar with the writings of people like Saul Kripke, Hilary Putnam, or—most of all—Jerry Fodor, that is, a resolute commitment to the language of thought hypothesis and to semantical atomism, a prominent concern for direct reference, a causal approach to epistemology, a strong innatist component, and even some externalistic tendencies.  

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85 Panaccio 2004, p. 3. See also Panaccio in-progress B, as well as Panaccio 1999a, 1999b, 2007a, and 2007b. Panaccio 1999a also explicitly notes the "striking similarity" ["La similarité est frappante", p. 19] between Ockham's mental language and LOT.
Calvin Normore takes the comparison even further, saying that not only is Ockham's theory similar to Fodor's, but that they should be considered as mere variants of the same theory:

The hypothesis that thought is explanatorily prior to any spoken or written language and yet has the syntactic and semantic structure of a natural language has emerged at least twice in the history of philosophy. The best known forms of the hypothesis, that advocated by William Ockham in the fourteenth century and that advocated by Jerry Fodor in the late twentieth, have remarkable and salient similarities, similarities strong enough that it is plausible to think of Fodor's and Ockham's theories as variants of a single picture of the relation between thought and language...  

Martin Lenz, meanwhile, identifies at least one way in which Ockham's mental language is supposed to explicitly mirror Fodor's theory:

The current view of Ockham's mature theory recognizes that Ockham solved the problems alluded to above by assigning two different roles to concepts: they are the basic units of semantics as well as constituents of structured thought. According to this later theory, conceptual content is acquired by a causal relation between the world and the mind; but since our mind is endowed with the capacity to form structured sentences, these concepts can function as constituent parts of mental sentences. Especially [this] aspect seems to render Ockham's notion of mental language comparable to Jerry Fodor's Language of Thought Hypothesis.

This interpretation of Ockham's mental language encompasses two interpretative claims, both of which I view as suspect: first, that Ockham primarily utilized mental language to detail certain structural features of thought (both human and angelic), and

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86 Normore 2009, p. 293 (emphasis added).
87 Lenz 2008, pp. 307-308. Lenz's article goes on to argue that Ockham's earlier views on mental language are actually more akin to those of Daniel Dennett than those of Fodor.
88 See sec. 1.2.1 for my discussion of the relationship between mental language and angelic thought.
second, that Ockham's resulting account is a close analogue to Fodor's.\footnote{I take King 2005a to be giving a similar diagnosis of the cognitive interpretation of Ockham's mental language. On the second interpretative claim, that this interpretation takes Ockham to be a sort of foreshadowing of Fodor: "…Panaccio wants to dethrone this contemporary "reductivist" (a.k.a. "standard") reading of Ockham….Rather than Bertrand Russell we should think of Jerry Fodor: Ockham is a committed nominalist who is also attracted by what Fodor calls 'the language-of-thought-hypothesis'…On this reading Ockham has more in common with contemporary cognitive science than with the logical atomism of a century ago, and shares many of its substantive theses." (p. 436) And on the first interpretative claim, that Ockham's mental language belongs primarily to his cognitive psychology according to the cognitive interpretation: "[Panaccio's] insistence that philosophical psychology is central to Ockham's philosophy is well-founded, and a useful corrective to the near exclusive focus on logic and philosophy of language dominating the past several decades of scholarship." (pp. 436-7) I think the cognitive interpretation is wrong on both of these points, however, whereas King (as I understand him) focuses his dissent on Ockham's alleged similarity to Fodor.} In this chapter and the next, I intend to challenge each of these two claims: in the following chapter I will offer some reasons to think that Ockham's theory of mental language is not principally intended as an exercise in cognitive psychology at all; in the present chapter, however, I wish to point out a key difficulty in painting Ockham's mental language and Fodor's Language of Thought as close relatives.

Fodor famously argues that the Language of Thought (LOT) must be syntactically complex (or, as he often says, must possess "constituent structure"); in short, there must be some so-called "molecular" mental representations which are composed from simple, "atomic" representations. In fact, Fodor frequently argues that this feature is the essential element of the Language of Thought Hypothesis; as he sees it, affirming that mental representations have this characteristic is sufficient for affirming LOT, while rejecting it is sufficient for rejecting LOT.

But in a pair of texts dating from different points in his career, when confronted with an objection concerning the presence of syntax in mental language, Ockham

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89 I take King 2005a to be giving a similar diagnosis of the cognitive interpretation of Ockham's mental language. On the second interpretative claim, that this interpretation takes Ockham to be a sort of foreshadowing of Fodor: "…Panaccio wants to dethrone this contemporary "reductivist" (a.k.a. "standard") reading of Ockham….Rather than Bertrand Russell we should think of Jerry Fodor: Ockham is a committed nominalist who is also attracted by what Fodor calls 'the language-of-thought-hypothesis'…On this reading Ockham has more in common with contemporary cognitive science than with the logical atomism of a century ago, and shares many of its substantive theses." (p. 436) And on the first interpretative claim, that Ockham's mental language belongs primarily to his cognitive psychology according to the cognitive interpretation: "[Panaccio's] insistence that philosophical psychology is central to Ockham's philosophy is well-founded, and a useful corrective to the near exclusive focus on logic and philosophy of language dominating the past several decades of scholarship." (pp. 436-7) I think the cognitive interpretation is wrong on both of these points, however, whereas King (as I understand him) focuses his dissent on Ockham's alleged similarity to Fodor.
expresses ambivalence whether mental language is syntactically complex.\textsuperscript{90}

Furthermore, some later medieval thinkers who take themselves to fully accept an Ockham-esque account of mental language explicitly deny mental syntax. Thus an enigma arises: Panaccio and others argue that Ockham's mental language is "strikingly similar" to—or merely a "variant" of—LOT, but Ockham (and some of his philosophical successors) express doubts about LOT's essential feature. If the theory of mental language just is a version of LOT, then, it seems that these medieval thinkers are unaware of the characteristic feature of their own views.

I proceed by first summarizing Fodor's account of the Language of Thought, focusing in particular on two of his arguments for the claim that syntactic complexity is essential to LOT. I will then present an extended discussion of Ockham's varying views on the syntactic complexity of mental language. Finally, I will end with a brief overview of the debate over this point that persisted in later medieval thinkers.

2.2 Fodor's Language of Thought

LOT has its origins in Fodor's reflections on contemporary psychology and cognitive science: as he sees it, the explanations these disciplines offer depend on the claim that thinking is computation.\textsuperscript{91} Since computation (roughly) consists in carrying

\textsuperscript{90} The two texts are, respectively, section 6 of the prologue to Ockham's commentary on Aristotle's De Interpretatione (\textit{OPh} II, pp.351-358) and question 6 of Ockham's question commentary on Aristotle's Physics (\textit{OPh} VI, pp. 406-410). The fact that the former text is from Ockham's so-called "middle period" while the latter is a very late work is important because Ockham's views on the bearers of mental content changed dramatically over the course of his philosophical career; despite the changes in his views on the nature of concepts, I argue that his ambivalence toward mental syntax endured throughout.

\textsuperscript{91} The \textit{locus classicus} for LOT is Fodor 1975. Briefer accounts that are nevertheless often more explicit in their characterization of the LOT can be found in Fodor 1987, pp. 135-154, Fodor and Pylyshyn
out certain kinds of operations upon token representations, thinking, for Fodor, thus involves operating upon mental representations. What gives Fodor's thesis its name is the character he ascribes to the system of mental representations; this system, he argues, must be broadly language-like. In particular, mental representations have a combinatorial syntax and semantics, much like conventional languages do; so-called "molecular" representations are composite entities comprising a number of simpler "atomic" representations arranged according to a well-defined syntax, and the semantic value of a molecular representation is a function of the molecular representation's syntax and the semantic values of its constituents. The atomic representations in this representational system are simple concepts; some molecular representations—those that have an object or property as their semantic value—are complex concepts, while yet other molecular

1988, and Fodor 2008, pp. 3-24. Critical discussions of Fodor's work are numerous; for a representative sample, see the essays in Loewer and Rey 1991 and McLaughlin and Crane 2009.

92 "...that there is a 'language of thought'...seems to be implicit in almost every kind of explanation that cognitive psychologists accept since, as I remarked above, most such explanations treat behavior as the outcome of computation, and computation presupposes a medium in which to compute." Fodor 1975, p. 33.

93 "Classical theories...postulate a 'language of thought'; they take mental representations to have a combinatorial syntax and semantics, in which (a) there is a distinction between structurally atomic and structurally molecular representations; (b) structurally molecular representations have syntactic constituents that are themselves either structurally molecular or are structurally atomic; and (c) the semantic content of a (molecular) representation is a function of the semantic contents of its syntactic parts, together with its constituent structure." (Fodor and Pylyshyn 1988, p. 12).

In addition to the requirement of having a combinatorial syntax and semantics, Aydede 2010, sec. 1, claims that functionalist physicalism is also a central tenet of LOT. I omit this here for two reasons: First, if LOT entailed materialism, then Ockham, who rejects materialism on religious grounds (see Quod. I.10, OTh IX, pp. 62-65), ipso facto does not subscribe to LOT. But that result is entirely uninteresting. Second, none of the existing arguments for LOT—the productivity and systematicity arguments, the arguments from scientific methodology and from the ontological commitments of psychological theories, etc.—entail physicalism about the mind. Of course, the vast majority—perhaps all—of LOT's contemporary proponents do endorse physicalism, but that consensus alone doesn't make physicalism part of LOT itself. I discuss this point at length elsewhere (Hagedorn in-progress B).
representations—namely, those that have a proposition as their semantic content—are mental sentences.

Given this language-like system of mental representations, LOT claims that various types of thought consist in relations to or operations upon these representations.\(^\text{94}\) For instance, according to LOT, being in a given propositional-attitude state—believing that \(p\), say—is just bearing some particular psychological relation to a mental sentence: in this case, a mental sentence whose semantic content is \(p\). Similarly, mental operations will typically entail a series of tokenings of representations: for example, deductive reasoning consists in performing inferences over a series of mental sentences (namely, the sentences whose contents are the premises and conclusion of a given argument). Lastly—and most importantly for the purposes of psychological explanation—mental operations are sensitive to the syntax of mental representations; so, if a typical cognizer tokens a molecular representation of the form \(p & q\), she is then able to isolate and perform operations on either half of the conjunction taken alone. It is this feature of LOT that serves to explain why thought is productive and systematic, as well as our ability to process and understand complex linguistic utterances.\(^\text{95}\)

So then, LOT claims that some mental representations are complex; such representations have parts, where those parts are themselves mental representations with semantic values. Furthermore, those parts are shareable and transportable; the concept DOG, e.g., will be a part of many molecular representations (such as BROWN DOG, VICIOUS DOG, DOGS ARE MAMMALS, etc.). Thus Fodor:

\(^{94}\) Fodor and Pylyshyn 1988, p. 13.

\(^{95}\) Fodor 1987, pp. 135-154. For further explication, see sec. 2.3.
If we wanted to be slightly more precise, we could say that the LOT story amounts to the claims that (1) (some) mental formulas have mental formulas as parts; and (2) the parts are 'transportable': the same parts can appear in lots of mental formulas.96

Or, to put it in slightly more technical language,

Computational processes are defined over the syntactic structure of mental representations; and the syntactic structure of mental representations is their constituent structure; and constituent structure is a species of the part/whole relation.97

It is important to distinguish the complexity that Fodor emphasizes here—what we might call syntactic complexity—from the more familiar semantic complexity.98 It has frequently been claimed that the content or semantic value of some mental representations "includes" the content of other representations; it is old hat to think that being a bachelor somehow includes being unmarried (along these lines, consider Kant's claim that an analytic statement is one in which the subject "contains" the predicate). But Fodor's claim here is that the representation itself—not just its content—is complex; that the mental state that is a token of the concept UNMARRIED MAN literally has as a part the mental state that is a tokening of UNMARRIED.99

Now, Fodor sometimes speaks loosely, implying that having parts that are themselves representations (call this property constituency) is all that LOT requires. But the arguments for LOT entail a stronger claim. It's not enough that mental representations

96 Fodor 1987, p. 137.
98 My terminology here closely follows Klima 1998 (see also Klima 2009, pp. 38-55).
just have constituency; they also must have *syntax*: the parts of mental representations must be combined according to syntactic rules, where these rules partly determine the representation's semantic content. For two complex representations may have the same constituents while having different content; and this is so because the constituents are arranged differently according to the syntax.\(^{100}\) So, for a mental representation to be syntactically complex, (1) it must have parts that are themselves representations and (2) those parts must be combined according to some syntactical rule(s).

But, as Fodor points out, semantic complexity does not entail syntactic complexity; it's perfectly possible that there be a system of representations such that each representation is *syntactically* simple (even though the contents of those representations may not be *semantically* simple). In fact, certain accounts in contemporary philosophy of mind make just this claim:

Everybody thinks that mental states have intentional objects; everybody thinks that the intentional objects of mental states are characteristically complex—in effect, that propositions have parts;…and, for present purposes at least, everybody is a functionalist….What's at issue, however, is the internal structure of those functionally individuated states. [The Intentional Realist] thinks they have none; only the *intentional objects* of mental states are complex. I think they constitute a language; roughly, the syntactic structure of mental states mirrors the semantic relations among their intentional objects.\(^{101}\)

In the next section, we'll see just why Fodor thinks LOT must be syntactically complex.

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\(^{100}\) For example, the representation IF P THEN Q has a different content from the representation IF Q THEN P, not because of a difference in constituents, but because of a difference in the way the constituents are combined.

\(^{101}\) Fodor 1987, p. 138.
2.3 LOT and Syntactic Complexity

So Fodor says that LOT must be syntactically complex. But why does Fodor think that LOT must have this property? In the appendix to his *Psychosemantics*, he offers a number of arguments for this claim.\(^\text{102}\) Here I will discuss two of these arguments, as they reveal a great deal about the nature of LOT and the reasons for postulating it.

Fodor's first argument is a methodological one. In general, Fodor claims, considerations of parsimony motivate us to posit that the cause of some complex event will itself be a complex event, the parts of which are the causes of the parts of the complex effect. In short, we take the following principle to be a reasonable guide for inquiry:

Principle P: Suppose there is a kind of event c1 of which the normal effect is a kind of event e1; and a kind of event c2 of which the normal effect is a kind of event e2; and a kind of event c3 of which the normal effect is a complex event e1&e2. Viz.:

\[
\begin{align*}
\text{c1} & \rightarrow \text{e1} \\
\text{c2} & \rightarrow \text{e2} \\
\text{c3} & \rightarrow \text{e1&e2}
\end{align*}
\]

Then, ceteris paribus, it is reasonable to infer that c3 is a complex event whose constituents include c1 and c2.\(^\text{103}\)

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\(^\text{102}\) Additional arguments for the syntactic complexity of LOT can be found in Fodor and Pylyshyn 1998.

\(^\text{103}\) Fodor 1987, p. 141.
The ceteris paribus clause is doing a great deal of work here; as Egan notes, exceptions to this principle are many.\textsuperscript{104} Still, it seems that some principle like P is in fact operative in much of our theorizing; if it weren't, then it would be reasonable to posit a completely different kind of cause every time a given kind of effect occurred in a different context. Instead, our practice is to, when possible, minimize the number of distinct kinds of cause we posit for a given kind of effect.\textsuperscript{105}

But now consider the case of verbal behavior.\textsuperscript{106} Take it as given that believing that P is the typical cause of an utterance of 'p' and believing that Q is the typical cause of an utterance of 'q'. Fodor's principle tells us that, all else being equal, we should posit that the cause of an utterance of 'p or q' should be a complex event, namely, believing that P OR Q.\textsuperscript{107} If we accept that belief consists in a relation between a person and a mental representation, then it seems that this complex event entails the existence of the

\begin{flushright}
\textsuperscript{104} "[S]uppose that the normal effect of a particular bacterial infection is a sore throat, and the normal effect of a particular virus is a fever. Now suppose that a patient exhibits both a sore throat and a fever. Principle P would seemingly have us infer that the cause of the sore throat and fever is a complex condition consisting of both the bacterial infection and the virus!" (Egan 1991, p. 381)

\textsuperscript{105} "P is just a special case of a general principle which untendentiously requires us to prefer theories that minimize accidents. For, if the etiology of events that are e1 and e2 does not somehow include the etiology of events that are e1 but not e2, then it must be that there are two ways of producing e1 events; and the convergence of these (ex hypothesi) distinct etiologies upon events of type e1 is, thus far, unexplained. … It is, to put it mildly, hard to square this with the idea that we value our theories for the generalizations they articulate." (Fodor 1987, p. 142)

\textsuperscript{106} Fodor's own example is of a case of intentional motion, but he does say that verbal behavior "is the paradigm" of the type of behavior he is considering. (Fodor 1987, pp. 142-143) Egan 1991 also uses the example of verbal behavior in her analysis of Fodor's argument.

\textsuperscript{107} It can't be the event of believing that P or believing that Q; even assuming that there are indeed such disjunctive events, this event will produce either utterances of 'p' or utterances of 'q', rather than utterances of 'p or q'. See Fodor 1987, pp. 166-167, n. 5.

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representation P OR Q, a complex representation having both P and Q among its constituents.\footnote{Extended critical discussions of this argument can be found in Clapin 1997 and Egan 1991.
Both Clapin and Egan find Fodor's argument to be unsuccessful in proving that mental representations have what I call a \textit{syntax}, but both think the argument does show (albeit with some caveats) that mental states have \textit{constituency}. Egan thinks that the argument, "at most…supports the claim that the causes of complex utterances are themselves complex, and have the causes of simple utterances as components." (p. 383)
Clapin concludes that the argument "as it stands does not argue for the language of thought any more than it argues for any form of intentional realism that accepts complex, but not necessarily syntactic, mental causes. … [But it] does suggest that the intentional causes of composite behavior are themselves composite (but not syntactically composite)." (p. 274)}

There is, of course, much that could be said about this argument. For our present purposes, however, the important point is this: if the argument is successful, then LOT must be syntactically complex—it must have representations that possess both constituency and syntax—in order to explain how complex linguistic behavior (any complex intentional behavior, as a matter of fact) is produced: the causes of such complex behavior must themselves be complex.

I now turn to what is the most well-known of the arguments for LOT's syntactic complexity: Fodor argues that only LOT can account for the productivity and systematicity of thought.\footnote{There is a very large literature on the systematicity and productivity arguments. McLaughlin 2009 comprises a helpful discussion of Fodor's systematicity and productivity arguments along with an overview of the present state of the secondary literature on them.} What does it mean for thought to be productive and systematic? Take productivity first: conventional languages like English are productive in that, despite having only a finite vocabulary, there are an infinite number of sentences in the language. But this is so precisely because of the combinatorial structure—that is, the syntactic complexity—of conventional languages: sentences are created by conjoining individual vocabulary elements according to the syntax of the language, and sentences of ever increasing length can be fashioned by conjoining more and more

\footnote{Extended critical discussions of this argument can be found in Clapin 1997 and Egan 1991.
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Clapin concludes that the argument "as it stands does not argue for the language of thought any more than it argues for any form of intentional realism that accepts complex, but not necessarily syntactic, mental causes. … [But it] does suggest that the intentional causes of composite behavior are themselves composite (but not syntactically composite)." (p. 274)}
elements of the vocabulary. (As Fodor points out, this sort of recursive combinatorics is the only way we know of that an infinite number of sentences could be built from a finite vocabulary.110)

Now, according to Fodor, human thought—at least in the ideal111—is productive in the very same way as conventional languages are productive; but given that the productivity of conventional languages is due to their combinatorial structure and that we know of nothing else that would result in such productivity, the productivity of thought is only explicable if mental representations are structurally complex like the elements of conventional language are: thus mental representations must have both constituency and syntax; in short, they must be syntactically complex.

Furthermore, thought is systematic in that "the ability to entertain certain thoughts is intrinsically connected to the ability to entertain certain others."112 For instance, it seems true that, in general, someone who has the ability to think that John loves Mary has, ipso facto, the ability to think that Mary loves John; we would think that something has gone very wrong cognitively if we found a person who could think the former while


111 As McLaughlin 2009 puts it, to claim that thought is productive is to claim "that a thinker is, in principle, able to think an unbounded number of thoughts." (p. 253) In Fodor 1987, Fodor appears to think that the argument from productivity is perhaps the weakest argument for LOT, since the arguments rests on a claim about the idealized ability of human thinkers: "In short, it needs productivity to establish that thoughts have combinatorial structure, and it needs idealization to establish productivity; so it's open to Somebody who doesn't want to admit productivity (because, for example, She doesn't like LOT) simply to refuse to idealize." (p. 148)

112 Aydede 2010, sec. 6.3. McLaughlin 2009 tries to make the claim that thought is systematic more precise (though he believes that no "non-circular necessary and sufficient conditions for the property" can be given): "The kernel of the idea that thought is systematic is that any being able to have a thought would be able to have a family of other thoughts, whose members have related (though non-equivalent contents). ... This idea can be generalized by appeal to a predicate logic sentence schema: 'Ceteris paribus, a cognizer is able to think the thought that aRb if and only if the cognizer is able to think the thought that bRa'. The claim is that generalizations that are instances of this schema are true and counterfactual supporting, and so are in that sense psychological laws." (pp. 252-254)
being incapable of thinking the latter. In contrast, there seems no such connection between being able to think that John loves Mary and being able to think that two is the square root of four. To adapt an example of Fodor's, if thought weren't systematic, then thinking would be like learning a (conventional) language by means of a phrase book:

The point that I'm now pushing is that you can learn any part of a phrase book without learning the rest. Hence, on the phrase book model, it would be perfectly possible to learn that uttering the form of words 'Granny's cat is on Uncle Arthur's mat' is the way to say that Granny's cat is on Uncle Arthur's mat, and yet have no idea how to say that it's raining (or, for that matter, how to say that Uncle Arthur's cat is on Granny's mat.)

The most straightforward explanation of this phenomenon is to appeal to constituent structure: someone who can think that John loves Mary has everything she needs to be able to think that Mary loves John; all she needs to do is have the ability to rearrange her concepts into a new mental representation. In the latter case, however, more than mere rearrangement is needed, for one can think that John loves Mary without possessing the concept of a square root. Not only is this the most straightforward explanation, Fodor argues that it is the only explanation:

If having the thought that John loves Mary is just being in one Unknown But Semantically Evaluable Neurological Condition, and having the thought that Mary loves John is just being in another Unknown But Semantically Evaluable Neurological Condition, then it is—to put it mildly—not obvious why God couldn't have made a creature that's capable of being in one of these Semantically Evaluable Neurological conditions but not in the other, hence a creature that's capable of thinking one of these thoughts but not the other. But if it's compatible with Intentional Realism [i.e., the denial of syntactic complexity] that God could

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113 Fodor 1987, p. 149.
have made such a creature, then Intentional Realism doesn't explain the systematicity of thought…¹¹⁴

Much like the methodological argument we examined earlier, there is much that could be said about the argument for LOT from productivity and systematicity, but what is most important for our purposes is just this: if the argument is successful, LOT must be syntactically complex in order for it to explain important properties of human thinking.

2.4 Ockham on Syntactic Complexity

As we've just seen, Fodor argues at length that LOT entails that (some) mental representations are syntactically complex. That is, such representations really have other mental representations as constituents, and the semantic value of these complex mental representations is a function of the semantic values of their constituents together with their syntactic structure.

If the cognitive interpretation of Ockham's mental language is correct—if, that is, Ockham indeed intends his mental language to serve as a representational system for mental operations and the resulting theory turns out to be broadly similar to LOT—then we should expect that Ockham's mental language would be syntactically complex. Indeed, the proponents of this interpretation forthrightly state that this is how they think that Ockham's theory ought to be understood. Thus, Panaccio:

The mind, in [Ockham's] doctrine, is taken to be innately endowed with a capacity for some simple acts (intuitions and simple concepts, basically), and with a further

¹¹⁴ Fodor, p. 151.
set of recursive capacities for combining in various (and non-arbitrary) ways whatever intellectual acts it produces into more complex ones.\textsuperscript{115}

Elsewhere Panaccio explicitly mentions the combinatorial syntax of Ockham's theory: "[t]hat thought is structured like a language with a syntax and a compositional semantics…quickly came to be the dominant view among late-medieval philosophers.\textsuperscript{116}

Normore even identifies the syntactic complexity of mental language as the key point on which Ockham prefigures Fodor's theory:

To count as a mental language in the sense I have in mind the system of representation must have several features. First it must be a medium in which thinking is carried on. Second it must have a syntax which is similar for all thinkers and which makes it possible to combine elements of thought so as to form other items which are capable of representing and of bearing truth-values…Both the oratio mentalis of Ockham's Summa Logicae and Fodor's Language of Thought are mental languages in this sense.\textsuperscript{117}

It is easy to see why the purveyors of the new interpretation take Ockham to be committed to the syntactic complexity of mental language; when discussing his theory, Ockham frequently speaks in ways that seem to commit him to postulating this sort of complexity. Perhaps the most straightforward account of the compositional structure of mental language occurs in the opening chapters of the Summa logicae. Immediately after declaring the existence of a mental language, Ockham introduces the category of 'mental term' by claiming that something is a mental term only if it is "capable of being a part of"

\textsuperscript{115} Panaccio 2004, p. 32.
\textsuperscript{116} Panaccio in-progress B, p. 3.
\textsuperscript{117} Normore 2009, p. 294.
a mental sentence. And in the next chapter he expounds on this, stating that among mental terms are not only simple concepts, "but also what is composed from two simple concepts." A few chapters later, in distinguishing between categorematic and syncategorematic terms, he defines a syncategorematic term as one which, when "added to another term makes that term signify something..." So here, in a matter of just a few pages, Ockham has admitted the existence of (i) simple mental terms, (ii) complex mental terms, comprising two (or more, as is clear from context) simples, and (iii) mental sentences that have mental terms as parts. The constituency claimed here is quite reminiscent of contemporary descriptions of LOT.

Moreover, in many other places in his corpus Ockham also freely uses the language of composition to describe the relationship between mental terms and mental sentences: for instance, he says in his *Ordinatio* that "the [kind of] sentence that is only conceived is composed from … concepts or intellections of the soul," while he affirms

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118 "Terminus conceptus est intentio…nata esse pars propositionis mentalis..." (SL I.1; OPh I, p. 7, emphasis added) I should note that I regularly translate the Latin term 'propositio' with the English 'sentence' (and, when context implies it, 'mental sentence'). In this I deviate from the standard practice of translating 'propositio' into 'proposition'; I do this because for Ockham a *propositio* is a concrete particular, a token that is either written on a specific page of a specific book (in the case of a written *propositio*), uttered by a specific speaker at a specific time (in the case of a spoken *propositio*), or instanced within a specific intellect on a specific occasion (in the case of a mental *propositio*). In sum, Ockham's usage is much closer to the meaning 'sentence' has within contemporary Anglo-American philosophy than the meaning that 'proposition' does, where the latter is typically taken to refer to an abstract object which is the content expressed by many sentence tokens.

119 "Non solum autem unum incomplexum potest esse terminus,…sed etiam compositum ex duobus incomplexis..." (SL I.2; OPh I, p. 10, emphasis added)

120 "Termini autem syncategorematici…addita alteri figurae facit eam significare..." (SL I.4; OPh I, p. 15, emphasis added) As the distinction between categorematic and syncategorematic terms applies to both conventional and mental language, it is natural to suppose that the added to relation here is syntactic composition, just as it is in written and spoken languages.

121 "...ita proposition tantum concepta componitur ex conceptis sive intellectibus sive intellectibus animae." (Ord I, d.2, q.4; OTh II, p. 134) The words "vel conceptibus sive intellectibus" are from Ockham's later redaction of the text.
in the *Quodlibeta septem* that "every [mental] sentence is composed of a subject, a predicate, and a copula," where each of these parts is to be understood as a discrete mental representation, syntactically combined with the others.\(^{122}\) Furthermore, Ockham frequently refers to mental sentences with the Latin word *complexus,* further suggesting the compositional nature of mental representations.\(^{123}\) Many more examples could be provided, but this selection is representative.

Yet despite all these passages in which Ockham seems to attest to the syntactic complexity of mental language, when he is pressed on this very point he hesitates; rather than straightforwardly endorsing the claim that mental language is syntactically complex, he sketches two possible accounts of mental language, including one on which mental representations possess neither constituency nor syntax.\(^{124}\) The question of whether mental language is indeed syntactically complex arises exactly twice in Ockham's writings: I will discuss each of these passages in turn.

2.4.1 Syntactic Complexity in the *De interpretatione* Commentary

For the majority of the Prologue to his commentary on Aristotle's *De interpretatione*, Ockham wrestles with an issue that arises repeatedly throughout his work: what sort of entity is a concept? This question actually subsumes two different

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\(^{122}\) "...omnis propositio componitur ex subiecto et praedicato et copula..." (*Quod.* III.12; *OTh* IX, p. 249)

\(^{123}\) Though on this point one should compare *Rep.* IV, q. 14 (*OTh* VII, p. 294-5), where Ockham says that at least some mental acts are called *complexus* merely because they have propositional content, and *not* because they are composite entities with parts.

\(^{124}\) Ockham addresses this question in two places: first, in his *Expositio in librum periermeniias Aristotelis* (belonging to Ockham's "middle period", written c. 1321) and again in his *Quaestiones in libros physicorum Aristotelis* (among Ockham's final philosophical works, written c. 1324). I have translated the key passages from these two works in full in Appendices A and B, respectively.
inquiries: first, do concepts fit into any of the ten Aristotelian categories, and, if so, which one? And second, do concepts exist subjectively or objectively in the mind? That is, do concepts exist in the mind in the way in which accidents exist in a subject, or are concepts merely intentional objects, their existence being nothing beyond their being conceived?

Though he discusses a number of possible answers to these questions in this Prologue, Ockham doesn't explicitly commit himself to any of these answers. In the sixth section of the Prologue, however, Ockham discusses—favorably, although without explicitly committing himself—a view that he endorses in all his late works, namely, the view that concepts are acts of the intellect (the so-called 'actus' account).

It is in this context—while assessing the view that he would come to hold for the remainder of his philosophical career—that Ockham first downplays the need for syntactic complexity in mental sentences. Taking Ockham's compositional language seriously, on the actus account mental sentences would be complex mental acts having

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125 This is one of the reasons why the De interpretatione commentary is taken to be a transitional work, written after Ockham had begun to doubt his earlier-held ficta account of concepts but before he had finally settled on the actus account I discussed in chapter 1.

126 The details of the actus account do not much concern us here, but, very roughly, according to the actus account a concept just is a mental act, an occurrent mental state which intrinsically and essentially has a given content. To put it in another idiom, on this view a concept just is an actualization of the intellect. (For more on the rival actus and ficta accounts of concepts in Ockham's thought, see chapter 1, section 1.2.2; chapter 3, section 3.3; and chapter 4, section 4.x.y.) For a more complete description of the account and the reasons for which Ockham ultimately accepted it, see Boehner 1946, Adams 1987 (pp. 73-107), Boler 2003, Panaccio 2004 (pp. 23-27), and Brower-Toland forthcoming. That Ockham presents the actus account without endorsing it in this text is one of the reasons why the De interpretatione commentary is taken to be a transitional work, written after Ockham began to doubt the ficta account of concepts he maintained in his earliest works but before he finally settled on the actus account defended in his mature work.

127 This passage has received a great deal of attention from Ockham scholars in recent years. Discussions of varying length can be found in Brower-Toland 2002, pp. 71-84; Brower-Toland 2007b, pp. 85-87; Normore 1990, pp. 63-64; Normore 2009, pp. 302-303; Panaccio 2002, pp. 32-34; Spade 2002, pp. 118n97; and Zheng 1998, pp. 255-259.
simpler mental acts as constituents (e.g., the mental sentence WHITE IS A COLOR would have the concept WHITE, the concept COLOR, and the concept of the copula as its parts). In this text, Ockham provisionally puts forward just this account of mental sentences:

A sentence in the mind is one act of understanding composed from many acts of understanding, so that the sentence in the mind [A] HUMAN BEING IS [AN] ANIMAL\(^{128}\) is nothing other than an act by which all human beings are confusedly understood, an act by which all animals are confusedly understood, and one act corresponding to the copula.\(^{129}\)

Ockham then considers the following objection to this sort of compositional account of mental sentences:

[On this account of mental sentences] it is difficult to preserve any way in which sentences in the mind like EVERY ANIMAL IS WHITE and EVERY WHITE [THING] IS [AN] ANIMAL\(^{130}\) are distinguished; because they are not distinguished in the mind by a difference in order in the way in which they can be distinguished when spoken. For the conjoining of this sign\(^{131}\) with one spoken word or with the other clearly results in a different sentence. But this cannot be preserved in the mind, because such acts of understanding in the mind—since they exist at the same time and in the same subject (that is, in the intellect)—cannot have such a difference of order, nor can the same act of understanding be composed with one more than another.\(^{132}\)

\(^{128}\) As Latin lacks articles, Ockham's example sentence is 'homo est animal', thus his explanation of the three parts of the sentence.

\(^{129}\) "Uno modo, quod propositio in mente est unum compositum ex multis actibus intelligendi, sicut haec propositio in mente 'homo est animal' non est aliud quam actus quo confuse intelliguntur omnes homines et actus quo intelliguntur confuse omnia animalia; et unus est actus quo correspondet copulae." (In Peri, Prologue, sect. 6; OPh II, pp. 355-356)

\(^{130}\) The Latin examples are omne animal est album and omne album est animal, respectively.

\(^{131}\) Namely, 'every' (or omne).

\(^{132}\) "Sed tunc est difficile salvare quomodo istae propositiones distinguentur in mente 'omne animal est album', 'omne album est animal' et huiusmodi, quia in mente non distinguuntur propter ordinem diversum illo modo quo distinguunt possunt in voce. Nam coniunctio signi cum una voce prolata vel cum alia
The objection here is a variation on the Russelian problem of the unity of the proposition.\(^\text{133}\) While the problem of the unity of the proposition is how to identify what differentiates a declarative sentence like "Every animal is white" from the mere list of words `<every', 'animal', 'is', 'white'>, or how to distinguish a proposition from the set of its constituents, the objection Ockham considers here is how to distinguish one mental sentence from another that has exactly the same constituents. (For ease of reference, let's call it the *Unity of the Mental Sentence Objection.*) In spoken and written sentences, a syntactical marker like word order will do the trick; but, the objector claims, there is no correlate for word order in mental sentences, and so there cannot be distinct mental sentences with exactly the same constituents.\(^\text{134}\)

One sensible solution to the Unity of the Mental Sentence Objection that you would expect from someone like Ockham (who was writing in Latin) would be to point out that word order isn't the only way to mark the various parts of a (spoken) sentence; the same end can be achieved by means of grammatic inflection (as is done in Latin).\(^\text{135}\) So, to account for the difference between two mental sentences with the same constituents, one could simply postulate some analogue of grammatic inflection in mental

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*reddit manifeste propositionem diversam. Sed hoc non potest salvari in mente, quia tales actus intelligendi in mente, cum simul sint et in eodem subiecto, quia in intellectu, non possunt habere talem ordinem diversum, nec potest idem actus intelligendi componi plus cum uno quam cum alio."* (InPeri, Prologue, sect. 6; *OPh* II, p. 356)

\(^\text{133}\) For more on the problem of the unity of the proposition, its discussion by Frege and Russell, and an attempted solution, see Gaskin 2008.

\(^\text{134}\) I set aside for the time being whether Ockham is right to deny that there is a mental correlate for word order; I return to this question in sec 2.5.

\(^\text{135}\) Of course, grammatic inflection in Latin isn't sufficient to distinguish every possible pair of sentences with exactly the same constituents; thus only word order suffices to distinguish the true 'omnis homo est substantia' ('every human being is a substance') from the false 'omnis substantia est homo' ('every substance is a human being'). But I see no reason to think that a mental analogue of grammatic inflection would necessarily have such shortcomings.
language. This, however, is exactly not what Ockham does in the passage at hand; instead, he largely concedes to the objection. Rather than explaining how there can be two different sentences with the same constituents, he instead formulates two accounts of mental sentences that he thinks will handle the problem, without explicitly committing himself to either one.

2.4.1.1 The Proximate Parts Solution

The first possible response that Ockham offers to the Unity of the Mental Sentence Objection is to suggest that, though mental sentences do have concepts as parts, the sentences EVERY ANIMAL IS WHITE and EVERY WHITE [THING] IS [AN] ANIMAL—contrary to appearances—do not have the same parts. Rather,

It can be said that in a sentence in the mind one act of understanding corresponds to the composition of a universal sign and a common term. So, in the sentence in the mind corresponding to the spoken sentence ‘every animal is white’, one act

136 Spade 2002, pp. 130-134 suggests a similar response: "[T]he general point is: It is possible make the necessary distinctions of syntactical role by devices that are more analogous to inflection than they are to word order. But if that is so, then it is possible for mental propositions to have real parts after all." (p. 134)

137 I say "in the passage at hand"; as we saw in chapter 1 (sec. 1.2.4), Ockham does posit elsewhere (both in the earlier commentary on the Sentences, as well as in the later Summa Logica and Quodlibeta) that mental language has a sort of grammar; for instance, nouns in mental language can vary according to case and number, and verbs in mental language can vary according to number, tense, person, mood, and voice. But it must be pointed out that none of the grammatical categories that Ockham attributes to mental language could distinguish between the mental correlates of omne animal est album and omne album est animal. To solve this problem, Ockham would need to posit a grammatical marker that distinguishes the subject position of a mental sentence from the predicate position of that sentence. And this, so far as I can tell, he does not do.

138 This is a common tactic for Ockham. I should note that Panaccio reads this passage differently than I do; while I claim that Ockham presents two different accounts without accepting either, Panaccio claims that in this passage Ockham believes that both accounts are true, but considers the second to be an uncommon phenomenon that is "merely parasitic" upon the first (Panaccio 2004, p. 33). See below, sec. 2.4.1.3, for my response to this reading. Brower-Toland 2002 reads this passage as I do, taking Ockham to be presenting, but not choosing between, two different responses to the Unity of the Mental Sentence Objection, each of which she then analyzes in great detail (pp. 71-84).
that is a part of the mental sentence corresponds to ‘every animal’ and another act corresponds to ‘white’, but in the sentence in the mind corresponding to ‘every white [thing] is [an] animal’, one act corresponds to ‘every white [thing]’ and another corresponds to the term ‘animal’. And so there are not the same parts for the sentences in the mind EVERY ANIMAL IS WHITE and EVERY WHITE [THING] IS [AN] ANIMAL, because the act of understanding corresponding to ‘every white [thing]’ is distinguished from the act of understanding corresponding only to the term ‘white’.

Ockham's claim is that, contrary to one's first impression, the mental sentences corresponding to "every animal is white" and "every white is animal" might in fact have different parts. His reasoning is this: since the subject of the former sentence is 'every animal' and the subject of the latter is 'every white', if the entire subject is the proximate part of a mental sentence, then the two sentences would turn out to have different parts after all. For the former mental sentence would have as (proximate) parts <EVERY ANIMAL, IS, WHITE> and the latter would have <EVERY WHITE, IS, ANIMAL>, which are, so it is claimed, different collections of concepts. And this, so it seems, suffices to distinguish these two mental sentences.

Though Ockham apparently takes this reply to suffice (after giving this response, he simply states that "other cases would be answered similarly" and quickly moves on), there are several—quite obvious—problems with this reply. First, it's entirely unclear how the appeal to proximate parts answers the Unity of the Mental Sentence Objection. I take it that Ockham's position will be that these two sentences still have the same ultimate

139 "Aliter possit dici quod in propositione in mente correspondet unus actus intelligendi compositus ex signo universalis et termino communi, et ideo in propositione in mente correspondentem isti propositioni prolatae 'omne animal est album' correspondet unus actus tamquam pars propositionis isti toti 'omne animal' et alius actus isti 'album,' sed in propositione in mente correspondentem isti propositioni 'omne album est animal' correspondet unus actus isti toti 'omne album' et alius isti termino 'animal.' Et ita istarum propositionum in mente 'omne animal est album' et 'omne album est animal' non sunt eodem partes, quia actus intelligendi correspondens isti toti 'omne album' distinguitur ab actu intelligendi correspondentem praecise isti termino 'album.'" (InPeri, Prologue, ch. 6; OPh II, p. 356)
parts; that is, the concept EVERY WHITE is a complex representation, comprising the syncategorematic concept EVERY and the categorematic concept WHITE, and the same is true, mutatis mutandis, for EVERY ANIMAL.\textsuperscript{140} That is, the two mental sentences in this case really consist of the parts $<$EVERY, ANIMAL$>$, IS, WHITE$>$ and $<$EVERY, WHITE$>$, IS, ANIMAL$>$.

For the suggested solution to succeed then, it must be the case that, in general, x and y may have identical ultimate parts yet still differ solely in virtue of having different proximate parts. But this general principle is one that Ockham appears to deny elsewhere, for Ockham denies that a whole is anything over and above its parts and their ordering.\textsuperscript{141} Provided that we accept the objector's claim that there is no ordering in mental language, then it seems that Ockham can find no distinction between the collection $<$EVERY, ANIMAL$>$, IS, WHITE$>$ and the collection $<$EVERY, WHITE$>$, IS, ANIMAL$>$, for they possess the very same ultimate parts. Thus, Ockham cannot consistently endorse this solution, given his other commitments.

\textsuperscript{140} Given that this answer to the Unity of the Mental Sentence Objection is attempting to preserve syntactic complexity in mental language, it would be odd to suggest that EVERY ANIMAL is part of EVERY ANIMAL IS WHITE but that ANIMAL is not part of EVERY ANIMAL. It would also create difficulties in Ockham's account of concept acquisition: are ANIMAL and EVERY ANIMAL always (or at least usually) acquired in the same circumstances, or is it possible that someone can possess both EVERY and ANIMAL without thereby having the capacity to form EVERY ANIMAL? Anyhow, Panaccio understands Ockham here to be claiming that the two sentences have the same ultimate parts but differ in their proximate parts; see Panaccio 2004, p. 34.

\textsuperscript{141} See Cross 1999 and Normore 2006 for discussion. Ockham's denial that composition results in some further entity over and above the composing parts is usually mentioned in regards to a substance and its metaphysical parts (matter and substantial form) or a substance and its integral parts (the material parts into which it can be physical divided), but there is some evidence that he also takes this stance towards the parts making up an accidental form (such as a cognitive act, the very case at hand). See especially Ordinatio I, d.3, q.5, where Ockham argues that if the concept of a given species is composed from the concepts of the relevant difference and genus, then "the definition and the thing defined would not be distinct." For instance, since the whole is nothing over and above its parts, if the concept HUMAN is composed of the concepts RATIONAL and ANIMAL, then the concept HUMAN just is the very same concept as RATIONAL ANIMAL. (\textit{OTh} II, pp. 447-448)
Secondly, even if the proximate parts account were consistent with Ockham's metaphysical commitments, the solution doesn't generalize; there will still be distinctions that fail to be made among mental sentences. Consider the mental sentences corresponding to "every man is some animal" and "some animal is every man." On the proposed account, the two mental sentences would appear to have the same proximate parts (namely, <<EVERY MAN>, IS, <SOME ANIMAL>>), but they can (and indeed do) differ in truth value according to Ockham. Without some further way to indicate which part of the mental sentence is the subject and which the predicate, the proximate part solution fails.

2.4.1.2 The "Composed by Equivalence" Solution

So, Ockham's first response to the Unity of the Mental Sentence Objection is a non-starter: it's inconsistent with his own principles and it doesn't solve the problem in a way that is generalizable. Let's now turn to Ockham's second response to the objection. In this response, rather than explaining how the two example mental sentences are distinguished in virtue of having different (proximate) parts, Ockham simply denies

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142 In SL II.4 (OPh I, p. 266), Ockham says that 'some animal is every man' is true if and only if there is exactly one human being. This is true because 'some animal is every man', entails the very long disjunction 'either this animal is every man or that animal is every man or...', where every actual animal is picked out demonstratively. 'Every man is some animal', however, is true provided there are one or more human beings, for it entails 'This man is some animal and that man is some animal and...', where every actual human being is picked out demonstratively.

143 And if there were some way in mental language to "mark" the subject and predicate of a mental sentence, then the proximate part solution would be redundant; EVERY ANIMAL IS WHITE and EVERY WHITE IS ANIMAL could be distinguished by the fact that ANIMAL is marked as subject in the former but not the latter, and mutatis mutandis for WHITE.

144 I have no answer to the question why Ockham would provide such an unsatisfying reply to the objection, beyond noting that his unsatisfying reply further indicates Ockham's diffidence regarding mental syntax.
that mental sentences even have parts. First, let me return to a passage I quoted earlier, and extend the quote a bit further:

The second objection can be responded to in several ways. Here is one: (1) a sentence in the mind is one act of understanding composed from many acts of understanding, so that the sentence in the mind [A] HUMAN BEING IS [AN] ANIMAL is nothing other than an act by which all human beings are confusedly understood, an act by which all animals are confusedly understood, and one act corresponding to the copula. Alternatively, (2) it could be said that this mental sentence is one act equivalent to three such acts existing in the intellect at the same time, and so according to this way of speaking the mental sentence is not something really composed but is only composed by equivalence; that is, it is equivalent to this sort of composite.  

145 "Ad secundum potest dici multipliciter. Uno modo, quod propositio in mente est unum compositum ex multis actibus intelligendi, sicut haec propositio in mente 'homo est animal' non est aliud quam actus quo confuse intelliguntur omnes homines et actus quo intelliguntur confuse omnia animalia; et unus est actus qui correspondent copulae. Vel potest dici quod ista propositio est unus actus aequivalens talibus tribus actibus simul existentibus in intellectu, et tunc secundum istum modum dicendi propositio non est aequivalens tali composito." (InPeri, Prologue, sect. 6; OPh II, pp. 355-356)

The portion of the text following (1) is just what the first response to the objection presumes: Ockham's provisional claim that mental sentences are composite acts with concepts as parts. But while setting out that view, he simultaneously proposes an alternative understanding of mental sentences: (2) mental sentences are in fact simple, non-compositional acts, but they are somehow "equivalent" to some entity that really is composed from concepts. When responding to the Unity of the Mental Sentence objection, Ockham returns to this view, presenting it as a solution to that objection:

In response it can be said that a mental sentence could be an act of understanding equivalent to one whole sentence composed from really distinct acts of understanding, if the acts were to have the kind of order that the spoken words have. And then the mental sentences will be distinct insofar as their
corresponding sentences would be distinguished if the terms or parts of each were
ordered differently.\textsuperscript{146}

This passage is somewhat baffling at first (and, indeed, at second and third)
glance. In this reply, Ockham says that a mental sentence is one act of understanding that
is \textit{equivalent} to the acts that until now we have been calling the "parts" of the sentence\textsuperscript{147},
\textit{if} these other acts \textit{were} to have whatever might be the mental analogue of word order.

What does Ockham mean when he says that a mental sentence might be "one act"
that is "not something really composed, but is only composed by equivalence"? I take it
that what Ockham is trying to express here is that mental sentences might be syntactically
simple entities that are nonetheless semantically complex. That is, for his purposes it
could be that mental sentences don't have constituents in the ordinary sense—they aren't
composed out of \textit{anything}, let alone being composed from other entities with semantic
values, as syntactic complexity would demand—but nonetheless their semantic content is
propositional. But how might this go? Let me begin answering this question by offering
an alternative—and common—interpretation here, which I think is incorrect.

It has been alleged that what Ockham means by "composed by equivalence" is
that this sort of simple mental sentence will have a semantic value equivalent to the

\begin{quote}
\textls[-15]
\textsuperscript{146}"Ad istud potest dici quod proppositio potest esse actus intelligendi aequivalens toti uni
propositioni compositae ex realiter distinctis, si talem ordinem haberent qualem habent in voce. Et tunc
erunt propositiones distinctae secundum quod distinguerentur propositiones correspondentes si termini
reader may notice that the Latin literally reads "...equivalent to one whole sentence composed from really
distinct [things], if they were to have such order as they have in voice...", with no obvious noun supplied
for the adjectival phrase 'realiter distinctis'. But given that these "really distinct [things]" are items that
compose a sentence of some sort and that could—but do not actually—have something akin to spoken
word order, context leaves no possibility other than that 'realiter distinctis' refers to acts of understanding.

\textsuperscript{147}Namely, the act whose semantic content is the subject of the mental sentence, the act whose
semantic content is the predicate of the mental sentence, and the act whose semantic content is the copula.
semantic value of some collection of spoken and/or written sentences in conventional language. That is, mental sentences are called composite just in virtue of the fact that they have a semantic value which is ordinarily expressed in conventional languages by a compositional expression. Ockham does suggest this reading in the text at hand; he explains, for instance, that a single mental act can indeed have the same semantic content as a complex linguistic expression: "some single intention can naturally signify—and in the same way—what is signified by something composed from a categorematic and a syncategorematic spoken word." But further reflection on the passage indicates that Ockham might have something else in mind as well. Let's look more carefully at the precise way Ockham expresses the "equivalence" he has in mind. There are four instances where he precisely specifies the equivalence at hand; he says, in turn, that this kind of mental sentence is:

1. "one act equivalent to three such acts existing in the intellect at the same time"

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148 The claim that "composition by equivalence" means that the mental sentence is a simple equivalent to some composite spoken or written expression can be found in Brower-Toland 2002 (pp. 77-78); Panaccio 2003 (p. 33); and Spade 2002 (p. 126). As we will see in sec. 2.5.1, this is precisely the reason why Gregory of Rimini think mental sentences can rightly be called 'complex': "[mental sentences] are called composite or complex acts because they are equivalent in signifying to many spoken or written words composing in their own way a spoken or written sentence" (Lectura, Prologue, q. 1, art. 3; Rimini 1979, p. 35).

149 I say "ordinarily" because, as Buridan points out, this too is merely a linguistic convention. It would be perfectly possible to name sentences and go around expressing propositional content merely by uttering syntactically simple names: "the name 'Iliad' [could be] imposed in order to signify the same as the entire Trojan account" or "we can agree in a disputation that …by 'C' we understand the same thing as we do by 'A man runs', and so on. Then 'C' would then be a spoken sentence according to this attributive locution, since it would designate a mental sentence." (Summulae de Propositiones, 1.1.6).

150 "...immo, potest aliqua intentio unica naturaliter significare—et eodem modo—quod significat aliquod compositum ex voce categorematica et syncategorematica." (InPeri, Prologue, sec. 6; OPh II, p. 357, emphasis added)

151 "Vel potest dici quod ista propositio est unus actus aequivalens talibus tribus actibus simul existentibus in intellectu..." (InPeri, Prologue, sec. 6; OPh II, p. 356, emphasis added)
2. "an act of understanding equivalent to one whole sentence composed from really distinct acts of understanding, if the acts were to have the kind of order that the spoken words have"\textsuperscript{152}

3. "if someone were to affirm or deny that Socrates is Plato…there would be one intellection equivalent to the distinct intellections of Socrates and Plato, together with the intellection that is called the copula (as well as the intellection that is called the negation if the sentence were negative)"\textsuperscript{153}

4. "a certain [conceived sentence] is composed from a subject and predicate and copula and another [conceived sentence] is equivalent to this kind of composite"\textsuperscript{154}

So, when Ockham says that, on the second response, a mental sentence is "composed by equivalence," he principally intends that it is equivalent to some other mental entity or entities and not that it is equivalent to some composite expression of conventional language. But what mental entity is the mental sentence equivalent to? Here Ockham's intention is much less clear: does he mean to say that the mental sentence

\textsuperscript{152} "...potest dici quod propositio potest esse actus intelligendi aequivalens toti uni propositioni compositae ex realiter distinctis, si talem ordinem haberent qualem habent in voce." (InPeri, Prologue, sec. 6; OPh II, p. 356, emphasis added)

\textsuperscript{153} "Et ita, si aliquis affirmaret Sortem esse Platonem vel negaret...esset una intellectio aequivalens istis distinctis intellectionibus Sortis et Platonis et intellectioni quae copula vocatur, et etiam intellectioni quae vocatur negatio si sit propositio negativa." (InPeri, Prologue, sec. 6; OPh II, p. 357, emphasis added)

\textsuperscript{154} "Sed de propositione concepta, quae tantum est in mente, potest dici quod aliqua componitur ex tali subiecto et predicato et copula, et aliqua est aequivalens tali composito." (InPeri, Prologue, sec. 6; OPh II, p. 358, emphasis added)
is equivalent to the conjunction of three semantically simple\textsuperscript{155} mental entities (namely, the acts corresponding to the subject, the predicate, and the copula), as he suggests in the first and third quotations, or that it is equivalent to one semantically complex mental entity (namely, something that is or would be composed from the three semantically simple acts), as is suggested in the second and fourth quotations?

The key to answering this question, I believe, is in the second quotation in the list. Ockham says there that a mental sentence has the semantic value that a sentence composed from really distinct mental acts \textit{would} have, \textit{were} there something like word order in mental language. The account is thus ultimately a counterfactual one, as follows: Ockham denies that there is word order in mental language, but I take it that this is merely a contingent claim. If there were word order in mental language, then we would have an answer to the Unity of the Mental Sentence Objection; mental sentences would, in fact, be composite entities that really were syntactically complex. And the semantic value of such sentences would be a function of the semantic value of their parts. But in the actual world, where mental language lacks word order, what we actually possess are mental sentences that, though syntactically simple, have semantic values equivalent to these merely possible syntactically complex mental sentences.

Why then does Ockham also say here that such simple mental sentences are equivalent to three acts? Perhaps because the notion of a merely possible syntactically complex mental sentence is difficult to comprehend; alternatively, it may be because, in his mind, there isn't a significant difference between speaking of three acts or speaking of

\textsuperscript{155} In the limiting case. Ockham recognizes, of course, that the components of a sentence can be semantically complex entities; for instance, the subject of a sentence can itself be a complete sentence. I ignore this complication for ease of presentation; nothing of importance hangs on it.
the one thing (counterfactually!) composed from those acts. If there isn't a distinction to be made here, then Ockham's suggestion is that a mental sentence is a single mental act, but its semantic value is equivalent to the output of some function that takes as input the semantic value of these three (semantically) simpler mental acts. Furthermore, given this equivalence, it makes sense to speak—as Ockham does in so many other places, where the question of the mental sentence's syntactic complexity doesn't arise—of the simpler mental acts as "parts" of the mental sentence. Of course, these simpler acts don't literally enter into a composition relationship and thus aren't literally parts of the mental sentence, but this semantic equivalence warrants calling the individual acts the "parts" of the mental sentence. For example, since the mental sentence SOCRATES IS WISE is semantically equivalent to the output of some function that takes SOCRATES and WISE as input, we may rightly call SOCRATES the subject and WISE the predicate of the mental sentence and we may even go so far as to say that these concepts are parts of the sentence. But we can only do so provided that we keep in mind that this is merely a way of expressing the semantic relationship between these mental acts, and not any claim of the sober metaphysical truth; for on this view SOCRATES IS WISE only causally depends on SOCRATES and WISE, it does not include them as constituents.

156 Recall the discussion from the previous section on Ockham's general denial that a whole is something over and above its parts.

157 For an attempt to explicate the functional equivalence that exists between the mental sentence and the semantically simpler acts (albeit with Buridan's, rather than Ockham's, views as the primary subject of study) see Klima 2009, chapter 4.

2.4.1.3 Is Ockham Only Offering One Solution?

It is fair to say that Ockham's attempt to respond to the Unity of the Mental Sentence Objection is underwhelming at best. He provided two responses: first, that the relevant sentences might be distinguished by reference to a difference in proximate parts; and second, that mental sentences might turn out to be syntactically simple. As we have seen, the first of these responses fails to answer the objection, and the second depends on the dubious notion of having a semantic value fixed in virtue of a counterfactual entity. But, for our present purposes, there has been one important result from analyzing this passage: namely, that Ockham's apparent commitment to the syntactic complexity of mental language is just that: apparent. (Or, at the very least, Ockham sees it as such.) He concedes that he commonly talks as if mental sentences were syntactically complex entities, but when pressed on this very point, he retreats to a much weaker position, arguing that, though perhaps there is a way to save syntactic complexity (via the proximate parts solution), his projects require only that mental sentences be semantically complex.

Before moving on, however, I must note one piece of textual evidence against my case. I have argued here that Ockham proposes two different solutions to the Unity of the Mental Sentence Objection, one of which claims that mental language is only semantically, and not syntactically, complex. But a puzzling statement we have already seen that comes at the very end of the passage may cast doubt on my rendering of the entire passage; when summarizing the discussion, Ockham concludes,
But concerning a conceived sentence, which exists only in the mind, it can be said that a certain one is composed from a subject and predicate and copula and that another one is equivalent to this kind of composite.\textsuperscript{159}

This summary statement makes it sound as if, rather than presenting two different responses to the Unity of the Mental Sentence Objection, Ockham takes himself to have been presenting one response all along, one which depends on there being two different kinds of sentences in mental language, some of them simple and some of them composite. Panaccio seizes upon this statement in his own analysis of this passage:

It might seem at first glance that these two possibilities are exclusive alternatives for Ockham, among which he simply was not ready to choose when he wrote his commentary on the \textit{Perihermeneias} and his \textit{Questions on the Physics}. … [However, h]is point is that 'some mental propositions are composed of a subject, a predicate, and a copula, while \textit{some} are equivalent to such combinations'. … That mental propositions, for him, can \textit{sometimes} occur as simple acts within the mind is a handy – and fascinating – possibility, no doubt, but remains a merely parasitic device: we can form, so to say, unanalyzed abbreviative acts which, for some purposes, are functionally equivalent to more complex ones (in truth-conditions, for example), but the outreaching strength of human knowledge and reasoning – the possibility of a full-fledged science in particular – ultimately hangs upon this fundamental and remarkable capacity we have for combining mental acts into more complex ones in various ways.\textsuperscript{160}

As Panaccio reads it, Ockham means by his baffling conclusion that there are (or at least can be) two different kinds of mental sentences: \textit{one} kind which is both syntactically and semantically complex; and a \textit{second} kind that is syntactically simple but semantically complex, which receives its semantic value by virtue of somehow being

\begin{footnotesize}
\textsuperscript{159} "\textit{Sed de propositione concepta, quae tantum est in mente, potest dici quod aliqua componitur ex tali subiecto et praedicato et copula, et aliqua est aequivalens tali composito.}" (InPeri, Prologue, sec. 6; \textit{OPh} II, p. 358) A possible alternative rendering of this sentence would be, "But concerning a conceived sentence, which exists only in the mind, it can be said \textit{in some way} it is composed from a subject and predicate and copula and \textit{[said] in another way} that it is equivalent to such a composite." But I am told that the adverbial usage of '\textit{aliaqua}' is seldom found in Scholastic writings.

\textsuperscript{160} Panaccio 2004, p. 33.
\end{footnotesize}
associated with a mental sentence of the first kind. But this seems to result in an overpopulation of mental sentences; on this reading, Ockham posits that there are (or at least can be) two different mental entities with the very same semantic value, with no obvious theoretical benefit. It's difficult to see what purpose Ockham might have for positing this second class of mental sentences, and, indeed, neither Ockham nor Panaccio offer any hint at such a purpose.

The logic of the passage as a whole also tells against this reading: Ockham speaks throughout as though the two responses were distinct ways of answering the Unity of the Mental Sentence Objection (and indeed they are distinct answers: neither answer depends upon the truth of the other); it would be atypical for Ockham to present two possible solutions to a puzzle and then accept both answers. (Given Ockham's typical practice, one would expect him to instead comment on the plausibility of each answer and then leave it to the reader to decide.)

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161 I thank Richard Cross for bringing this difficulty to my attention.

162 Thus Ockham says the question whether a mental sentence is simple or composite "can be answered in several ways" [potest dici multipliciter], "one way" [uno modo] which posits that the mental sentence is composite and another [vel potest dici...] which takes it to be a simple act; similarly, the Unity of the Mental Sentence Objection "can be answered" [potest dici] by the simple act account or "it could be answered in another way" [aliter posset dici] by the proximate parts solution (OPh II, pp. 355-356.) Panaccio recognizes that Ockham presents the accounts this way: "Ockham's solution...amounts to renouncing linear ordering altogether within mental propositions. This, he thinks can be done in two ways." Of course, he follows this with the passage I quoted earlier: "It might seem at first glance that these two possibilities are exclusive alternatives for Ockham, among which he simply was not ready to choose..." (Panaccio 2004, p. 33).

163 As he does, for example, when discussing the ontological status of concepts in Ord. d. 2, q. 8 and throughout the Prologue to InPeri. A particularly vivid instance of this characteristic practice occurs in Ordinatio d. 8, q. 2 (OTh III, pp. 186-195): here, Ockham offers several possible answers to an objection concerning the adequacy of Aristotle's taxonomy of genera and species. He begins with the same standard opening we find in the present discussion ("this objection can be answered in many ways" (p. 188), and closes with a flourish: "I am not asserting, but rather merely reciting, all the replies given in this question...but which are true, false, absurd, or erroneous, I leave for others to argue." (p. 195)
2.4.2 Ockham on Syntactic Complexity in *Questions on Aristotle's Physics*

The *De interpretatione* commentary is not the only place where Ockham addresses the Unity of the Mental Sentence Objection; he also tackles it in his *Questions on Aristotle's Physics*. In this late work, Ockham responds to the Unity of the Mental Sentence Objection with the very same two possible responses that he gave in the *De interpretatione* commentary. I will not spend a great deal of time rehears ing the same points from the previous section; I only want to point out that additional time to reflect on the details of his theory of mental language apparently did not convince Ockham that syntactic complexity was an essential feature of his view.

In this late work, Ockham's presentation of the Unity of the Mental Sentence Objection is nearly identical to the presentation in the *De interpretatione* commentary:

> How are the sentences in the mind EVERY ANIMAL IS WHITE and EVERY WHITE [THING] IS [AN] ANIMAL distinguished, since in the mind they are not distinguished by a difference in order as when spoken (since the conjoining of the sign with one spoken utterance rather than with another clearly brings about a different sentence)? But this difference in order cannot be posited in the mind, because such acts in the mind exist at the same time in the same indivisible

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164 In contrast to the large secondary literature on the parallel text in the *De interpretatione* commentary, this text has received very little secondary attention. Given its similarity to the other text, however, this lacuna in the literature is a very minor one.

165 Contrary to some other authors, I concur with the editors of the critical edition of Ockham's works that the *Questions on Aristotle's Physics* must be among Ockham's later theological and philosophical writings, for it contains several explicit references to Ockham's *Quodlibeta*, which are unanimously dated at or near the end of Ockham's academic career. So, *Questions on Aristotle's Physics* must, at the very least, be contemporaneous with that other late work. See, among others, the reference to Quod. IV.35 in QuesPhys q. 1 (OPh VI, p. 398), to Quod. V.13 in QuesPhys q. 7 (OPh VI, p. 412), and to Quod. I.5 in QuesPhys q. 12 (OPh VI, p. 425). Furthermore, the doctrines of the *Questions on the Physics* are closer to those of the *Quodlibeta* than those of Ockham's earlier works. For more on this last point, see Leibold 2011, pp. 93-94, 102-103. (It must be noted that Leibold himself doubts the authenticity of both these works: see Leibold 1973 and Leibold 1982, along with the introduction to Ockham 1984 [OPh VI, pp. 36*-41*].)

166 Namely, 'every' (or *omne*).
subject, so that they cannot have this kind of difference of order, nor can the same act of understanding be composed with one act more than with another.\textsuperscript{167}

Also, in this work, Ockham presents the same two possible responses we looked at earlier. First, he says that one could answer the Unity of the Mental Sentence Objection by positing that mental sentences are semantically complex yet syntactically simple:

I respond first that a mental sentence can be one act of understanding equivalent to one whole mental sentence really composed from distinct acts of understanding, if they were to have the kind of order that they have in speech. Then there would be three\textsuperscript{168} distinct mental sentences, insofar as the sentences corresponding to them would be distinguished if their parts were to have such an order.\textsuperscript{169}

And he then says that the objection could also be answered by the proximate parts solution we examined in the previous section:

Alternatively, I say that in a sentence in the mind one act of understanding that is a part of the sentence in the mind corresponds to the whole composite 'every animal' and another to the term 'white'; but in the intellectual sentence corresponding to the spoken sentence 'every white [thing] is [an] animal,' one act corresponds to the whole composite 'every white [thing]' and another to the term

\textsuperscript{167} "Sed tunc est dubium: quomodo istae propositiones distinguantur in mente 'omne animal est album', 'omne album est animal', quia in mente non distinguantur propter diversum ordinem sicut in voce, quia etiam signum cum una voce prolata vel cum alia reddit manifeste propositionem diversam? Sed hoc non potest poni in mente, quia tales actus in mente simul sunt in eodem subjecto indivisibili, ideo non possunt habere talem ordinem diversum, nec potest idem actus intelligendi plus componi cum uno quam cum alio." \textit{(QuesPhys, q. 6; OPh VI, p. 409)}

\textsuperscript{168} I have no idea what the third mental sentence Ockham could be talking about here (in addition to EVERY ANIMAL IS WHITE and EVERY WHITE IS ANIMAL); context fails to provide any clue. The editors of the critical edition note that \textit{tres} is (perhaps rightly) omitted in one of the three manuscript copies of this work.

\textsuperscript{169} "Respondeo primo quod propositio potest esse unus actus intelligendi aequivalentes uni toti propositioni compositae realiter ex distinctis actibus intelligendi, si talem ordinem haberent qualitem habent in voce. Et tunc erunt tres propositiones distinctae secundum quod distinguenter propositiones sibi correspondenties, si talem ordinem haberent earum partes." \textit{(QuesPhys, q. 6; OPh VI, p. 409)}
'animal.' So, the sentences in the mind EVERY ANIMAL IS WHITE and EVERY WHITE [THING] IS [AN] ANIMAL do not have the same parts, because the act of understanding corresponding to the term 'every white [thing]' is distinct from the act of understanding corresponding only to the term 'white', and so it is for the conceived sentence.\textsuperscript{176}

So, despite the time that elapsed between the composition of these two works, Ockham did not change his mind; he gives the very same responses to the same objection as in the \textit{De interpretatione} commentary. Additional time to reflect on the details of his theory of mental language did not convince Ockham that syntactic complexity was an essential feature of his view; he still thinks that syntactic complexity is largely optional for the defender of the theory of mental language. And this is so despite the fact that he has spent the intervening time composing both \textit{Summa logicae} and \textit{Quodlibeta septem}, works where—as we saw above—Ockham freely speaks of the relationship between mental terms and mental sentences in terms of constituency. Thus Ockham's considered view seems to be that such talk is eliminable, being merely a \textit{façon de parler}.

2.5 Later Medieval Thinkers on Syntactic Complexity

At this point, we have a significant piece of evidence against the cognitive interpretation of Ockham's mental language. LOT is essentially syntactically complex, but syntactic complexity is an optional feature of mental language as Ockham sees it. But perhaps Ockham was wrong on this point; perhaps his theory is in fact committed to

\textsuperscript{176} "\textit{Aliter dico quod in propositione in mente correspondet unus actus intelligendi tamquam pars propositionis in mente isti toti composito 'omne animal' et alius isti termino 'album', sed in propositione intellectuali correspondente isti propositioni vocali 'omne album est animal' correspondet unus actus isti toti composito 'omne album' et alius isti termino 'animal', et tunc istae propositiones in mente 'omne animal est album' et 'omne album est animal' non habent easdem partes, quia actus intelligendi correspondens isti termino 'omne album' distinguuitur ab actu intelligendi correspondentem praecise isti termino 'album', et ita est de concepta propositione." (\textit{QuesPhys}, q. 6; \textit{OPh} VI, p. 409)
positing syntactic complexity and he just failed to recognize this. If so, then one would think that Ockham's later medieval successors, nearly all of whom adopted some sort of theory of mental language, would quickly recognize the need for syntactic complexity in their own theories, and thus would we would soon see a sort of consensus emerge regarding the necessity of syntactic complexity.\textsuperscript{171}

What we find, however, is quite the opposite. After Ockham, no such consensus emerged that syntactic complexity is a necessary feature of mental language; instead, this matter was hotly argued for centuries, with a number of illustrious thinkers lining up on both the pro-syntax and the anti-syntax sides.\textsuperscript{172} Telling the complete story of this debate would require at least an entire chapter of its own, which I will not provide here;\textsuperscript{173} instead, in the following few pages, I will present a snapshot of the debate that took place in the works of Walter Chatton and Gregory of Rimini.

2.5.1 Walter Chatton

Chatton was among Ockham's earliest critics, delivering his first commentary on Peter Lombard's \textit{Sentences} midway through Ockham's academic career. Though Chatton disagreed with his older confrere on a myriad of issues, he nearly always presents his

\textsuperscript{171} For the ubiquity of mental language in Scholasticism post-Ockham, see Normore 2009, pp. 293-294, 296-298; Panaccio 1999a, chapter 10, and Panaccio in-progress B. When talking of Ockham's "successors," it is important to recognize this as merely referring to medieval thinkers who came after Ockham and responded to him in various ways. Unlike followers of, say, Aquinas or Scotus, it's difficult to identify a significant number of later medieval thinkers who self-identify as being "Ockhamists" or belonging to any sort of Ockhamist tradition. See Courtenay 2008, chapter 18.

\textsuperscript{172} See Ashworth 1981; Ashworth 1982; Normore 2009, Spade 2002, pp. 113-137; and Panaccio in-progress, pp. 10-12.

\textsuperscript{173} Chapter 10 of Panaccio 1999a presents an abbreviated history of the reception of Ockham's theory that briefly touches upon the debate over syntactic complexity.
own view by positioning himself in relation to Ockham, and Ockham's late writings themselves display throughout the influence of Chatton's critiques.

Despite Chatton's penchant for disagreeing with Ockham, it appears that he found at least some elements of Ockham's account of mental language quite appealing. Though Chatton does not discuss such Ockhamist doctrines as the nature of mental grammar, he does agree with Ockham that concepts are cognitive acts, that concepts signify naturally whatever they signify, that concepts can come together to compose mental sentences, and that the concepts in a mental sentence have both signification and supposition. He also accepts Ockham's claim that angelic communication occurs by means of mental sentences.

However, unlike the hesitation Ockham shows regarding the reality of syntactic complexity in mental language, Chatton appears to take the composition language quite seriously. Chatton frequently makes claims such as that "a mental sentence is composed from cognitions" or that the concepts of heat and fire are parts of a certain mental

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174 The editors of the critical edition of the Prologue to Chatton's commentaries on the Sentences note that Chatton presents Ockham's view in twenty-eight of the thirty-three articles of that work. (Chatton 1989, p. 3) I suspect a careful analysis of Chatton's other works would display a similar proportion.

175 For just one example, compare Quod. I.14 (OTH IX, pp. 78-82) to Chatton's Prologus, q. 2, art. 5 (Chatton 1989, pp. 117-129). A comprehensive account of the interplay between Ockham and Chatton is still to be written, but there are a growing number of studies on their discussions of individual issues, including Brower-Toland forthcoming A, Brower-Toland forthcoming B, Fitzpatrick 1971, Karger 1995, and Keele 2007.

176 See, among others, Prologus q. 1, art. 1 (Chatton 1989, pp. 22, 25); q. 2, art. 6 (pp. 133, 140); q. 3, art. 5 (p. 214)

177 Chatton, Reportatio II, dist. 9-10, q. 1, art. 3 (Chatton 2002-5, v. 2, pp. 274-275).

178 "...dico quod immo propositio illa componitur ex cognitionibus..." (Prologus, q. 2, art. 6; Chatton 1989, p. 140)
sentence. Of course, Ockham says many of the same sort of things; and I have argued above that Ockham thinks such statements can be understood in such a way that they do not commit him to real syntactic complexity in mental language; but I take it that Chatton does intend to affirm constituency in mental sentences. To see why, recall that, for Ockham, the central worry for the defender of syntactic complexity is how to answer the Unity of the Mental Sentence Objection: i.e., how to distinguish two different mental sentences with exactly the same constituents, given the absence of any correlate for word order in mental language. As far as I am aware, Chatton never explicitly responds to this objection; however, his initial presentation of his account of mental sentences appears to constitute an implicit response to it:

I assume for now that a sentence in the mind is composed from intentions, just as a sentence in speech is composed from spoken words; … I also assume that, in the same order in which those spoken words which are the parts of the sentence in speech are set forth (one word successively after another), so in the same order and succession the intellect can form the corresponding concepts which make up the intellect's sentence.

Chatton's account denies the key assumption of the Unity of the Mental Sentence Objection, namely, that there is no correlate for word order in mental language. By doing so—by claiming that there is such a thing as word order among the parts of a mental sentence—Chatton sidesteps the objection and thus is free to posit real syntactic

\[179\] _Prologus_, q. 3, art. 5 (Chatton 1989, pp. 213-214).

\[180\] This is so despite the fact that he is quite familiar with Ockham's commentary on the _De interpretatione_, citing it a number of times in both the _Prologus_ and the _Lectura._

\[181\] "_Suppono pro nunc quod propositio in mente componatur ex intentionibus, sicut propositio in voce ex vocibus, sicut alias ostendetur. Suppono etiam quod eo ordine quo proferuntur in voce voces illae quae sunt partes propositionis in voce – una vox post aliam successive – quod eo ordine et successione potest intellectus formare suos conceptus correspondentes qui componunt suam propositionem._" (_Prologus_, q. 1, art. 1; Chatton 1989, p. 22)
complexity. On his view, mental sentences really do have parts, and the parts of a given mental sentence have an order in virtue of being produced sequentially; they are produced in *precisely* the same order that the parts of the spoken sentence subordinated to it are produced.

But despite this being the literal reading of the text in which Chatton initially posits mental sentences, this can't be an accurate representation of Chatton's view. He says that the parts of a given mental sentence are produced in the same order as the parts of the spoken sentence subordinated to it are produced; but, of course, there is no such thing as the spoken sentence subordinated to a given mental sentence. For any mental sentence, there will be a myriad of spoken sentences subordinated to it: synonymous sentences in different languages (such as "Socrates is white" and "Sortes est albus") as well as synonymous sentences in the same language (such as "Sortes est albus" and "albus est Sortes"). Since there is no necessity that all of these different spoken sentences will have their corresponding parts appear in the same order, one can't specify the ordering of a given mental sentence by appealing to the order of the sentences subordinated to it.

In order to maintain syntactic complexity in mental language in the face of the Unity of the Mental Sentence Objection, though, Chatton merely needs to affirm that there is some syntactic ordering of the parts, such that two sentences with exactly the same parts can differ in virtue of having those parts in a different order; whether that ordering mirrors Latin sentence structure, or English sentence structure, or the structure

\[\text{182 Indeed, there's not even any guarantee that all the synonymous spoken sentences will have corresponding parts—one language might require lengthy utterances with quite complex syntax to express what another language can say in just one or two words.}\]
of no conventional language at all, is ultimately irrelevant. Later in his *Sentences* commentary, he states his position this way, specifying that the parts of a mental sentence are always produced in the same order, namely in the order of subject, copula, predicate:

> It can be said that to be the predicate of a sentence in speech is to be a word uttered after the uttering of the word which is the subject and after the uttering of the copula; so to predicate something in a mental sentence composed from intellections is to form an intellection which follows an intellection functioning as the subject and the intellection which functions as the copula.

But now we are at an impasse: Ockham claims that there is no correlate for word order in mental language, providing only the barest reason for thinking so; Chatton claims there is some correlate for word order, but, so far as I can tell, provides absolutely no reason for thinking so. The generation of thinkers who follow Ockham and Chatton seem unable to advance the discussion past this impasse.

2.5.2 Gregory of Rimini

It is at precisely this point where the Parisian thinker, Gregory of Rimini, succeeds in advancing the debate. Gregory adopts a theory of mental language but

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183 "Aliter potest dici quod esse praedicatum propositionis in voce est vocem proferri post prolationem vocis quae subicitur et post prolationem copulae, ita praedicari in propositione composita ex intellectionibus est formare intellectionem quae sequitur intellectionem se tenentem a parte subjecti, et intellectionem quae se habet sicut copula." (Lectura I, d. 3, q. 1, a. 3; Chatton 2007-9, v. 2, p. 64)

184 The sole reason Ockham gave for denying a mental correlate to word order was that the component acts of a mental sentence "exist at the same time and in the same subject". See below for a possible gloss on this.

185 I have been unable to locate any significant discussion of this matter in, for instance, Wodeham's *Lectura secunda* or the *Logica* of Pseudo-Campsall, both of which are written approximately five to ten years after the relevant texts by Ockham and Chatton.

186 I have translated the entirety of the relevant text—a selection from the Prologue of Gregory's *Lectura super Sententiarum*—in Appendix C.
stridently denies anything resembling syntactic complexity; every mental act is equally simple ontologically. He begins his discussion of this matter by asking,

> Whether a mental assertion is essentially composed from some simple, partial cognitions, one of which is the subject and another the predicate, or whether it is an act not put together from such parts.\(^{187}\)

His answer to this question is, as I have indicated, that mental sentences are not composed out of other cognitions. He offers an extended argument for this position. Gregory begins his argument by presenting his own form of the Unity of the Mental Sentence Objection. He argues that if mental sentences were syntactically complex, having as parts simpler mental representations, then it would be impossible to distinguish two mental sentences having exactly the same constituents, such as EVERY WHITENESS IS [AN] ENTITY (which Gregory thinks is true) and EVERY ENTITY IS [A] WHITENESS (which Gregory takes to be necessarily false). His claim that the two sentences could not be distinguished depends on the following general principle about composition:

> For it is not intelligible that there be any two wholes such that (i) every part of one is similar to some part of the other (and conversely); and (ii) every way in which one is related to its whole or to the other parts of its whole, the other is similarly related to its whole and to the other parts of its whole; without it being the case that those wholes are similar and of the same kind.\(^{188}\)

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\(^{187}\) "...utrum ipsa enuntiatio mentalis sit essentialiter composita ex partialibus notitiis quibusdam simplicibus, quarum una sit subiectum et alia praedicatum, an vero sit actus non ex talibus partibus constitutus." (Lectura, Prologue, q. 1, art. 3; Rimini 1979, p. 33)

\(^{188}\) "Non enim est intelligibile quod sint aliqua duo tota, quorum quelibet pars unius similis sit alicui parti alterius et everso, et qualitircumque una se habeat ad sum totum vel ad alias compartes sui totius, taliter se habeat sibi similis in alio toto ad sum totum et suas compartes, quin illa tota sint similia et eiusdem rationis. (Lectura, Prologue, q. 1, art. 3; Rimini 1979, p. 33)
His claim here is that, in order for there to be two mental sentences of distinct types, it must be the case that either (i) the two sentences differ with respect to some part or (ii) they differ with respect to the relations among their parts. Given that we're trying to differentiate two sentences that have exactly the same parts, obviously they won't differ in virtue of (i). But what about (ii)? So long as Chatton and other defenders of syntactic complexity insist that there is word order in mental language, it seems they can point to a difference in the relationship among the parts of the two sentences.

Seeing this move\textsuperscript{189}, Gregory offers several reasons to think that there can't be a mental correlate to word order. He first offers much the same reason that Ockham gave twenty years before:

Why will one part be the subject or the predicate rather than the other? Surely it does not seem possible to assign a cause, since both exist in the same subject primarily and are equally apt to be the subject or the predicate (supposing that both are so apt).\textsuperscript{190}

What is original to Gregory here is a move that seems designed to block the possible "grammatical inflection" solution I alluded to previously; since, Gregory claims, the concept WHITE seems just as suited to be the subject of a mental sentence as the

\textsuperscript{189} Gregory reproduces here exactly the position we saw Chatton take (though the editors of the critical edition do not note that reference here): "Perhaps it will be said in response that...because of a difference in the order of their production, diverse sentences result...the part of a sentence produced first is the subject, the part which is produced later is the predicate." ("Forte dicitur ad ista quod...propter ordinem tamen diversum productionis earum diversae propositiones resultant...propositionis pars prius producta est subiectum, posterius vero producta est praedicatum." Lectura, Prologue, q. 1, art. 3; Rimini 1979, p. 3)

\textsuperscript{190} "Praeterea, cur una pars erit subiectum vel praedicatum potius quam alia vel econverso? Certe non videtur posse assignari causa, cum sint in eodem subieicto primo et aequaliter natae sint subici et praedicari, supposito quod sint." (Lectura, Prologue, q. 1, art. 3; Rimini 1979, p. 34). Note the similarity to Ockham's initial statement of the Unity of the Mental Sentence Objection, where he claimed that "...acts of understanding in the mind—since they exist at the same time and in the same subject (that is, in the intellect)—cannot have such a difference of order..." (\textit{InPeri}, Prologue, section 6 [\textit{OPh} II, p. 356], quoted above in full in section 2.4.1.)
predicate of such a sentence, it's not the case that there's some unique way of tokening WHITE such that it can only function as a subject and not as a predicate. So there can't be a mental analogue of grammatical inflection which will serve to solve the Unity of the Mental Sentence objection.\(^\text{191}\)

Gregory also offers some additional reasons to think such order is impossible. First, he simply claims that, given our other intellectual abilities, it "would be quite remarkable if one whole sentence could not be produced all at once."\(^\text{192}\) On the face of it, it's hard to see why Chatton should accept this claim; it seems difficult to decide, either via introspection or any other method, whether our mental sentences are produced in an instant or over a very short interval. But Gregory continues on: noting that all his interlocutors agree that mental language is meant to play a similar role in angelic thought and communication that it plays in ours, he points out that angelic thoughts aren't thought to be produced over an interval of time. So, he concludes, Chatton's proposed solution of making the first part of the mental sentence produced the subject won't work; since, in the angelic case, all the parts of the sentence are produced simultaneously, the Unity of the Mental Sentence objection remains in the case of angelic cognition.\(^\text{193}\)

Gregory ends his discussion by clarifying his terminology. Even though he—along with most of the other Scholastics—use the terms 'composite' or 'complex' when they talk of mental sentences, these terms should not be taken to entail any real composition in mental language, he insists. At least for him, mental sentences are not

\(^{191}\) That is to say, Gregory is arguing against the possibility that I was raising in nn. 135-53.

\(^{192}\) "…valde mirum erit, si simul totum unam propositionem producere non poterit." (Lectura, Prologue, q. 1, art. 3; Rimini 1979, p. 34.)

\(^{193}\) Lectura, Prologue, q. 1, art. 3; Rimini 1979, p. 34.
called "composite" or "complex" because they have syntactic parts, rather "[they are called composite] because they are equivalent in signifying to many spoken or written words composing in their own way a spoken or written sentence"\textsuperscript{194}, i.e., they're called composite because they're \textit{semantically}, rather than \textit{syntactically}, complex.

2.6 Conclusion

After Gregory, it became increasingly common for Scholastic accounts of mental language to deny that mental sentences were syntactically complex.\textsuperscript{195} This seems difficult to reconcile with the claim that syntactic complexity just is an essential feature of mental language. Perhaps Ockham and many of his successors failed to recognize an essential feature of their own view. Perhaps. But in the following chapter I will offer additional reasons to think that Ockham—at least in his theory of mental language—was simply not engaged in the sort of project that the cognitive interpretation attributes to him.

\textsuperscript{194} "...\textit{non dicuntur actus compositi vel complexi in vero sensu, quia sint compositi essentialiter ex talibus notitiis partialibus distinctis...sed quia aequivalent in significando pluribus vocibus vel scripturus propositionem vocalem vel scriptam suo modo componentibus...}" (\textit{Lectura}, Prologue, q. 1, art. 3; Rimini 1979, p. 35)

\textsuperscript{195} See Ashworth 1981; Ashworth 1982; Meier-Oeser 2004; Normore 2009, pp. 302-303; and Panaccio in-progress B.
3.1 Introduction

In the previous chapter, I offered reasons to think that Ockham's mental language is not in fact an analogue of the contemporary Language of Thought Hypothesis (hereafter LOT); I argued there that one essential element of LOT is that (at least some) mental representations are syntactically complex, but that this is a feature that Ockham and at least some of his successors are reluctant to attribute to mental representations. In this chapter, I will discuss the degree to which Ockham's mental language does instantiate the other essential element of LOT, namely, what is known as the Representational Theory of Mind. As we will see, Ockham does believe that items in mental language (both mental sentences and sub-sentential mental terms) underlie all cognition and serve to provide the content for their respective operations; but we will also see that this seems to be a secondary consideration for Ockham. For while in this regard his mental language looks to play an important role in his cognitive psychology, Ockham ultimately only brings his theory of mental language to bear on questions of cognitive psychology in rare and unusual contexts; indeed, in the very passages one would expect him to make this connection most forcefully, he seems to defer.
3.2 The Representational Theory of Mind

In the last chapter, I discussed one essential feature of LOT, the feature which Fodor himself sometimes says is the essential feature of LOT, namely, the claim that thought has a syntactic structure; or, more precisely that mental representations have a combinatorial syntax. But, despite what Fodor sometimes says, LOT is more than just a claim about the structure of mental representations; it also includes a claim about the way in which mental representations figure into the analysis of cognition. Specifically, LOT affirms what I will call the Representational Theory of Mind (hereafter RTM):[196]

For any organism $O$, and any attitude $A$ toward the proposition $P$, there is a ('computational' / 'functional') relation $R$ and a mental representation $MP$ such that
- $MP$ means that $P$, and
- $O$ has $A$ iff $O$ bears $R$ to $MP$. [197]

The claim here is that mental representations play a very specific role in cognition (in particular, in the holding of proposition attitudes): a cognizer can hold a particular propositional attitude only if they are appropriately related to a mental representation that has that proposition as its content. So, Sally can only believe *the moon is made of green cheese* if she possesses a mental representation that means THE MOON IS MADE OF GREEN CHEESE and bears the 'belief relation' to that representation; similarly, she can only hope that *the cafeteria will serve pasta tonight* if she bears the 'hope relation' to a

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[196] My terminology here differs somewhat from Aydede 2010 and Fodor 1987, each of which identify the quoted claim as merely a proper part of what they call the Representational Theory of Mind. The additional claim that Aydede and Fodor say is also necessary for RTM is that "mental processes are causal sequences of tokenings of mental representations." (Fodor 1987, p. 17) I ignore this additional condition here, as nothing I have to say hangs on it.

mental representation meaning THE CAFETERIA WILL SERVE PASTA TONIGHT.\textsuperscript{198}

Furthermore, the mental representation is what \textit{provides} the content for the belief; Sally believes what she does \textit{because} the mental representation in her belief box has the content it does.\textsuperscript{199}

Now, does Ockham hold RTM as it is exposited above? I take it that he does (with, perhaps, minor qualifications), but to show this I will need to say a bit about his account of cognition and his views on the propositional attitudes.

3.3 Ockham's Cognitive Psychology

Ockham demonstrates a clear interest in cognitive psychology throughout his works. Particularly in his commentary on the \textit{Sentences}, but also in his \textit{Quodlibetal Questions} as well as in scattered places in his logical and scientific works, Ockham devotes a great deal of energy to laying out how, in his view, we acquire mental content from the world around us. Much of this enterprise flows from Ockham's commitments to both nominalism and a broadly Aristotelian picture of the world: if all that exists (other than God) are particular substances and particular qualities, how then do we as cognizers come to mentally group these particulars into the genera and species of the classic Porphyrean tree?\textsuperscript{200} The core of Ockham's answer to this question lies in a series of

\textsuperscript{198} The specifics of the functional relations for the various attitudes are often left unanalyzed; indeed, following a convention introduced by Schiffer 1981, people usually just speak of a representation being, e.g., "in the belief box" or "in the hope box."

\textsuperscript{199} "[The Representational Theory of the Mind] explains the intentionality of [intentional mental states] in terms of the semantic properties of [mental representations]." (Pitt 2008)

\textsuperscript{200} There's also the further question of how we do this \textit{correctly}, as Ockham thinks there is a fact of the matter regarding which species and genera a given particular belongs to.
distinctions he makes: between complex and non-complex cognition; between apprehension and judgment, and between intuitive cognition and abstractive cognition. I will treat each of these three distinctions in turn.²⁰¹

3.3.1 Complex vs. Non-Complex Cognition and Apprehension vs. Judgment

The first two distinctions Ockham makes ought to be familiar even to a contemporary audience; as such, they can be treated relatively quickly. First, Ockham believes that there is a fundamental difference between propositional thought and non-propositional thought; he expresses this as a difference between complex [complexus] and non-complex [incomplexus] thought.²⁰² Thus, it is possible to think that the moon is made of green cheese; but it is also possible to simply think about the moon or about green cheese.

Furthermore, Ockham thinks, there is difference between the mind's operations of apprehension and judgment (or to use Ockham's own language, between apprehensive acts and judicative acts); it is one thing to simply consider some mental content, but another thing altogether to judge that mental content to be true or false.²⁰³ Furthermore,

²⁰¹ My presentation will largely follow Ockham's presentation in question 1 of the Prologue to the Ordinatio (OTh I, pp. 3-75), supplemented by other passages as necessary.

²⁰² "We can apprehend not only non-complexes, but also sentences, arguments, impossible statements, necessary truths, and, in general, everything that is under the gaze of the intellective power." ("quia apprehendimus non tantum incomplexa sed etiam propositiones et demonstrationes et impossibilia et necessaria et universaliter omnia quae respiciuntur a potentia intellectiva." Ord., Prologue, q. 1, art. 1; OTh I, p. 16)

²⁰³ "The first of these are apprehensive acts, and ranges over anything [est respectu cuiuslibet] that can terminate an act of the intellective power, either complex or simple; because we apprehend not only simples but also propositions, demonstrations, impossible things, necessary things, and, in general, everything that can be considered by the intellective power. The other [kind] of act can be called 'judicative'; it is by such an act that the intellect not only apprehends an object but also either assents or dissents to it. And this act only ranges over complexes, because we assent to nothing by means of the
while there can be both complex apprehension and non-complex apprehension, all judgment belongs to the category of complex thought; there's no such thing as judging the moon to be true or green cheese to be false. Finally, I should note that judgment is a broad category of intellectual acts; within it Ockham includes such diverse propositional attitudes as belief, knowledge, doubt, faith, and more; but it is narrower than our typically contemporary list of propositional attitudes, since for Ockham attitudes such as hoping that and desiring that are acts of the will, rather than the intellect.

Now, when it comes to judgments and acts of complex apprehension, Ockham's views undergo an important change during his philosophical career. In his earliest works, Ockham claims that apprehensive acts and judicative acts have mental sentences for their objects: such acts are directed at mental sentences, and the apprehensive or judicative act has the content it does in virtue of the content of the mental sentence it is directed at. (Note: The sense of 'object' I use here should be relatively clear from context; but to be precise, when I say that a given entity is the object of a intellect unless we repute that the thing is true; nor do we dissent unless we assess that the thing is false."

(Ord., Prologue, q. 1, art. 1; OTh I, p. 16)

"One act of the intellect is apprehensive, and with respect to it anything can terminate this act of the intellective power, whether it is complex or non-complex; ... Another act [of the intellect] can be called judicative, by which the intellect not only apprehends an object but also assents or dissents to it. And this act is only of complexes..." ("unus est apprehensivus, et est respectu cuiuslibet quod potest terminare actum potentiae intellectivae, sive sit complexum sive incomplexum; ... Alius actus potest dicit judicativus, quo intellectus non tantum apprehendit objectum sed etiam illi assentit vel dissentit. Et iste actus est tantum respectu complexi..." Ord., Prol., q. 1, art. 1; OTh I, p. 16) Contrary to what this quote seems to suggest, Ockham makes clear elsewhere that an act of judgment isn't also an apprehension of its object; rather, whenever someone judges a particular complex to be true, there simultaneously exists one act by which the complex is apprehended and a second act by which it is judged to be true. See especially Quod. V.6 (OTh IX, pp. 500-503), but also Quod III.8 and IV.16 (OTh IX, pp. 232-237, 376-380).

See, for instance, Quod. III.9 (OTh IX, pp. 238-239).

For an extended discussion of this change, see Brower-Toland 2007; what I say here owes much to her exposition.

In these early works, mental sentences are a kind of ficta, a merely intentional object.
propositional attitude, I mean that the entity in question is what the attitude is directed at, that which gives it its content, what we might say the attitude is about. 208) Thus, my judgment that the sky is blue is directed at the mental sentence THE SKY IS BLUE. Likewise, when I consider whether Goldbach's conjecture is true, my consideration is directed at a particular mental sentence 209 from which my apprehensive act derives its content.

Given this analysis of apprehension and judgment, Ockham appears to accept RTM in these earliest works; he thinks that propositional attitude states consists in a relation between a cognizer and a mental sentence, and the propositional attitude gets its content from the content of the mental sentence.

But Ockham's views about apprehension, in particular, change markedly over the course of his career. He maintains throughout that the object of a complex apprehension is a mental sentence; however, his account of what mental sentences are changes drastically. Early on, when he held the ficta-view of concepts, Ockham believed that the relata of a complex apprehension was a construction of the intellect distinct from the apprehensive act, a purely mental object that does not exist outside the mind, but has "only objective being." 210 Thus, when Sally considers Goldbach's Conjecture, there are three entities which figure into (the early) Ockham's analysis: Sally herself, the

208 One might wonder whether these notions can possibly come apart; see below.

209 Namely, the mental sentence EVERY EVEN INTEGER GREATER THAN TWO IS THE SUM OF TWO PRIMES.

210 Thus, for instance, InPeri, Prologue, sec. 10: "Mental sentences and syllogisms . . . are nothing other than ficta in the soul, having only objective being (that is, only being cognized), really existing nowhere; they can be called 'ficta' because they are not real beings." ("propositiones et syllogismi...non sunt nisi quaedam ficta in anima habentia tantum esse objectivum, hoc est esse cognitum, nulli existentia realiter; quae ficta vocari possunt pro quanto non sunt entia realia." OPh II, p. 370)
apprehensive act (which is a member of the genus Quality, inhering in Sally), and the mental sentence with Goldbach's Conjecture as its content (and the mental sentence is a mere mental object, having no existence beyond its being thought).

But when Ockham abandons the ficta-view for the actus-view, he also changes his mind regarding complex apprehension; according to his mature position, there is no additional mental item beyond the apprehension itself for the apprehension to be related to; thus, if we ask what object the apprehensive act is directed to, Ockham's answer is that it is directed at nothing. 211 That is, a complex apprehension has no object from which it derives its content; the act has its content intrinsically. Stated another way, a complex apprehensive act just is the mental sentence which is the content of that act; to put it somewhat paradoxically, an act of considering a given content is identical with the content being considered. 212

While Ockham's account of apprehension changes, his account of judgment does not much change. 213 In his later works, Ockham still holds that a judgment is directed at an object other than itself; when Sally believes that the sky is blue, her judicative act is directed at the mental sentence THE SKY IS BLUE, and it is from this sentence that her

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211 "According to [the actus-]view it should not be conceded, properly speaking, that a mental sentence is understood in that [ita quod] it terminates an act of understanding." (InPeri, Prologue, sec. 12; OPh II, p. 375)

212 Of course, on a view where the content of a propositional thought is an abstract object, the claim that the thought's content is identical to the thought is simply absurd. But Ockham is a thoroughgoing nominalist on this point: the contents of thoughts just are some kind of ordinary particular or other; in the case of complex apprehension, the content just is the ordinary particular which is the apprehensive act. For more on this shift in Ockham's thought, see Quod. V.8 (OTh IX, pp. 500-503), as well as Brower-Toland 2007b.

213 Here I depart from Brower-Toland's analysis; she sees a similarly marked change in Ockham's account of judgment, where he ultimately accepts a "no-object" view of judgment for all but reflexive judicative acts. See her 2007b, section 3.
judgment derives its content. What has changed is the ontology of the mental sentence to which the judicative act is directed; while on the ficta-account the mental sentence was a purely mental construction, existing only as a thought-object, on the actus-account the mental sentence which the judicative act has for an object just is a certain act of apprehension. And this act of apprehension is for Ockham a fully-fledged entity in its own right, a member of the category of Quality inhering in Sally. So, again, Ockham here seems to accept RTM; a given propositional attitude has its content in virtue of being directed at a mental sentence with that content.

What Ockham does insist in his latest works, though, is that this analysis of apprehensive and judicative acts are not to be understood as general claims about cognition; rather, this analysis only holds for the scientist: 214

I claim that there are two kinds of assenting, as well as two kinds of knowing: one kind by which something is known to be such or to not be such…and another kind by which some [mental sentence] is known, so that the act of knowing is related to [the mental sentence]. 215

Thus Ockham seems to recognize two different kinds of judicative acts, one that does not have a mental sentence for its object, and one that does. He attributes the first kind of propositional attitude state – the one that does not consist in being related to a mental sentence – to "the layman," whereas the latter state is the one "commonly spoken

214 I believe that Ockham is here merely clarifying a view he has held all along; that is, that his claims about the objects of judicative acts in his early works are meant to be an analysis of scientific knowledge, not of cognition generally. But I know of no evidence supporting or refuting this reading. Brower-Toland 2007b, conversely, thinks that this quotation from Quodlibeta septem represents a marked, but little noted, change in Ockham's account of judgment.

215 Quod. III.8 (OTh IX, p. 233). In the quoted passage, Ockham only says that "something," rather than a mental sentence, is known by the second kind of knowing; but the rest of the passage makes clear that the thing in question is a mental sentence.
of by philosophers," particularly when talking about Aristotelian science. Although Ockham does think that mental sentences have some causal role to play even in the first kind of propositional attitude state (he claims that the layman's belief is "by means of" a mental sentence), they have a much larger role in the second kind of propositional attitude state. I take it that what Ockham is doing here is teasing apart the several different conceptions of 'object' that I mentioned earlier; whereas the propositional attitudes of philosophers and scientists are directed at mental sentences (for the philosopher qua philosopher is, say, analyzing arguments and contemplating whether the sentence that is the conclusion follows from the sentences that are the premises), the propositional attitudes in ordinary life still derive their content from mental sentences, but these sentences only exist in the background, so to speak; they are never the explicit focus of one's attention, but instead operate largely subconsciously.

As with his accounts of complex apprehension and judgment, Ockham's account of noncomplex apprehension also changes throughout his career. But to explain this change, we must first understand that Ockham recognizes two distinct kinds of noncomplex apprehension: noncomplex intuitive cognition and noncomplex abstractive cognition. So it is to this distinction that I now turn.

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216 "When a ordinary person knows that a rock is not a donkey, he is not thinking about a mental sentence at all, and, as a result he is not assenting to a mental sentence. … But speaking about the second sort of act of knowing or assenting, I claim that such an act is properly a complex act that has a complex sign as its object. … And it is this act that philosophers commonly speak of." (Quod. III.8; OTh IX, pp. 233-234)
3.3.2 Intuitive and Abstractive Cognition

Ockham's account of intuitive and abstractive cognition appears to be among his most long-held philosophical doctrines; the account appears, fully-formed, in Ockham's earliest writings and undergoes relatively little change over the course of his career. In brief, the account goes as follows: there are two different kinds of ways in which a human cognizer can intellectually consider some ordinary particular object, either intuitively or abstractively. Some particular object \( O \) is cognized intuitively if and only if, as a result of that noncomplex cognition, the intellect naturally and immediately forms some contingently true sentence about \( O \) – such as that \( O \) exists, \( O \) (contingently) has property \( P \), \( O \) is to the left of some other object \( O_2 \), etc. – and assents to this sentence.

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217 Ockham's theory of intuitive and abstractive cognition has been heavily discussed in the secondary literature. For just a sliver of this discussion, see Boehner 1943; Day 1947; Adams 1987, chs. 13-14; Tachau 1988, pp. 123-130; Karger 1999; Stump 1999; Panaccio 2004, pp. 5-15; Brower-Toland 2007a; Panaccio forthcoming; and Panaccio in-progress A. There are, as I see it, only two major changes that Ockham makes to this account; the first regards the objects of abstractive cognitions, which is yet another part of the transition from the ficta account to the actus account; the other regards the question of what causal process brings it about that a created cognizer having an (miraculously-produced) intuitive cognition of a non-existent particular automatically forms the belief that that particular does not exist.

Ockham did not, of course, simply invent the theory out of whole cloth; distinguishing between intuitive and abstractive cognitions dates back at least to Scotus. For more, see Dumont 1989.

218 This presentation is largely due to Ockham's presentation in question 1 of the Prologue to the Ordinatio (OTh I, pp. 16-47). Ockham also explicates this doctrine in Rep. II, qq. 12-13 (OTh V, pp. 256-267), Quod. I, qq. 13-15, and Quod. V, q. 5 (OTh IX, pp. 72-86, 495-500)

219 The account also holds for angelic cognizers, but with notable complications that I do not wish to consider here. See Rep. II, qq. 12-14, 16 (OTh V, pp. 251-337, 359-381) for more on specifically angelic intuitive and abstractive cognition.

220 "Intuitive cognition of a thing is such that by virtue of it one can know whether a thing exists or not, so that if it does exist, the intellect immediately judges that it exists and evidently cognizes that it exists … Similarly, intuitive cognition is such that when some things are cognized, one of which inheres in the other, or one is a different place than the other, or one is related in some other way to the other, immediately by virtue of the noncomplex cognition of these things it is known if the thing inheres or does not inher [in the other], if the thing is nearby [to the other] or not, and so on for other contingent truths. … For example, if Socrates is in truth white, the cognition of Socrates and whiteness in virtue of which it can be evidently cognized that Socrates is white is called an intuitive cognition." ("notitia intuitiva rei est talis notitia virtute cuius potest scrii utrum res sit vel non, ita quod si res sit, statim intellectus iudicat eam esse et evidentern cognoscit eam esse … Similiter, notitia intuitiva est talis quod quando aliquae res
Ockham takes it that intuitive cognition is ordinarily the result of human sensory perception under ordinary conditions; so, when Sally stands in front of a white table and visually perceives the color of the table, she will naturally intellectually intuitively cognize both the table and the table's color, and she will then, in virtue of that intuitive cognition, truly judge that the table is white.\textsuperscript{221}

Ockham goes on to label as \textit{abstractive cognitions} all noncomplex apprehensive cognitions of ordinary particular objects which are not intuitive cognitions. Thus, by definition, abstractive cognitions are all those which do \textit{not} naturally lead to the formation of true contingent judgments concerning the cognized object.\textsuperscript{222} This is not to say that abstractive cognitions lead to false judgments; rather, they seem not to lead to any (contingent) judgments at all. So, if Sally abstractively cognizes the moon, she may...
in virtue of that cognition form a number of true judgments about its essential properties (e.g., that it is a planetary satellite) or its counterfactual properties (e.g., that were it in this part of its orbit when the sun and earth were located so, it would be eclipsed to an observer on Earth), but she will not in virtue of that cognition form any true judgments about its contingent properties (e.g., that it presently waxing, or even that it still exists).

Furthermore, an abstractive cognition is ordinarily partially caused by an intuitive cognition (or, more specifically by the memory of an intuitive cognition); Sally can abstractively cognize the moon only because she has, at some point in the past, intuitively cognized the moon, and the memory of that intuitive cognition\textsuperscript{223} will be a partial cause of any abstractive cognition she has of the moon in the future. Thus, Ockham says, ordinarily one can only abstractively cognize a particular object if one has previously intuitively cognized that particular.

Now, when Ockham is speaking strictly, it seems that there can only be abstractive cognition of those objects of which there can be intuitive cognition; in other words, there can only be abstractive cognition of ordinary particular objects.\textsuperscript{224} But he is at least willing to countenance a looser sense of the term, in which all noncomplex apprehensions which are not intuitive are instead abstractive. Thus any thoughts which have general, non-particular content will be classified abstractive.\textsuperscript{225} Now, what are the

\textsuperscript{223} Or, even more precisely, the cognitive habit [habitus] or disposition left in the memory after the occurrence of the intuitive cognition.

\textsuperscript{224} Karger 1999, pp. 206-207, also emphasizes this point.

\textsuperscript{225} "Abstractive cognition can be understood in two ways; in one way ... abstractive cognition is nothing other than the cognition of some universal abstractable from many things." ("notitia abstractiva potest accipi dupliciter: uno modo quia est respectu alicuius abstracti a multis singularibus; et sic cognitio abstractiva non est aliud quam cognitio alicuius universalis abstractibilis a multis..." Ord., Prologue., q. 1, art. 1; OTh I, p. 30).
objects of these general, non-particular abstractive cognitions? Here again, Ockham changed his mind: though he always refers to the objects of such cognitions as *concepts*, in his earliest works, he affirms that concepts are *ficta*, creations of the intellect having merely objective being, which nonetheless manage to resemble and represent all the particulars to which that concept applies; in his mature works, however, Ockham claims that concepts just are the abstractive acts themselves, so that the content of a (general) abstractive cognition is nothing in addition to the cognition itself.

3.3.3 Cognition and Mental Language

These distinctions, then, form the core of Ockham's account of cognition: ordinary (noncomplex) particulars can be cognized either intuitively or abstractively, and there can also be a sort of abstractive cognition of (noncomplex) non-particular content; these noncomplex cognitions then lead to apprehending and judging the truth of (complex) propositional contents. But where does mental language fit into all this? We mentioned that mental sentences are the objects of apprehensive and judicative acts, but beyond that little has been said regarding mental language; surely not enough to justify the attention that Ockham pays to mental language throughout his philosophical and theological corpus.

According to Panaccio, the reason that mental language has so far barely made an appearance is that Ockham really provided *two distinct* accounts of cognition, each account utilizing a wholly distinct set of technical terms:

On the matter of concepts, Ockham, it is striking, has two distinct terminologies. On the one hand, he regularly resorts to the vocabulary of *cognitio* or *notitia*…On
the other hand, he [utilizes] the idea that conceptual thought is a sort of inner
discourse, an oratio mentalis… 226

Now, if both the theory of cognition we've been exploring and the theory of
mental language are accounts of the mechanisms of cognition, one would expect that
there is a clear and straightforward story to tell about Ockham's "two distinct
terminologies." Either (i) they are part of a single analysis of cognition, in which case
Ockham owes us some story about how these two distinct vocabularies fit into that single
analysis; or (ii) they are two distinct analyses which describe different features or
different kinds of instances of cognition, in which case Ockham must make clear which
analysis applies in which cases; or, (iii) they are two distinct analyses of the same
features or instances of cognition, in which case some story must be told about the
relationship between these two analyses (e.g., Did Ockham abandon one view for the
other? Do they describe cognition at different levels of explanation? Etc.)

Panaccio posits that mental language links into the broader account of cognition
primarily at the level of intuitive and abstractive cognition: he claims that, on Ockham's
mature view, simple intuitive cognitions are the singular terms of mental language, while
simple abstractive cognitions are the general terms of mental language. 227 Thus,

226 Panaccio 2004, p. 5.
227 I say "on Ockham's mature view," since Ockham's early ficta-account of mental representations
muddies the picture considerably. In addition, this is somewhat an over-simplification of Panaccio's
picture, but not, I think, in a way that should concern us here; Panaccio actually posits a third category of
"mixed" cognitions, which supply mental language with singular terms like "this man" and "that dog." Thus
Panaccio: "The Ockhamistic mapping of semantics into epistemology thus yields the following
results: (1) All simple abstractive acts are general terms in the mental language; this is precisely what a
universal amounts to. (2) Intellectual intuitive acts are singular terms in the mental language; they can be
subjects or predicates of mental propositions, and they can, as such, supposit for their objects. (3) There
are mixed cognitions, composed of at least one intuitive act and one abstractive act; they are complex
singular terms in the mental language." (Panaccio 2004, pp. 15-16) It's worth noting that, so far as I can
tell, Ockham no where even mentions the possibility of a 'mixed' cognition of this kind.
according to Panaccio, the theory of intuitive and abstractive cognition provides the atomic elements of mental language, out of which the molecular elements are fashioned according to the rules of mental syntax. Panaccio admits that this is a reconstruction of Ockham, rather than a thesis that can be readily identified in Ockham's written works:

How are these two apparatuses [namely, that of intuitive and abstractive cognition, on the one hand, and that of mental language on the other] linked to each other? This is, curiously enough, a point about which there is no very elaborate discussion in Ockham's own texts. Most of the passages which make use of one of the terminologies either entirely ignore the other, or give it but a secondary place; those in which both can be found do not organize them in a very explicit theory.\(^\text{228}\)

Panaccio defends his reconstruction primarily by pointing to a few scattered remarks in Ockham's *Quodlibeta* and his *Questions on Aristotle's Physics*, remarks where Ockham does appear to link mental language to intuitive and abstractive cognition in just the way Panaccio claims.\(^\text{229}\) Now, Panaccio is, by his own admission, principally interested in reconstructing Ockham's *mature* doctrine, and so proof texts stemming only from these late works are of course more than fitting.\(^\text{230}\) But the theory of mental language does not only play a role in Ockham's mature thought; it makes appearances throughout his corpus, in works that are early, middle, and late. So, it is worth asking

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\(^\text{228}\) Panaccio 2004, p. 5.

\(^\text{229}\) See Panaccio 2004, p. 9, n. 25; and p. 12, n. 41. The two most notable quotations are from *Quod. V.7* ("I am speaking here of that concept which is an abstractive cognition"); *OTh IX*, p. 504 and *QuesPhys q. 7* ("An intellect apprehending by intuition a singular thing elicits an intuitive cognition in itself, which is a cognition of that singular, apt by nature to supposit for that singular thing"); *OPh VI*, p. 411. As Panaccio notes, since supposition only occurs in sentential contexts, this is straightforwardly saying that an intuitive cognition is apt by nature to be part of a sentence – and what if not a mental sentence?).

\(^\text{230}\) Panaccio 2004, p. 9.
whether Ockham so closely connected mental language and intuitive and abstractive
cognition in his earlier works; and here the answer is much more unclear.

In the whole of the *Ordinatio* and *Reportatio*, for instance, I have been able to
locate only two passages that even remotely seem to bear on this question. In the first,
Ockham (in passing) denies that intuitive cognitions are concepts, saying that,
"Something can be cognized without having a mental concept … as is clear in the case of
the intuitive cognition of a singular thing." Now, given that Ockham says that the
atomic elements of mental language are concepts, this straightforwardly entails that
intuitive cognitions aren't elements in mental language! But if intuitive cognitions are
not elements of mental language, then Panaccio's thesis is in trouble; how can Ockham's
mental language be an account of the whole of human cognition if a central part of our
cognitive life (namely, our cognitions of ordinary objects in our presence) are not part of
mental language?

What then can Panaccio say in response? He may first respond as I indicated
above: he's interested in Ockham's mature doctrine, and the fact that Ockham didn't
initially see mental language as providing a general theory of cognition is an interesting
but ultimately irrelevant point. But then, we may wonder, what is mental language doing
in the early Ockham? Why did he posit the theory in the first place if it ultimately came
to fill an entirely different role for him?

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231 *Ord.*, d. 22, q. 1.

232 See, for instance, *Ord.*, d. 2, q. 4 (*OTh* II, p. 134) and *SL* I.1 (*OPh* I, p. 7).

233 To be more precise, it entails only that intuitive cognitions aren't among the atomic elements of
mental language. But it's hard to see how intuitive cognitions could be among the molecular elements of
mental language; and anyways Panaccio takes them to be atomic singular terms.
Panaccio might still resist my argument, though, by pointing to an apparent
confirmation of his thesis in an early text (a text, albeit, that so far as I can tell he does
not cite in any paper or book); for, in the second question of distinction 27 of the
*Ordinatio*, Ockham says:

> Every act of understanding is a mental word . . . [for] every human work is
> preceded by a word, according to [Augustine]. But something can be a human
> work with nothing existing in the intellect other than an intuitive cognition of
> some thing or some things, because someone having only an intuitive cognition
> can love, which is a kind of work. Therefore, an intuitive cognition is a mental
> word and, consequently, so much more so is every abstractive cognition.\(^{234}\)

This passage straightforwardly affirms that intuitive cognitions and abstractive
cognitions are both mental words, and surely mental words are nothing other than the
atomic terms of mental language. Thus, Panaccio's thesis seems safe after all; for even
the early Ockham links mental language to the distinction between intuitive and
abstractive cognition.

Nevertheless, I think this text is far less meaningful than appears at first glance.\(^{235}\)
But in order to say why, it will be necessary to first take a (somewhat lengthy) detour into
the Scholastic debate over the nature of the mental word.\(^ {236}\)

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\(^{234}\) "*Alia propositio est quod omnis actus intelligendi est verbum. Hoc patet per ipsum*
Augustinum, *XV De Trinitate, cap. [11], ubi dicit sic: ‘Opera hominis nulla sunt quae non prius in corde*
dicitur. Unde scriptum est: *Initium omnis operis verbum*. ‘Ex isto arguo sic: omne opus humanum
praecedet verbum secundum istam auctoritatem. Sed aliquid potest esse opus humanum, nullo existente in
intellectu nisi sola notitia intuitiva aliquidus rei vel aliquidus rerum, quia habita sola notitia intuitiva potest
dilig quod est quodsum opus. *Igitur notitia intuitiva est verbum et per consequens multo magis quaelibet
notitia abstractiva.*’ (Ord. d. 27, q. 2; *OTH* IV, pp. 224-225, emphasis added)

\(^{235}\) And perhaps Panaccio agrees with me; this would explain the fact that he does not cite this text,
which appears to confirm his thesis more so than the scattered passages he does cite.

\(^{236}\) I here follow the ordinary practice in the secondary literature of speaking of "the mental word."
(See, for instance, Pasnau 1997, pp. 256ff., and Cross 2009, *passim*), even though everyone in the debate
agrees that, whatever the mental word is (see secs. 3.2.2 and 3.2.3), there are many of them in an ordinary
3.4 The Mental Word

Despite the fact that much twentieth-century scholarship on Ockham seemed to ignore any possible connection between mental language and Ockham's cognitive psychology,\textsuperscript{237} we should in fact expect there to be such a connection here. For Ockham leans upon the authority of Augustine in order to support his innovations in mental language:

\begin{quote}
Hence, these conceived terms and the sentences composed from them are those mental words which blessed Augustine, in \textit{De trinitate} XV, says belong to no language…\textsuperscript{238}
\end{quote}

And there is no doubt that discussions of the mental word, both in Augustine and in the Scholasticism of Ockham's day, were largely discussions about matters of cognitive psychology. So, given that both Ockham's predecessors and his contemporaries take the notion of a mental word to be an explanatory device for their accounts of cognitive psychology, it would be at least slightly surprising if Ockham didn't continue this trend.

In this section, I will begin by briefly discussing Augustine's account of the mental word. I will then quickly summarize some of the discussion regarding the mental word that was prominent in Ockham's Scholastic predecessors and his immediate contemporaries. Lastly, I will turn to Ockham's own discussions; here, I claim, we will

\begin{quote}
cognizer's mind. Given this fact, speaking of "the mental word" is analogous to speaking of "the horse" when talking about the kind to which both Secretariat and Seabiscut belong.
\end{quote}

\textsuperscript{237} See my discussion of Spade et al. in sec. 1.3.1.

\textsuperscript{238} \textit{SL} I.1 (\textit{OPh} I, p. 7).
see that Ockham's own discussion of the mental word largely sets aside questions of cognitive psychology.

3.4.1 Augustine on the Mental Word

Though there are passing mentions of "internal speech" and the like in his earlier works, Augustine's main discussion of the mental word occurs in the latter books of his magisterial *De trinitate*.\(^\text{239}\) Among Augustine's purposes in the second half of the *De trinitate* is to investigate the way in which the structure and activity of the human mind mirrors the Trinity; for, from the Christian doctrine that human beings are made in the image of God, Augustine infers that the human mind must also be, in some way, an image of the Triune God, and thus must possess within itself a number of "trinities".\(^\text{240}\) And since the second person of the Divine Trinity is called *the Word of God*,\(^\text{241}\) the first mental trinity Augustine identifies, in Book IX, chapter 7, thus includes a *word* in the human mind:

> With the eye of the mind, therefore, we perceive in that eternal truth, from which all temporal things have been made, the form according to which we are, and by which we effect something either in ourselves or in bodies with a true and right reason. *The true knowledge of things, thence conceived, we bear with us as a*

\(^{239}\) A succinct overview of Augustine's early material on the mental word can be found in Panaccio 1999a, pp. 108-114.

\(^{240}\) As Augustine sums up his project in the concluding book of the *De trinitate*: "Our discussion [in book IX] brought us to the image of God, which man is according to the mind, and we found a kind of trinity in it, namely, the mind, and the knowledge by which it knows itself, and the love by which it loves itself and its knowledge … this brought us to an even more evident trinity in the mind [in book X], that is, in the memory, understanding, and will. … Our argument has now progressed so far that the Trinity appears in the image of God, which is man according to the mind…" (*De trinitate* XV.3, translated by Gareth Matthews in Augustine 2002, pp. 171-172)

\(^{241}\) Cf. John 1:1,14: "And the Word became flesh and lived among us, and we have seen his glory, the glory as of a father's only son, full of grace and truth." (NRSV)
word, and beget by speaking from within; nor does it depart from us by being born. But in conversing with others we add the service of our voice or of some bodily sign to the word that remains within, in order to produce in the mind of the listener, by a kind of sensible remembrance, something similar to that which does not depart from the mind of the speaker. Thus there is nothing that we do through the members of our body, in our words and actions, by which the conduct of men is approved or disapproved, that is not preceded by the word that has been brought forth in us. For no one willingly does anything which he has not spoken previously in his heart.  

There is a great deal going on in this passage: Augustine's illuminationism about knowledge, his precise theories about speaker meaning and intentional action, and so forth; the precise details of these theories won't concern us now. What does matter for our present purposes is Augustine's introduction here of mental words: Augustine claims that, whenever a person comes to know something (when he "perceive[s] it in that eternal truth"), a new cognitive entity is generated, a "word" (verbum), and these mental words are part of the causal mechanisms behind all intentional action, including language use (thus Augustine's claim that "there is nothing that we do...in our words and actions...that is not preceded by the word that has been brought forth in us"). Augustine continues to speak of mental words in Book IX, and returns to this topic in Book XV; however, much of this discussion is to try to simply get straight on which cognitive entities are mental words, or which are mental words in the most proper sense of the term.  

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242 De Trinitate IX.7, in Augustine 2002, p. 34, emphasis added.

243 Thus De trinitate IX.10: "The question, then, is rightly raised, whether all knowledge is a word..."; "For we use the term 'word' in [three different senses]..." (in Augustine 2002, p. 36) I'll return to this matter below, when I look at Ockham's discussion of these passages in De trinitate; see sec. 3.2.3.
3.4.2 The Scholastic Debate over the Mental Word

In the Scholastic period, discussion continues of this Augustinian notion of a mental word. The theological origin of the mental word is never forgotten; thus, discussions of the mental word are frequently found in commentaries of Book I, distinction 27 of Peter Lombard's *Sentences*, a passage where Lombard discusses the distinguishing properties of the three persons of the Trinity and why "The Word" is an appropriate name for the second person of the Trinity. But in addition to the theological portion of the discussion, which never entirely disappears, ever greater attention is paid to the psychological aspect of the mental word, with particular focus being given to how Augustine's claims about mental word's role(s) in human cognition fits into a broadly Aristotelian account of human psychology.

Thomas Aquinas is frequently credited with initiating the later-medieval discussion of the mental word insofar as it relates to matters to human cognition On

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245 Panaccio 1992, p. 131. An excellent source for this material is Friedman 1997, especially the texts collected in volume 2.

246 Thus Cross 2009 (p. 298): "...[Aquinas] is basically responsible for developing the notion of the mental word from the inchoate statements found in Augustine." Cf. Panaccio 1992 (pp. 129-130): "Aquinas proposed during the years 1256 to 1274 an impressive and complex new synthesis of the Augustinian idea of the mental word with the Aristotelian psychology of the intellect. ... But in the last three decades of the thirteenth century and in the early fourteenth, most elements of this synthesis came to be heavily disputed and eventually given up by many of the most dynamic thinkers of the period...as the outcome of two lively [debates] ... [M]uch of what was going on in these two debates can legitimately be seen as direct or indirect reaction to Aquinas's doctrine of the mental word."

Interestingly enough, as both John O'Callaghan and Matthew Kostelecky point out, Aquinas never mentions the mental word in the treatises on cognition in the two *Summas* (namely, *ST* Ia, qq. 75-89, and *SCG* II.46-90), or in any of his strictly "philosophical" works (e.g., the commentary and disputed questions on the *De anima* and *De unitate intellectus*). Instead, the mental word only appears in "what most would call a properly theological context." (Kostelecky 2009, p. 261) O'Callaghan takes this (along with other considerations) as evidence that "the *verbum mentis* plays no philosophical role in St. Thomas's thought;" in particular, it "is no part at all of St. Thomas's philosophical account of cognition." (O'Callaghan 2001, pp. 108, 103) Note, though, that this final statement must be understood in light of the strict distinction
the broadly Aristotelian theory of cognition that Aquinas holds, an instance of thinking (an *act of understanding*, in Aquinas's terminology) occurs when the intellect is actualized by a certain kind of mental representation, called an *intelligible species*. An intelligible species is generated by an act of abstraction from the sensory images of various ordinary particulars; the intelligible species is thus a general representation of some kind to which all those particulars belong. So, for example, from particular representations of Secretariat, Seabiscut, and Man O'War, the intellect via abstraction might generate an intelligible species representing horses. Once a cognizer has this intelligible species in their intellect, that cognizer has the ability to think of horses by somehow activating the species; the species is thus (in Aristotelian terms) the formal cause of the thought-act.  

So far, Aquinas's account is a recognizably Aristotelian one; but it is at this point that Aquinas adds a new Augustinian wrinkle to the story. For, he says, the act of thought is a *productive* act, and it produces within the mind a second mental representation, a mental word:  

"By thinking we form an inner word."  

But while both O'Callaghan draws between philosophical and theological matters (cf. O'Callaghan 2003a, p. 258). Regardless, it is surely true that later medieval thinkers took Aquinas's claims about the mental word to be part of his account of cognition, and it is the reaction of these later thinkers that presently occupies my attention.  

247 "The intelligible species, which is a likeness of the thing that is understood, is a form by which the intellect understands." ("...et similitudo rei intellectae, quae est species intelligibilis, est forma secundum quam intellectus intelligit."); *ST* Ia, q. 85, a. 2, resp.) For further explication of Aquinas's account, along with an attempt to figure out what it is for the intellect to "activate" an intelligible species, see Pini forthcoming, especially section 2.4.  

Alternatively called "an inner word," "a word of the mind," or "a word of the heart." I should mention that some commentators argue that the mental word is not some additional thing over and above the mental act and the intelligible species. I think that little of what I say here depends on my taking a stand on this matter, but it would take me too far afield to adequately address this question in this merely summary discussion. For more, see O'Callaghan 2003b, pp. 165-182.  

249 "Cogitando interius verbum formamus" (ST Ia, q. 93, a. 7, resp.)
the intelligible species and the mental word are representations of whatever it is that is the object of the thought, the specific content of the thought-act is derived from the mental word, and not from the intelligible species\textsuperscript{250}:

Furthermore, that which is understood \textit{per se} is not the likeness of the understood thing by which the intellect is informed for the purpose of understanding [i.e., the intelligible species]: for the intellect cannot understand unless it is made actual by this sort of likeness, since nothing can operate insofar as it is only potential, but only as it is made actual by a certain form. Therefore, this likeness is related to the understanding as a principle of understanding (as heat, say, is a principle of heating), not as the terminus of understanding. Thus, \textit{that which is primarily and per se understood is what the intellect conceives in itself about the thing understood} -- and this is either a definition or a propositional content, since there are two operations of the intellect (as specified in \textit{De anima} III). And \textit{what is conceived by the intellect in this way is called an inner word}…\textsuperscript{251}

Note that Aquinas posits here that this production of a mental word occurs during each of the two "operations of the intellect;" that is to say, a mental word is produced both when thinking about some singular object (e.g., a horse, in which case the mental word is a \textit{definition} of horse) or when making a judgment (in which case the mental word is a propositional content).

Why did Aquinas think it necessary to posit two different mental representations, one which is causally involved in the \textit{production} of the thought-act and another which is

\textsuperscript{250} Cf. Cross 2009, p. 298: "[T]he (immediate) object of cognition is a concept [i.e., a mental word] formed by the passive intellect; this concept is what supplies the content to our occurrent cognitions."

\textsuperscript{251} "Neque etiam intellectum per se est similitudo rei intellectae, per quam informatur intellectus ad intelligendum: intellectus enim non potest intelligere nisi secundum quod fit in actu per hanc similitudinem, sicut nihil alius potest operari secundum quod est in potentia, sed secundum quod fit actu per aliquam formam. Haeque ergo similitudo se habet in intelligendo sicut intelligendi principium, ut calor est principium calefactionis, non sicut intelligendi terminus. Hoc ergo est primo et per se intellectum, quod intellectus in seipso concepit de re intellecta, sive illud sit definitio, sive enuntiatio, secundum quod ponuntur duae operationes intellectus, in III de anima. Hoc autem sic ab intellectu conceptum dicitur verbum interius..." (\textit{Quaestiones disputatae de potentia}, q. 9, a. 5, resp., emphasis added.)
produced by the thought-act? And why is the content of the thought-act fixed by the latter representation? I do not have a definitive answer, and will not attempt to give one here.

This, in brief outline, is Aquinas's account of the mental word. Debating the details of this account quickly became a standard discussion among the Scholastics. Thus, in the years immediately following Aquinas's death, Henry of Ghent provided an alternative account of the mental word, according to which it is not simply some concept or other produced by just any cognitive operation, but is instead only the result of an extensive discursive process, in which I come to recognize that I myself have a sophisticated degree of competence with some theoretical topic. Henry's account was far from the last word on this matter, though, and within a few decades of Aquinas's death the debate had grown to the point that John Duns Scotus could identify at least five distinctive positions that had been put forward concerning the identity of the mental word:

So, the only thing that remains to be examined is in what way the word is formally in the intelligence. With respect to what is said to be in the intelligence, however, I see no other [proposed mental entities] than: [1] an intelligible species

Furthermore, how can the content of the thought-act be fixed by the latter representation? There seems to be a serious problem of ontological priority in this analysis; it's hard to see how a thought-act, which is presumably individuated at least partly in virtue of its content, can be responsible for producing the very item that determines its content. (Cf. Cross 2009, pp. 301-304.) In virtue of this consideration alone, one might well find plausible O'Callaghan's thesis that the mental word is not a "third thing" over and above the cognitive act and the intelligible species.

Though see Cory 2009, pp. 278-280 for one suggestion on how to solve these puzzles.

"[When the intellect] conceives a definitional account, this is a word of the thing in the intellect, formed and perfected by its second act, to which the intellect is related as entirely active, and in which the discursive intellect rests." ("Cum vero, ultima differntia adiuncta, concipit definitivam rationem, illa est verbum in intellectu de re iam perfectum et formatum per actum eius secundum, ad quem se habet pure active, et in eo quiescit discursus intellectus...". Henry of Ghent, Quodlibet VI, q. 1; in Ghent 1979, vol. 10, p. 15.) For more on Henry's position, see Cross 2011, pp. 310-318, and Goehring 2011.
which is posited to be in the memory; or [2] if there is no such species, then there is nothing other than the act alone; third, [3] that in addition to the act there is some concept which is formed; or, fourth, [4] if there is no such concept, that there is an intellection-qua-passion which is caused by the intelligence or by an intellection-qua-action; or, fifth and finally, [5] that there is an object of the intellect. In accordance with these five [proposed mental entities], there have been five opinions about the word.255

We need not trouble ourselves here with the details of all these various positions, or with Scotus's intricate arguments against each of them.256 (It is worth noting though, as Scotus's discussion makes clear, that these should be thought of as five families of positions; each of these five possibly contain a number of distinct sub-positions within them. For instance, Scotus takes it that he and Henry of Ghent agree in identifying the mental word with the cognitive act itself, but Scotus thinks that Henry's particular version of the "mental word as cognitive act" thesis is deeply flawed.257) What is important for my present purposes is simply to note how complex and resolutely cognitive the debate over the mental word had grown by Scotus's day. In order to figure out what the mental word is, Scotus thinks it necessary to catalog every putative mental entity posited by his

255 "Non ergo restat inquirere nisi quomodo verbum est in intelligentia formaliter. Quod dicatur 'in' intelligentia autem non video nisi vel quod ponatur species intelligibilis et hoc in memoria; vel si nulla, non est nisi actus solus; tertio, ultra actum est aliquis conceptus formatus; vel si non, quarto, quod sit intellectio-passio causata ab intelligentia vela ab intellectione-actione; vel quinto et ultimo, esse obiectum intellectus. Secundum ista quinque fuerunt quinque opinions de verbo." (Rep. I-A, d. 27, p. 2, q. 1, n. 82; Scotus 2004, v. 2, p. 160) Cf. the parallel passage at Ordinatio I, d. 27, p. 3, q. q. 1-3, n. 48 (Scotus 1950, v.6, pp. 67-68): "But in the intelligence there doesn't seem to be anything other than [1] the actual intellection, [2] the object terminating that intellection, [3] (according to some people) a species in the intelligence born from a species in memory, which precedes the act of understanding, [4] (according to others) something formed by the act of understanding, or [5] (according to yet others) the intellection itself as a passion, caused by itself as an action. And corresponding to these five things, there can be five views concerning the word."

256 For a detailed discussion of each of these views, see Cross 2009.

257 It should be mentioned that Ockham attributes to Henry roughly the same view that Scotus does, but at least some contemporary commentators believe this to be a misreading of Henry's position. See Cross 2009, p. 315, n. 63.
contemporaries, to document the causal interactions each has with every other and with the intellect in which they all inhere, and to figure out exactly what kind of mental representations are necessary for cognition.

Scotus's extensive discussion did not end such discussion concerning the mental word; rather, the debate continued in much the same way up until Ockham's day and beyond. For instance, in the Sentences commentary produced by Ockham's contemporary (and frequent critic) Walter Chatton, distinction 27 of Book I is given entirely to a question whether mental words are a kind of species or some other form of mental representation, and, if so, what manner of representation this could be.258

3.4.3 Ockham's Discussion of the Mental Word

In Distinction 27 of his commentary on Book I of the Sentences, Ockham, much like his contemporaries, turns his attention to this much discussed question of the mental word, and he is clearly aware of the controversies that occupied his predecessors and contemporaries in this text.259 In discussing the question of "whether the word of a created intellect is a true quality subjectively produced in the mind,"260 he begins his discussion by quoting Henry of Ghent's account of the mental word and arguing that the six criteria that Henry gives for being a mental word are neither individually necessary


259 Ord. I, d. 27, q. 2; OTh IV, pp. 196-227. A translation of this question in full may be found in Appendix D.

260 In other words, is the mental word an accident in the Aristotelian category of Quality, inhering in the mind in the way in which in accident inheres in a substance?
nor jointly sufficient for being a word.\textsuperscript{261} Now, given that, earlier in his commentary, Ockham has already discussed his theory of mental language, one would think that this passage – the traditional place in which to bring up the mental word as it pertains to human cognition – would be among the more philosophically rich passages in Ockham's corpus. (One might especially think so were Panaccio correct that Ockham's mental language grew out of this conversation concerning the mental word.) But Ockham's discussion in this passage is trite and nearly devoid of philosophical interest.\textsuperscript{262}

Indeed, once Ockham has finished his critique of Henry's account, he turns his attention to his own answer to the central question of whether mental words are real accidents inhering in the mind. And, of course, there are many aspects central to Ockham's theory of cognition that appear to be relevant here: his claims that sensible and intelligible species are unnecessary in order to explain human cognition and that all existing things are particulars in the categories of Substance and Quality; his vacillation over whether to posit that there are some entities that exist objectively (i.e., entities that exist merely as cognitive objects); his mixed causal and resemblance account of mental representation; and more. Ockham recognizes that many of these aspects of his theory of cognition are relevant, at least to the traditional way in which this question is discussed:

In this question are some real difficulties, as well as some that are largely terminological. One real difficulty concerns what things are in the mind; for some say that powers, habits, acts, species, and concepts are subjectively in the mind,

\textsuperscript{261} \textit{OTh} IV, pp. 197-205.

\textsuperscript{262} One indication of its lack of philosophical merit is the near complete lack of a secondary literature on this question. So far as I can tell, Adams 1987, Tachau 1988, and Panaccio 2003 do not cite this question even once; only Leff 1975 discusses it, and he only for about a page (pp. 55-56). This sharply contrasts with the very next question (\textit{Ord.} I., d. 27, q. 3), Ockham's discussion of perceptual illusions, which has generated a significant amount of commentary (including in the three studies just cited).
and real external things are objects existing in the mind only objectively. Another
[real] difficulty concerns definitions, whether they are subjectively in the intellect
or only objectively in the intellect and subjectively in real things, or only
objectively in the intellect and subjectively nowhere.\footnote{OTh IV, pp. 196-197.}

But Ockham raises these issues only to set them aside, as secondary to the
question of the mental word.\footnote{Admittedly, some of these topics are set aside in order to more fully discuss them elsewhere; thus he says, "I say that no species, spoken of in any way whatsoever, is to be posited in the intellect...But [this] will be shown elsewhere." But on the topic of whether the word exists subjectively or objectively, Ockham admits that he hasn't yet said everything he has to say, but still defers from saying more: "This has been spoken of previously, and, perhaps, will be explained further elsewhere." (OTh IV, p. 205)} Instead, he thinks the fundamental question of the mental
word is a wholly verbal dispute:

Another difficulty, which seems to me only terminological, is this: supposing that
a word is one of the things that are in the mind—whether subjectively or
objectively—which of these [things in the mind] is most appropriately called a
word?\footnote{OTh IV, p. 197.}

Furthermore, not only is the question which had prompted so much discussion in
among Ockham's immediate predecessors merely a verbal dispute, it is a verbal dispute
which has a definite answer: since terms derive their meaning from the intention of the
one who coined the term, 'mental word' refers to whatever it was that Augustine intended
to refer to when writing the De trinitate. But here Ockham is somewhat stymied; as far
as he can tell, Augustine uses 'word' in no less than five distinct senses:

I reply to the question that, according to the intention of blessed Augustine, 'word'
is taken in several ways. In one way, it is understood broadly, and in this way a
word is an act of understanding born or produced. In another sense, 'word' is
taken for a complex word, and thus every complex true or false act is a word. It is
taken strictly for a true word. In another, even stricter way, it is taken for a true
word brought forth with love. Lastly, 'word' is also taken for a concept of the mind, whether existing subjectively in the soul or only objectively.\textsuperscript{266}

And so, the remainder of Ockham's text is filled with copious quotations from Augustine, demonstrating that Augustine uses 'word' in each of these five senses: first, that sometimes Augustine uses 'word' to refer to any and every cognitive act; second, that it sometimes picks out only complex cognitive acts, that is, those with propositional content; third, that it sometimes picks out only those complex cognitive acts with \textit{true} propositional content; fourth, that it sometimes picks out those complex cognitive acts with true propositional content that are being presently \textit{enjoyed} and \textit{loved} by the cognizer; and fifth, that it sometimes picks out only those cognitive acts that count as concepts, which, as we saw previously, excludes at least intuitive cognitions.

It is only at the end of all this that we reach the text that seemed to verify Panaccio's interpretation. Recall again that Panaccio claimed that intuitive cognitions are the singular atomic terms of mental language and abstractive cognitions the general atomic terms, and that this was the key link between the theory of mental language and Ockham's broader account of cognition; recall also that, though there was some confirmation in Ockham's late works of this claim, the only supporting text in the \textit{Ordinatio} was the following, which appears in the question we're presently discussing:

\begin{quote}
Every act of understanding is a mental word . . . \[for\] every human work is preceded by a word, according to [Augustine]. But something can be a human work with nothing existing in the intellect other than an intuitive cognition of some thing or some things, because someone having only an intuitive cognition
\end{quote}

\textsuperscript{266} \textit{OTH} IV, p. 207.
can love, which is a kind of work. *Therefore, an intuitive cognition is a mental word and, consequently, so much more so is every abstractive cognition.*

Yet in context, it becomes obvious that Ockham is actually attributing this claim to Augustine; it comes near the end of a series of statements which Ockham says are "conclusions . . . which I believe to be according to the mind of blessed Augustine." Furthermore, Ockham says that 'word' *can* be a name for every act of understanding, including both intuitive and abstractive cognitions, but it can just as well name an act of the intellect together with an act of the will as well: "Another conclusion is that 'word,' in one way of speaking, names two acts, namely an act of the intellect and an act of the will." When he finally finishes expositing Augustine and goes on to give his own answer to the question of what the mental word is, Ockham repeats that the expression is multiply ambiguous and leaves it at that:

From what has been said, I respond to the form of the question that a word is a quality of the mind inhering in it, if 'word' is taken for an act, for a complex word, or even for an act of the intellection along with the will's love. But if 'word' is taken for a concept of the mind, which is an object of the intellect and which cannot exist without the mind, then if it is held that a concept is some quality subjectively existing in the mind, it should be said that a word spoken of in this way is a quality of the mind. If, however, it is held that a concept only has

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267 "Alia propositio est quod omnis actus intelligendi est verbum. Hoc patet per ipsum Augustinum, XV De Trinitate, cap. [11], ubi dicit sic: 'Opera hominis nulla sunt quae non prius in corde dicitur. Unde scriptum est: Initium omnis operis verbum.' Ex isto arguo sic: omne opus humanum praecedit verbum secundum istam auctoritatem. Sed aliquod potest esse opus humanum, nullo existente in intellectu nisi sola notitia intuitiva alicuius rei vel aliquarum rerum, quia habita sola notitia intuitiva potest diligi quod est quoddam opus. Igitur notitia intuitiva est verbum et per consequens multo magis quaelibet notitia abstractiva." (Ord. d. 27, q. 2; OTh IV, pp. 224-225, emphasis added)

268 "Ex praedicitis possent elicere aliquae conclusiones seu propositiones quas credo esse de mente beati Augustini." (OTh IV, p. 223) I have no idea what Ockham thinks he's doing attributing the distinction between intuitive and abstractive cognition to Augustine, but that's clearly what is happening in the text.

269 "Alia propositio est quod verbum uno modo dictum dicit duos actus, scilicet actum intellectus et actum voluntatis" (OTh IV, p. 225).
objective being in the soul, then it should be said that a word spoken of in this way would not be a quality of the mind.  

In particular, Ockham says here that we can use 'word' to pick out only concepts (a category which, as we saw above, in the Ordinatio at least does not include intuitive cognitions) or we can use it to designate all cognitive acts (thus including both intuitive and abstractive cognitions). Now, if Panaccio is right that the atomic terms in mental language – that is, mental words – just are intuitive and abstractive cognitions, then why does Ockham not insist upon this? Why would Ockham not at least include some sort of parenthetical comment, stating (roughly) that, "elsewhere, I use 'word' for all cognitive acts"? Or, if not in this specific text, why does this sort of comment not occur anywhere else in the Ordinatio, being left for his very latest works? Recall earlier that Panaccio admitted that mental language is seldom mentioned in connection with Ockham's "other" account of cognition; why, exactly, is it the case that "these two vocabularies" seldom, if ever, get mentioned together?

My suggestion is that this is not any sort of oversight on Ockham's part. Rather, though Panaccio is surely right that, in his very latest works, Ockham identifies intuitive and abstractive cognitions with the atomic terms of mental language, this is simply not part of the theory of mental language as it is found in Ockham's earlier works. Indeed, I think Ockham's theory of mental language – particularly in the earlier works, but to some

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270 "Per praedicta respondeo ad formam quaestionis quod accipiendo 'verbum', sive pro actu sive pro verbo complexo sive etiam pro actu intellectus cum amore voluntatis, verbum est qualitas mentis sibi inhaerens. Si autem accipiatur 'verbum' pro conceptu mentis qui est objectum intellectus et qui non potest esse sine mente, tunc si teneatur quod conceptus est aliqua qualitas subjectiva existens in mente, dicendum esset quod verbum isto modo dictum est qualitas mentis. Si autem teneatur quod conceptus non habet nisi esse objectum in anima, tunc dicendum esset quod verbum illo modo dictum non esset qualitas mentis." (OTH IV, p. 225)
extent in the later works as well – actually has very little to do with cognitive psychology; and merely glancing at the sorts of questions that Ockham uses mental language to help solve may lead us to suspect this. So, in the *Ordinatio*, we find mental language addressed while tackling questions such as: (i) To what do the predicates in statements about God refer?\(^ {271}\); (ii) To what do predicates in general refer?\(^ {272}\); (iii) Are the subjects of Aristotelian sciences universals?\(^ {273}\); (iv) What are the objects of God's knowledge?\(^ {274}\); and more in the same vein; even in Ockham's later works, mental language appears most frequently when discussing the subjects and objects of Aristotelian science. It is to these topics that I turn in the next chapter.

\(^ {271}\) *Ord.*, Prologue, q. 2 (*OTh* I, pp. 110-1).

\(^ {272}\) *Ord.*, Prologue, q. 3 (*OTh* I, pp. 134-6).

\(^ {273}\) *Ord.*, d. 2, q. 4 (*OTh* II, pp. 134-138).

\(^ {274}\) *Ord.*, d. 39 (*OTh* IV, pp. 588-592).
4.1 Introduction

In the previous two chapters I have argued that the Cognitive Account of Ockham's mental language is mistaken; or, at least, far from the complete story. The Cognitive Account claims that Ockham's mental language is a theory of cognition, akin in many ways to the contemporary Language of Thought Hypothesis: that is, it claims that mental language is a representational system underlying cognition, that this representational system is both semantically and syntactically complex, and that a given cognizer is in a given propositional attitude state by bearing the appropriate relation to a symbol or symbols in this representational system. But Ockham's mental language, as we saw in Chapter 2, may not be syntactically complex; Ockham didn't seem to much care whether or not it was complex in this way. Furthermore, though Ockham does think that being in a given propositional attitude state requires being appropriately related to a mental sentence, as we saw in Chapter 3 this relationship will differ depending on one's epistemic context; the ordinary person bears a very different relationship to their mental sentences than does the philosopher.

This difference that Ockham posits between the ordinary cognizer and the philosopher, I believe, is a crucial clue indicating Ockham's true intentions regarding
mental language. As I will argue in this chapter and the next, mental language is not, at root, meant to provide a theory of cognition at all; rather, mental language is a crucial piece of Ockham's attempt to provide a thoroughgoing Aristotelian nominalism: by positing the existence of this system of mental representations, Ockham intends to provide nominalistically-acceptable substitutes for the common natures his contemporaries thought were necessary for Aristotelian science. In this chapter I will focus on my attention on a much-overlooked argument in Ockham's *ouevre*: an argument that I take to be Ockham's reason for positing mental language in the first place. Explaining and evaluating this argument will ultimately set the stage for my interpretive claims in the final chapter.

4.2 The Master Argument for Mental Language

To discover what Ockham's mental language is truly for, there's no better place to begin than by investigating Ockham's actual arguments for mental language. But here we find a curious gap in the secondary literature: there are to my knowledge very few, if any, discussions of reasons that Ockham gives for believing that there is a mental language (or, at least, no reasons beyond his citations of supposed proof-texts from Augustine and Boethius). Normore here goes farther than most other scholars, claiming that there simply are no arguments to be discussed.\(^2\)\(^7\)\(^5\) Most other writers on Ockham simply note his citations of Augustine and Boethius and then proceed on to discuss the features that

\(^2\)\(^7\)\(^5\) "Early fourteenth century thinkers like Burley and Ockham do not argue for the [Mental Language] Hypothesis but suggest that it is the natural way to understand such writers as Aristotle and Augustine…" Normore 2009, p. 297.
he ascribes to mental language, not stopping to consider whether Ockham has any other reasons for positing mental language.

Panaccio, for one, does suggest that Ockham has an argument for mental language; but it's a rather strange argument on its face. According to Panaccio, Ockham argues that one who already accepts the existence of mental *sentences* on the word of Boethius should thereby posit mental *terms* as well: "Ockham's [argument], consequently, is the following: since there are three sorts of complex discursive units, as Boethius says, there must be, accordingly, the same three sorts of simple significant units."\(^{276}\) Yet as an argument for mental language, this seems woefully inadequate. Anyone who already accepts the existence of mental sentences is already well on their way to accepting the whole mental language paradigm (and surely there aren't many for whom the question of the existence of mental terms is the key stumbling block); those who are in any way skeptical of the existence of mental language won't be convinced in the least by this argument.

In an earlier work, though, Panaccio does gesture at another reason why Ockham might have posited mental language, when he notes that Ockham's first discussion of mental language constitutes a reply to an "*argument d' indispensabilité*".\(^{277}\) Panaccio does not follow up on this thread, however.

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\(^{276}\) Panaccio 2007a, p. 279.

\(^{277}\) Panaccio 1999a, p. 254. The reference is to a passage in *Ord.*, d. 2, q. 4 (*OTh* IV, pp. 99-152); this is the very passage that I will discuss below. (The entirety of this question is available in translation in Spade 1994, pp. 114-148.)
Yet Ockham's general philosophical methodology should lead us to think there would be a reason for him to posit mental language beyond mere proof-texting. Ockham insists that there are only three reasons for positing the existence a new class of entities:

Nothing should be posited without giving some reason for doing so, unless the thing is self-evident, is known by experience, or is proved by the authority of the Sacred Scriptures.\(^\text{278}\)

Now, it does not seem that the existence of mental language is self-evident, obvious to anyone who clearly understands what it would be for there to be a mental language. Nor does it seem to be an obvious dictate of experience that there is a mental language, let alone one common to all human beings (and let alone one common to humans and angels). It also does not seem to be something that could be proved by any sort of Scriptural proof text. So, by Ockham's own criterion, he should have had some reason for postulating it. But, again, apart from repeating his citations to Boethius and Augustine, the secondary literature is rather silent on what this reason might have been.

Despite this silence among scholars, I take it that Ockham does take himself to have a reason for positing mental language; and, I believe, this reason is at least in the

\(^{278}\) "\textit{Quia nihil debet poni sine ratione assignata nisi sit per se notum vel per experientiam scitum vel per auctoritatem Scripturae Sacrae probatum.}" (\textit{Ord.}, d. 30, q. 1; \textit{OTh} IV, p. 290). This same threefold evidential criterion is given in \textit{Rep.} III, q. 9 (\textit{OTh} VI, p. 281) and \textit{Rep.} IV, qq. 3-5 (\textit{OTh} VII, p. 52); a similar criterion can also be found in a very different context in the Prologue to Ockham's late \textit{De imperatorum}, where Ockham promises to drop his opposition to the Avignonese Papacy if anyone can show him the error of his ways by "an argument or an authority which I am bound to accept" (Ockham 1998, p. 71, translation by Annabel S. Brett).

Ockham gives a slightly broadened criterion in \textit{De corpore} ch. 29 (\textit{OTh} X, pp. 157-158); in place of "Sacred Scripture," Ockham speaks of "authorities that cannot be mistaken, cannot err, and cannot be refuted." Furthermore, in \textit{De quantitate}, q. 1 (\textit{OTh} X, p. 5), Ockham seems to include among these infallible authorities "whatever is said by Sacred Scripture and the Saints, . . . the determinations and doctrines of the Roman Church, . . . and the opinions of the Doctors endorsed by the Church." But surely the range of infallible authorities for Ockham can't be as broad as that, for he does knowingly disagree with the saints and the Doctors of the Church on multiple occasions.
background of many different discussions in his corpus. In fact, this reason makes its first appearance in the midst of Ockham's first lengthy discussion of the theory of mental language:

In reply to the second argument, I say that real science is not always of real things (speaking of the things which are immediately known), but is of other things that only supposit for the real things. In order to understand this, and because many things have been and will be said by some who are untrained in logic, it must be known that every science, whether real or rational, is only of sentences regarding those things which are known, because only sentences are known. A sentence, however (according to Boethius in Book I of his commentary on De interpretatione), has threefold being, namely, in the mind, in speech, and in writing. That is to say, some sentences are only conceived and understood, others are spoken, and others are written.

Ignore for the present the discussion of which things are "immediately known" and examine the justification Ockham gives for introducing mental sentences here. It may seem that Ockham is just engaging in a bit of proof-texting: it's natural to read Ockham as saying here that "according to Boethius" there are sentences in the mind, and thus Ockham sees it as legitimate to utilize them in his philosophical speculations. And this is how, I take it, many scholars read this passage. But this is not the force of this passage at all.

279 Ockham's wording here suggests that real science is sometimes about real things and sometimes about concepts ("things which supposit for other things"). This seems to me contrary to everything else he has to say on the matter; one should thus not read too much into the 'always' here.

280 "Ad secundum argumentum principale dico quod scientia realis non est semper de rebus tamquam de illis quae immediate sciantur sed de alis pro rebus tantum supponentibus. Ad cuius intellectum et propter multa prius dicta et dicenda, propter aliquos inexcitatos in logica, est scienendum quod scientia quaelibet sive sit realis sive rationalis est tantum de propositionibus tamquam de illis quae sciantur, quia solae propositiones sciantur. Proposito autem, secundum Boethium, I Perihermenias, habet triplex esse, scilicet in mente, in voce et in scripto, hoc est dictu: aliqua proposicio est tantum concepta et intellecta, aliqua est prolata, et aliqua est scripta." (Ord., d. 2, q. 4; OTh II, pp. 134).

281 I'll return to this matter below, when I turn to a discussion of the subjects and objects of scientific knowledge. See secs. 4.6 and 5.4.
Part of the problem with understanding the argumentative force of this passage, I take it, is that the numerous parentheticals and rhetorical asides in the passage can distract from Ockham's main point; if we strip all that away, we're left with a much more straightforward claim:

… I say that real science is … [of] things that only supposit for real things. In order to understand this … it must be known that every science … is only of sentences … [However], some sentences are only conceived and understood, others are spoken, and others are written.

Even this, though, doesn't much look like an argument for mental language; rather it appears as if Ockham is simply assuming that there are mental sentences ("However, some sentences are only conceived…") and using this in order to answer the objection at hand. Now, this is a straightforward reading of the text, but in what follows I will argue that this passage is actually part of a very compressed argument for mental language, an argument that I will call Ockham's Master Argument for mental language. As I see it, Ockham's Master Argument goes as follows:

**Ockham's Master Argument for Mental Language**

(M1) In order to fulfill the strictures of Aristotelian science, either there must be extra-mental universals or there must be a mental language.

(M2) All accounts according to which there are extra-mental universals are incoherent.

(M3) Therefore, for there to be Aristotelian science, there must be a mental language.
But it will take some time before we have in hand all we need to properly evaluate
this argument, and to recognize its occurrence in Ockham's own work.  

To begin, it is important to recognize the dialectical context of the passage; it occurs in the second
distinction of Ockham's *Ordinatio*. In that distinction, Ockham attempts to
systematically examine every possible account of extra-mental universals that can be
given, and to show that each such account is ultimately false or incoherent. He
proceeds by moving from what he sees as the most full-fledged Platonic realism about
universals – namely, that they are real extra-mental items which are really distinct from
and exist separated from ordinary particulars – to increasingly less realist positions:
that universals are really distinct from and exist in ordinary particulars; that universals
are only formally distinct from and exist in ordinary particulars; and, lastly, that
universals are not in fact distinct from ordinary particulars, but nevertheless there is still
"something in someway really universal and common in extra-mental reality." (And,

282 I'll return again to the Master Argument in sec. 4.6.

283 Ockham concludes his discussion by claiming that he has shown "that no real thing outside the
soul – either in and of itself, or by means of something else added to it (whether real or [merely]
conceptual), and no matter how it is considered or understood – is a universal. Thus it is as impossible that
some real thing outside the soul be in any way universal … as it is impossible for a man to be an ass."
("Ideo aliter dico ad quaestionem quod nulla res extra animam, nec per se nec per aliquid additum, reale
vel rationis, nec qualitercumque consideretur vel intelligatur, est universalis: ita quod tant est
impossibilitas quod aliqua res extra animam sit quocumque modo universalis … quanta impossibilitas est
quod homo per quacumque considerationem vel secundum quocumque esse sit asinus." Ord., d. 2, q. 7;
OTH II, pp. 248-249)

284 Among medieval authors, such a view was quite rare, though Paul Vincent Spade attributes
such a view to Walter Burley (Spade 1994, p. 115, n. 1).

285 This is roughly the position of William of Alnwick, a student of Scotus and contemporary of
Ockham. See Alnwick's *Sentences* II, distinction 3, question 1.

286 This is the position of Scotus himself. See his *Ordinatio*, distinction 3, part 1, questions 1-6
(e specially question 6). (Scotus 1950, vol. 7, pp. 391-494)

287 *Ord.*, d. 2, q. 7 (OTH II, p. 225). Positions of this sort were held by figures as diverse as
Aquinas, Durand of Saint-Pourcain, and Henry of Harclay.
of course, he discusses what he sees as every significant variant of each of these positions.)

The passage immediately at hand occurs very near the beginning of this extended treatise on universals. Ockham is here responding to a certain indispensability argument that had a certain amount of purchase for his contemporaries; call this *The Real Science Argument* for extra-mental universals.\(^{288}\) The Real Science Argument is meant to establish that there are real extra-mental universals;\(^{289}\) as presented by Ockham, the argument goes as follows:

Secondly, it is argued that a real science is about true real [universal] things outside the soul, because this is what distinguishes a real science from a rational science. And since no science is primarily of real singular things (as is clear according to the Philosopher in *Posterior Analytics* book I and *Metaphysics* book VII), thus there are some real [universal] things outside the soul in addition to the singular real things.\(^ {290}\)

The argument here is that there is something about the character of an Aristotelian real science [*scientia*] that straightforwardly entails the existence of extra-mental

\(^{288}\) The Real Science Argument can also be found in the *Ordinary Questions* of Henry of Harclay, written just a few years before Ockham's *Ordinatio* (c. 1310-1317). Harclay claims that the Real Science Argument has been given "by many" [*arguitur sic a multis*]. (See Harclay 2008, pp. 604-605, n. 18.) Ockham himself presents this argument as a consideration in favor of Platonic realism about universals, but, given how few of Ockham's contemporaries were Platonic realists, the fact that Harclay ascribes this argument to many others indicates to me that it was commonly seen as establishing far less than full-fledged Platonism. Indeed, Harclay himself presents the argument as a consideration for Scotus's significantly less realist position.

\(^{289}\) The precise position that Ockham claims this argument supports is the view that universals are "real things really existing outside the soul in each of their singulars...yet really distinct from each singular" ("quodlibet univerale univocum est quaedam res existens extra animam realiter in quolibet singulari et de essentia cuiuslibet singulars, distincta realiter a quolibet singulari..."); *Ord.,* d. 2, q. 4; *OTh* II, pp. 100-101). Spade claims the precise view under attack here is probably that given by Walter Burley in his commentary on the Old Logic (Spade 1994, p. 115, n. 1; cf. Noone 2003, p. 699).

\(^{290}\) "Secundo arguitur sic: scientia realis est de veris rebus extra animam, quia per hoc distinguittur scientia realis a scientia rationali; sed nulla scientia est primo de rebus singularibus; igitur sunt aliquae res extra animam praeter res singularares. Minor est manifesta secundum Philosophum, I Posterioum et VII Metaphysicae." (*Ord.,* d. 2, q. 4; *OTh* II, p. 103)
universals: such sciences are about extra-mental entities which are not singulars; thus they are of extra-mental universals. If there are indeed any such sciences, then, there must therefore be extra-mental universals. Ockham's reply to the Real Science Argument, as given in the previous quote, is to deny the first premise: he claims that science is not about extra-mental entities at all; rather, the things that science is about are all mental entities: in particular, concepts and mental sentences.

But in order to truly understand Ockham's Master Argument, and how the Real Science Argument and Ockham's reply to it contribute to it, more needs to be said about the understanding of 'science' that Ockham and his predecessors derived from Aristotle's Posterior Analytics, in particular their understanding of what they came to call the subjects and the objects of science. Only after discussing these issues will I be able to return to this argument in more detail.

4.3 Ockham's Conception of Science

In Ockham's own usage, the Latin word 'scientia' is multiply ambiguous; Ockham recognizes no fewer than eight distinct meanings of the term. When I speak of Ockham's conception of science, however, I mean to single out one of these meanings; while 'scientia' can refer to individual instances of propositional knowledge (and in a

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291 The word 'about' is multiply-ambiguous here; as Ockham and his contemporaries recognize, a science may be about a given thing (or things) in the sense that the item is a subject of that science or in the sense that the item is an object of that science. (And there may also be other senses of 'aboutness' in play here.) I discuss these two senses below.

292 See ExpPhys, Prologue, sec. 2 (OPh IV, pp. 5-6). For discussions of these eight meanings of 'scientia', see Maurer 1999, pp. 135-136, and Goddu 1984, pp. 23-24. These two sources also contain fine overviews of Ockham's conception of science (see Maurer 1999, pp. 135-148, and Goddu 1984, passim); Leff 1975, pp. 320-335 also has much to say on Ockham's understanding of science. My discussion here has greatly benefitted from each of these works.
variety of permutations – certain knowledge, evident knowledge, evident knowledge of necessary truths, evident knowledge of necessary truths arrived at via a discursive syllogism, etc.), 'science', as I will use the term, refers to what Ockham gives as the eighth meaning of 'scientia':

'Science' is sometimes taken for a collection of many habits having a determinate and fixed order. It is in this way that 'science' is frequently used by the Philosopher; science in this sense includes as (in a way) integral parts a habit [of knowing] both principles and conclusions, knowledge of terms, refutations of spurious and erroneous arguments, as well as answers to those arguments. It is in this sense that metaphysics, natural philosophy, and so on are sciences.293

As stated here, Ockham takes a given science – physics, metaphysics, ethics, logic, etc. – to be a collection of habits. Now, in his usage a habit is a real quality inhering in the mind; the inheritance of such a habit in the mind constitutes having a disposition to token a particular kind of cognition. So, Ockham speaks here of, among others, dispositions to cognize various noncomplex objects ("a habit of…knowledge of terms") and dispositions to token certain instances of propositional knowledge ("a habit of knowing both principles and conclusions"). As is clear from elsewhere, a science also includes dispositions to token certain kinds of arguments – so called "scientific

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293 "...aliaundo [scientia] acceptur pro collectione multorum habituum ordinem determinatum et certum habentium. Et isto secundo modo acceptur scientia frequent a Philosopho. Et scientia isto modo comprehendit tamquam partes aliquo modo integrales habitus principiorum et conclusionum, notitias terminorum, reprobiones falsorum argumentorum et errorum, et solutiones eorum. Et sic dicitur metaphysica esse scientia et naturalis philosophia esse scientia, et tia de alis." (ExpPhys, Prologue, sec. 2; OPh IV, p. 6) Cf. Ord., Prologue, q. 1 (OTh I, pp. 8-9): "In one way, 'science' is taken for a collection of many things pertaining to knowledge of one thing, or of many things having a determinate order. 'Science' in this way of speaking contains both knowledge of non-complex terms and knowledge of complexes (including knowledge both of principles and of conclusions); it also contains refutations of errors and solutions to fallacious arguments; and it often contains necessary distinctions and definitions." ("Uno modo pro collectione multorum pertinentium ad notitiam unius vel multorum determinatum ordinem habentium. Et scientia isto modo dicta contineat tam notitiam incomplexam terminorum quam notitiam complexorum, et hoc principiorum et conclusionum; continet etiam reprobiones errorum et solutiones falsorum argumentorum; continet etiam divisiones necessarias et definitiones, ut frequent.")
demonstrations.\textsuperscript{294} But what are these various noncomplex and propositional objects which the habits provide dispositions to cognize? Here is where the real complexities of Ockham's account arise; but to best understand Ockham's own account of these matters, we must first get a handle on the debate that took place among Ockham's predecessors on the nature of Aristotelian science.

4.4 Aristotle's Project in the \textit{Posterior Analytics}

When Latin translations of Aristotle's \textit{Posterior Analytics} finally became available in the middle of the twelfth century,\textsuperscript{295} the medieval scholastics found much to debate concerning what one modern commentator has called a "difficult and despised" work,\textsuperscript{296} containing what many see as "a thicket of wrangling, little of which is intelligible and none philosophically interesting."\textsuperscript{297} The \textit{Posterior Analytics} is ostensibly a work of scientific methodology.\textsuperscript{298} In it, Aristotle undertakes an investigation of the nature of \textit{demonstration} and \textit{definition}. The ultimate goal of this investigation is a matter of much scholarly controversy, but the goal is clearly somehow connected to attainment of \textit{scientific knowledge} (\textit{epistêmê} in Aristotle's Greek, \textit{scientia})

\textsuperscript{294} See Ockham, \textit{SL} III-II.1 \textit{(OPh} I, pp. 505-506).


\textsuperscript{296} Barnes 1969, p. 123, quoting G.E.M. Anscombe.

\textsuperscript{297} Jonathan Barnes, expressing what he takes to be the dominant perception of the \textit{Posterior Analytics}, in Aristotle 1993, p. xi.

\textsuperscript{298} Of course, the ancient and medieval conception of science is radically different from our own. In this chapter, when I speak of "scientific methodology," "scientific demonstrations," "scientific disciplines," etc., I am using those terms in the medieval sense, which will be further explicated in what follows.
in the medieval Latin translations); at least as many read the work, Aristotle claims that one can only have scientific knowledge of conclusions proven deductively from necessary truths.

While much of the medieval debate over Aristotle's account of scientific knowledge centered on how to understand his theory of demonstration, much attention was also paid to the elements that constitute scientific demonstrations and the conditions Aristotle places upon these elements. First, regarding the elements that constitute scientific demonstrations, recall that a demonstration is a certain kind of syllogism: it's an argument establishing a conclusion from a set of premises. Now, Aristotle says that every scientific demonstration consists of three different types of elements: (1) the conclusion to be demonstrated, (2) the "axioms" or "primitives" from which the conclusion follows, and (3) the subject-genus that the demonstration is about, whose essential features are revealed by the demonstration.

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299 For a good introduction to this controversy, concerning whether the Posterior Analytics is detailing a method for discovering new facts, a method for compiling already known facts, or a pedagogical method of teaching known facts, see Barnes 1969. More recent discussions can be found in Ferejohn 1991 and Byrne 1997.

300 Of course there are more conditions on epistêmê than this; it is a matter of much controversy what these further conditions are. See below for a discussion of at least a few of these conditions.

301 For a summary of this debate as it played out, first in the commentaries of Grosseteste, Albert the Great, and Aquinas, and then in the works of Henry of Ghent, Giles of Rome, Duns Scotus, and Ockham, see Longeway 2007, pp. 13-136.

302 "There are three things involved in demonstrations: one, what is being demonstrated, or the conclusion (this is what holds of some kind in itself); one, the axioms (axioms are the items from which the demonstrations proceed); third, the underlying kind whose attributes—i.e., the items incidental to it in itself—the demonstrations make plain." (PA I.7, 75a39-75b2, translation by Jonathan Barnes, in Aristotle 1993, p. 12) A similar listing appears at PA I.10, 76b21-22: "None the less by nature there are these three things: that about which the science conducts its proofs, what it proves, and the items from which it proves." (pp. 15-16) In his accompanying commentary, Barnes insists that, contrary to a straightforward reading of the passage, "the first element is not the conclusion as a whole … but rather the predicate of the conclusion." (p. 130) Cf. Ferejohn 1991, pp. 32ff.
I'll return to the third of these elements in a moment. For now, let me focus on
the first two elements: the axioms (or premises) and conclusion of the demonstration. As
a scientific demonstration is a kind of syllogism, it's not surprising that it contain such
elements. What is surprising are the conditions Aristotle places upon the premises; for a
syllogism to count as a scientific demonstration, the premises must be "true and primitive
and immediate and more familiar than and prior to and explanatory of the conclusion,"\(^{303}\)
as well as necessary.\(^{304}\) Now, since it is the conclusion of an argument with necessary
premises, the conclusion to be demonstrated will also be necessary, as well as eternal and
immutable.\(^{305}\) Now, as the medievals understood Aristotle, at least, the process of
following a scientific demonstration leads to scientific knowledge of the conclusion; by
deducing the conclusion from the axioms, one achieves epistêmê (scientia) about the
conclusion. We may thus (following Ockham and others) call the conclusion of a
demonstration the "object" of the demonstration, for the conclusion is what the
demonstration aims at, it is the ultimate result of the demonstration.

\(^{303}\) \textit{PA} 71b21-22, Aristotle 1993, pp. 2-3. For an explication of each of these conditions, see

\(^{304}\) "...demonstration proceeds from necessities." (\textit{PA} I.6, 74b18; Aristotle 1993, p. 10) Cf. Reeve
2012, pp. 70-71: "[The] premises [of a scientific demonstration] must meet a number of conditions. First,
they must be immediate or indemonstrable, and so must be reached through induction. Second, as sources
of unconditional scientific knowledge, our confidence in them must be unsurpassed. Finally, they must be
necessary (and so, of course, true) in a special sense: the predicates in them must be the subjects in
every case, intrinsically or per se (\textit{kath' hauto}), and universally."

\(^{305}\) "...it is necessary for the conclusion of such a demonstration, i.e., of a demonstration
\textit{simpliciter}, to be eternal. There is therefore no demonstration of perishable things, nor any understanding of
them \textit{simpliciter} but only incidentally, because nothing holds of them universally..." (\textit{PA} I.8, 75b22-25;
Aristotle 1993, p. 13) Cf. \textit{NE} 1139b22-25: "...the object of knowledge is of necessity. Therefore it is
eternal; for things that are of necessity in the unqualified sense are all eternal; and things that are eternal are
1799) Cf. Reeve 2012, p. 73: ""Two things follow directly from the account of demonstration. The first
that unconditional scientific knowledge, since it is of essences and their intrinsic relations to attributes, is
exclusively of universal necessities. The second is that no Aristotelian science providing such knowledge
can deal with cases in which \(a\) belongs to \(b\) coincidentally or contingently..."
Contrasted with this notion of the object of a demonstration – the thing that the demonstration is directed towards, aims at, etc. – there is the third element of the demonstration, the "subject genus," "underlying kind," or simply the "subject." This subject of the demonstration is what the demonstration is about, where this is something different from what the demonstration aims at or is directed towards. The subject is that "whose attributes—i.e., the items incidental to it in itself—the demonstrations make plain." But while Aristotle has much to say about the first two elements of a demonstration, he has much less to say about this third element; and what he does say is less than clear. But this claim that demonstrations have subjects that they are about ultimately led the medievals to speak not just about the subjects of a demonstration, but also about the subject of a science simpliciter.

For, as the medievals read the Posterior Analytics, at least, the work is not merely about scientific demonstration, it's also about scientific disciplines (or simply sciences); part of Aristotle's project in this work, they thought, was to give a framework for organizing scientific knowledge and scientific demonstrations into distinctive disciplines, such as mathematics, ethics, natural philosophy, first philosophy, and so on. The

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306 PA I.7, 75b1-2 (in Aristotle 1993, p. 12). In Aristotle 1984 (vol. 1, p. 122), Barnes translates this passage differently; the subject is that "of which the demonstration makes clear the attributes and what is accidental to it in itself."

307 Aristotle himself gives some impetus to this particular question, as he spends much of the Metaphysics asking what first philosophy is about; and even in the Posterior Analytics he speaks of various sciences being unified by being of a single subject genus: "A science is one if it is of one genus." (PA I.28, 87a37-41; Aristotle 1984, vol. 1, p. 143)

308 Ferejohn 1991 emphatically rejects this view of the work: "If by a 'science' one means to denote a scientific discipline, that is, a discrete area of investigation or expertise delineated from others by having … a distinct subject matter …, then it is simply wrong to think that any such highly specific concept is present from the outset of the Posterior Analytics." (p. 2) Barnes 1969 seems more favorable to the medieval reading, affirming that the Posterior Analytics speaks of a "demonstrative science [as] an axiomatised deductive system comprising a finite set of connected … demonstrations." (p. 123)
Scholastics, then, began to speak not just of the subjects and objects of particular demonstrations, but the subjects and objects of particular sciences: What is the subject of the science of metaphysics? What are the objects of the science of theology? Is there anything we can say in general about the subjects of various sciences – do they have some common features purely in virtue of being subjects? Thus we have several notions of subjects and objects that need to be identified and clarified; at minimum, the Scholastics find themselves faced with the following questions:

1. What is the subject of a scientific demonstration? In other words, what is the demonstration about?
2. What is the object of a scientific demonstration? In other words, what is the demonstration aiming at? Put another way, what is it that the demonstration ultimately concludes?
3. What is the subject of an instance of scientific knowledge? In other words, what is it knowledge about?
4. What is the object of an instance of scientific knowledge? In other words, what is the instance of knowledge directed at? Put another way, what, besides the cognizer, are the relata of an instance of scientific knowledge?
5. What is the subject of a scientific discipline? In other words, what is the science about?
6. What is the object of a scientific discipline? In other words, what is the science directed at?

As will be seen below, it is not clear that every thinker equally recognized the existence of these distinct questions; even those who did, moreover, did not explicitly address them all.
4.5 Ockham's Predecessors on the Subjects and Objects of Science

Given that all these questions regarding the subjects and objects of various scientific disciplines are at least not obviously treated in Aristotle's own texts, the Scholastics might have had a great deal of flexibility when it came to crafting theories regarding the nature of these subjects and objects, but there seems to have been a significant measure of consensus on the matter. The medieval discussion of the *Posterior Analytics* begins in the early thirteenth century, when Robert Grosseteste writes the very first medieval commentary on the work; there, Grosseteste appears to at least recognize some of these distinct questions, and he attempts to provide answers to them.\(^{310}\) He begins his commentary by largely concentrating on the notion of scientific knowledge and the objects of that knowledge:

It should not escape our notice that 'to know' [*scire*] is said both in an ordinary sense, as well as in a strict sense, and also in a stricter and strictest sense. For (1) knowledge [*scientia*] is ordinarily said to be a comprehension of truth, and in this sense changing contingent things are known. (2) In a strict sense, [scientific] knowledge is a comprehension of the truth of those things that are always or frequently are in a particular state; in this sense are known natural things (namely, created contingent things), of which there is demonstration, speaking ordinarily. (3) '[Scientific] knowledge' is also said in a stricter sense, as a comprehension of the truth of what is always in a particular state, and in this sense are known both the principles and conclusions of mathematics. … (4) Simply and most strictly, knowing is to cognize the cause of a thing, a cause that is unchangeable in itself and is unchangeable in its causing. … And knowing this is the most specific end of this science and is acquired by a demonstration (taking 'demonstration' in the strictest sense).\(^{311}\)

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\(^{310}\) Additional discussion of these topics in Grosseteste can be found in Rossi 1995. It is important to note that Rossi and I use the term 'object' differently: what he calls 'the object of scientific knowledge' is what I take to be for Grosseteste the *subject* of scientific knowledge; but I think this is merely a terminological difference, rather than an interpretive one.

\(^{311}\) *Sed non lateat nos quod scire dicitur communiter et propri et magis et maxime propri. Est enim scientia communiter veritatis comprehensio, et sic sciuntur contingenta erratica; et dicitur scientia*
The first sense of 'scientia' – that which corresponds most closely to our ordinary contemporary notion of knowledge, whereby we can have knowledge of all sorts of ordinary everyday contingent truths – is the sense about which Grosseteste has the least to say, and this relative silence is maintained in successive generations.\textsuperscript{312} In the narrower senses of the term, though, Grosseteste speaks of several grades of scientific knowledge, with the higher grades being concerned with more fixed and immutable things than the grades below them. Grosseteste states that these grades of scientific knowledge are concerned with (1) "created contingent things," (2) "the principles and conclusions of mathematics," and (3) "unchangeable causes," respectively.\textsuperscript{313}

Now, in the senses I've been using the terms, are these things the subjects or the objects of scientific knowledge? From the immediate context it's not clear, but I'm inclined to call them objects of knowledge; for in each case they are what is known, rather than that \textit{about which} something is known. That said, note that these are three very different types of entities; if these are all objects (or, perhaps, subjects) of scientific knowledge, then the notion of object (or subject) will turn out to be highly disjunctive. For it's hard to see what feature all these might have in common which would provide a univocal meaning for 'an object of scientific knowledge'.

\textit{proprie comprehensio veritatis eorum que semper vel frequentius uno modo se habent, et sic sciuntur naturalia, scilicet contingetia nata, quorum est demonstratio communiter dicta. Dicitur etiam scientia magis proprie comprehensio veritatis eorum que semper uno modo se habent, et sic sciuntur in mathematicis tam principia quam conclusiones.... Hoc est igitur simpliciter et maxime proprie scire: cognoscre causam rei inmutablem in se et inmutablem in causando ... Et istud scire est finis specialissimus huius scientie et acquiritur per demonstrationem dictam propriissime. } (Grosseteste, \textit{Commentarius in Posteriorum Analyticorum libros I.2}; in Grosseteste 1981, pp. 99-100).

\textsuperscript{312} Pasnau 2010, pp. 358-359.

\textsuperscript{313} Though Grosseteste does not mention it, this tripartite distinction may well mirror the traditional threefold division among the sciences into natural philosophy, mathematics, and theology; I discuss this division below, in the context of Aquinas's commentary on Boethius's \textit{De trinitate}.
At the end of Book I of his commentary, Grosseteste explains what I take to be his account of the subjects of scientific knowledge:

Scientific knowledge is a habit, acquired by means of necessary things which cannot be otherwise, concerning universal real things. Hence it is obvious that there is no scientific knowledge concerning changeable real things, which fall under the designation of sensible things; for if there were scientific knowledge concerning such things, then they would unchangeable.\footnote{"...quia scientia est habitus acquisitus super res universales per necessaria que non possunt aliter se habere; unde manifestum est quod scientia non est circa res transmutabiles que cadunt sub signatione sensibili, quia si circa eas esset scientia, ipse essent impermutabiles." (In Post. Anal. I.19; in Grosseteste 1981, p. 281).}

As he makes clear here, scientific knowledge is about real (i.e., extra-mental) universals.\footnote{Grosseteste seems to have a broadly Augustinian/Neo-Platonic notion of universals; for more, see Rossi 1995, pp. 68ff; and Longeway 2007, pp. 16-21.} Furthermore, these universals must be unchangeable, since scientific knowledge (most strictly speaking) can only be had of things which are unchangeable.

Thomas Aquinas's contributions to this discussion largely are found in his very early commentary on Boethius's \textit{De trinitate} (c. 1258) and in his late commentary on the \textit{Posterior Analytics} (c. 1271-2), as well as in the first question of the \textit{Summa theologiae} (c. 1266-68)\footnote{These dates are due to Stump 2003, pp. xvi-xx, and Pasnau and van Dyke 2010, p. 977. Additional discussion of Aquinas's discussion of the nature of scientific subjects can be found in Maurer 1974 and Maurer 1999, pp. 140-141.} Unlike Grosseteste, Aquinas's concerns are much more with the subjects and objects of scientific disciplines, rather than of scientific knowledge itself. To begin, in his commentary on the \textit{De trinitate}, Aquinas distinguishes the practical sciences, which have \textit{productions} for their subjects, from the speculative sciences,\footnote{Among the speculative sciences, Aquinas lists "natural philosophy," "mathematics," and "divine science." Each of these are generic terms containing other sciences underneath them: natural philosophy contains sciences such as physics and astronomy; mathematics contains sciences such as arithmetic and geometry; and "divine science" names two distinct sciences, namely, metaphysics and...} whose
subjects are immaterial, necessary, and "separated from matter and change." (Regarding this last clause, Aquinas clarifies that though many of the subjects of the speculative sciences depend on material objects for their existence — the subjects of mathematics and the physical sciences, for instance, are such that "they cannot exist except in material objects" — what the speculative sciences study are items that in some way are not material, but rather are immaterial and unchanging.) So what are these immaterial, necessary, and unchanging items, which are the subjects of the various sciences? Aquinas calls them natures, quiddities, or "formal aspects" [rationes].

In this passage, Aquinas refers to the "matter" [materia] of a science, as well as the "things that are studied by speculative science" [speculabilia]. Given the context of the discussion, I take both of these expressions to refer to what I am here calling the subjects of a scientific discipline.

"Thus, since the matter must be proportionate to the end, the matter of the practical sciences must be things which we are able to accomplish by work, so that the cognition of them can be ordered toward their operation as an end. But the matter of the speculative sciences must be things which do not accomplish by work, hence the consideration of them cannot be ordered toward operation as an end. … And so the speculative sciences are divided by the differences in their subjects [lit: in their 'things-that-can-be-speculated'], inasmuch as they are subjects. … Accordingly, from the intellect it pertains to the subject to be immaterial, because the intellect itself is immaterial. And from science it pertains to the subject to be necessary, because science is of necessities. … But everything that is necessary, insofar as it is necessary, is unchangeable. … Thus, being separated from matter and change, or the connection to them, pertains to a subject, which is the object of a speculative science." ("Cum ergo oportet materiam fini esse proportionatam, oportet practicarum scientiarum materiam esse res illas quae a nostro opere fieri possunt, ut sic earum cognition in operationem quasi in finem ordinari possit. Speculativarum vero scientiarum materiam oportet esse res quae a nostro opere non fiunt; unde earum consideration in operationem ordinari non potest sicut in finem. ... Et ideo oportet scientias speculativas dividii per differentias speculabilium, in quantum speculabilia sunt. ... Ex parte siquidem intellectus competit et quod sit immateriale, quia et ipse intellectus immaterialis est; ex parte vero scientiae competit ei quod sit necessarium, quia scientia de necessariis est, ut probatur in I posteriorum. Omne autem necessarium, in quantum huismodi, est immobile; quia omne quod movetur, in quantum huismodi, est possibile esse et non esse vel simpliciter vel secundum quid, ut dicitur in IX metaphysicae. Sic ergo speculabili, quod est objectum scientiae speculativa, per se competit separatio a materia et motu vel applicatio ad ea." Super Boetium de trinitate, part 3, q. 5, a. 1, resp.)

"Quaedam ergo speculabilium sunt, quae dependent a materia secundum esse, quia non nisi in materia esse possunt." (Super Boetium de trinitate, part 3, q. 5, a. 1, resp.)

"Et ideo formae et rationes rerum quamvis in motu existentium, prout in se considerantur, absque motu sunt. Et sic de eis sunt scientiae et differentiationes, ut ibidem philosophus dicit." (Super Boetium
In his later discussions of the subjects of the speculative sciences, Aquinas expands upon his characterization of them. In these latter writings he says explicitly what is only implicit in his commentary on Boethius: the various sciences are distinguished by their subject matter, and each science has only one subject. It is in virtue of having this single subject that the science is unified; physics is rightly called a single science because it has a single subject. Yet even though each science treats of a single subject, the same physical object may be studied under different sciences in virtue of containing within it many different formal aspects. Thus, the very same object may be studied by different sciences: an iron sphere is studied by physics in virtue of its being a mobile object, it is studied by geometry in virtue of its three-dimensionality, and it is studied by metallurgy in virtue of its composition. Furthermore, this single subject of the science can be identified by investigating the science's axioms; for the subject of the science just is the subject-term of the axioms of the science.

The generations following Aquinas find a great deal to agree with when it comes to the nature of the scientific subjects. Henry of Ghent, for instance, affirms that there is a single subject to each science and that this single subject is what makes the science...
Henry also seems to agree with Aquinas's notion that the subjects of sciences are formal aspects (or, in Teske's phrase, "characteristics"); he likewise affirms that the subjects of science must be in some way universal. Giles of Rome, in his commentary on Aristotle's *Physics*, likewise follows Aquinas on these points.

Scotus, for his part, provides a sustained treatment of the nature of the subject of a science in the prologue to his Parisian commentary on the *Sentences*. In this discussion, Scotus agrees with the bulk of the claims made by Aquinas, Henry, and Giles, agreeing that each science has one subject and that the unity of its subject is

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325 “…a science is commonly said to be one, because it has one subject of one character, and in that particular character all the things which that science considers somehow share. … For however diverse some things are among themselves, if they take on the one character that primarily belongs to that which is essentially the subject of the science, there is one science of all those things through their attribution to the subject of the science, to which that character primarily pertains.” (*Summa quaestionum ordinarium*, a. 6, q. 3; translation by Roland J. Teske, in Ghent 2011, p. 37)

326 For instance, Henry says it is medicine's subject is "the human body insofar as it is the essential subject of health and of the art of medicine," while "in natural science … moveable body is the subject whose formal characteristic is moveableness." (*Summa quaestionum ordinarium*, a. 6, q. 3; Ghent 2011, pp. 37, 40)

327 “…like any other science, theology is about universal and intelligible things." (*Summa quaestionum ordinarium*, a. 6, q. 1; Ghent 2011, p. 26)

328 For discussion and citations, see Maurer 1999, pp. 140-141.

329 Reportatio 1-A, Prologue, q. 1, a. 2 (in Scotus 2004, pp. 4-17). (I am presently unable to consult the *Ordinatio* and *Lectura* to confirm whether they have corresponding discussions.) It should be noted that Scotus himself uses both the term "first subject" and the term "first object" to designate what I here call the subject of a science. For more on Scotus's treatment, see Krop 1987.

330 I do not mean to suggest that, in agreeing with Aquinas et al. about what it is to be the *subject* of a science, Scotus agrees with them on other features of the scientific project, such as its aims, the nature of its conclusions, and so forth. For more on these points, see Longeway 2007, pp. 46-101; and Serene 1982.

331 "From the cognition of this subject everything that pertains to its essence is cognized, and it is not cognized from anything else; thus it is rightly called the first subject of the science, because it contains virtually in itself the knowledge that pertains to the science." (*Reportatio 1-A*, Prologue, q. 1, art. 2; Scotuss 2004, p. 5) Cf. Scotus's early *Questions on the Metaphysics*: "every science that considers many things *per se*—not as attributes or causes—either has a subject that is common to them or one primary subject to which the other things are attributed." (*Questions on the Metaphysics I*, q. 1; translated by Girard Etzkorn and Allan Wolter in in Scotus 1997, vol. 1, p. 39)
what unifies a science. Furthermore, the conclusions of the science are *predications*, predicating of the subject of the science its proper attributes. Subjects are universal, with one very notable exception. Furthermore, Scotus says, the entire science is *virtually contained* in its subject: for since the axioms of the science express essential truths about the science's subject, and since the conclusions of the science are simply deductive consequences of the science's axioms, thus the science's conclusions are all "contained" in the subject, just waiting to be "unpacked" by scientific demonstrations.

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332 "Every science is one, not from the unity of a conclusion, but from the unity of a subject in which all the principles of that science are dispersed." (Reportatio 1-A, Prologue, q. 3; in Scotus 2004, p. 84) Cf. Scotus's early Questions on the Isagoge: "All other things within the purview of the science are brought back to the subject and are considered because of it (for otherwise the unity of the science would not derive from the subject's unity)." (Quaestiones in Librum Porphyrii Isagoge, q. 3; in Scotus 1997-2006, vol. 1, p. 14)

333 "The passions of the subject are demonstrated of it in the science by the subject's 'what it is.'" (Quaestiones in Librum Porphyrii Isagoge, q. 3; in Scotus 1997-2006, vol. 1, p. 14)

334 "It is clear that theology is distinct from the philosophical sciences because it has a different formal subject; for theology's subject is singular, while the subject of every other science is something universal. This is also clear by induction: Physics is of the changeable, but this is not the subject of theology for God is not changeable. Geometry is of the quantified, but God is not quantified....." ("Ulterius si quaeratur an theologia sit distincta a scientiis philosophicis patet quod sic quia habet aliquid subiectum formale quia subiectum eius est singulare, subiectum vero alienum scientiarum est aliud universale. Hoc etiam patet discurrendo. Quia si physica est de mobile, haec non est illa quia Deus non est mutabilis. Si geometria est de quanto, Deus non est sic quantus."); Reportatio 1-A, prologue, q. 3; Scotus 2004, p. 86)

335 The axioms of a science are *per se* predications in either the first or second mode of *per se* predication; thus they are all statements of the form 'S is P', where either P is included in the definition of S or S is included in the definition of P. (See Longeway 2007, pp. 142, 147.)

336 Here there appears to be a point of contention between Scotus and his predecessors; for Aquinas held that the entire subject is virtually contained in the *principles* of the science, not in its subject (see ST Ia, q. 1, a. 7). But given that Aquinas agrees that the principles of a science are *per se* predications in the first two modes of *per se* predication, he should agree that these principles can themselves be said to be "contained" in the subject. Ockham's contemporary and frequent critic John of Reading backs Scotus on this point: "The nature [ratione] of a subject of a science is to contain virtually all the truths of that science." (John of Reading, Scriptum in primum librum Sententiaum, prologue, q. 5, art. 1; in Reading 2011, p. 312)

Scotus goes on to provide six further conditions for being the subject of a science: "There seem to be six conditions on being the first subject of a given science: First, that the science be specified and determined by it, just as a power is specified and determined by its first object. Second, that the science has its dignity in virtue of it. Third, that the other things considered in the science be said of it, in the way in which the predicate in a sentence is said of the subject. Fourth, that it be the first thing that occurs to the
4.6 Ockham's Master Argument

As we have just seen, Ockham's predecessors express a near consensus that Aristotelian sciences have for their subjects universals. Of course, there is disagreement concerning the nature of the universals which I have not much touched upon here; some of his predecessors thought these universals were Platonic forms in the mind of God, others that they were common natures somehow located in ordinary particulars. But, in general, the majority agreed that the scientific disciplines (albeit, perhaps, with a few exceptions for unique disciplines such as logic and theology) had for their subjects extra-mental universals.

So now let's return to the Real Science Argument that Ockham considers in the fourth question of the second distinction of the *Ordinatio*:

Secondly, it is argued that a real science is about true real [universal] things outside the soul, because this is what distinguishes a real science from a rational science. And since no science is primarily of real singular things (as is clear according to the Philosopher in *Posterior Analytics* book I and *Metaphysics* book VII), thus there are some real [universal] things outside the soul in addition to the singular real things.337

As we've seen, this reasoning would appeal to most of Ockham's predecessors and contemporaries.338 But, of course, as he rejects the existence of any sort of extra-mental intellect in that science, and that the other things in the science occur to the intellect under its concept. Fifth, that it is able to be the subject of the principles of the science. And sixth, that its proper attributes and properties are considered in the science.

337 "Secundo arguitur sic: scientia realis est de veris rebus extra animam, quia per hoc distinguittur scientia realis a scientia rationali; sed nulla scientia est primo de rebus singularibus; igitur sunt aliquae res extra animam praeter res singularae. Minor est manifesta secundum Philosophum, I Posterioum et VII Metaphysicae." (Ord., d. 2, q. 4; OTh II, p. 103)

338 As noted above, Henry of Harclay, in the years immediately prior to Ockham's work, ascribes this very argument to "many others." See n. 288.
universal, Ockham cannot accept the upshot of this argument. Nor is he satisfied with responses such as that given by his predecessor Henry of Harclay, who says that ordinary particulars are the subject of science, but only when considered confusedly and abstractly. And so, Ockham responds as we saw above:

… I say that real science is … [of] things that only supposit for real things. In order to understand this … it must be known that every science … is only of sentences … [However], some sentences are only conceived and understood, others are spoken, and others are written.

Ockham's claim here is that all the objects of science are sentences (and as is made clear later, mental sentences in particular), while all the subjects of science are concepts ("things that supposit"). But how is this supposed to work? Ockham fills in the answer later on:

Yet because the terms of some sentences stand and supposit personally, namely for the very external real things (as in the mental sentences 'EVERY MOBILE THING IS PARTLY IN THE TERMINUS A QUO [AND PARTLY IN THE TERMINUS AD QUEM]', 'EVERY HUMAN IS RISIBLE', 'EVERY TRIANGLE HAS THREE [SIDES]', and so on), the there is said to be real science of such sentences. The terms of other mental sentences supposit simply, namely for the concepts themselves (as in 'EVERY DEMONSTRATION IS FROM TRUE FIRST [PRINCIPLES]', 'HUMAN IS A SPECIES', and so on).

Of course, there might be some worry about the precise wording of the premises and the conclusion: Aquinas, for instance, would insist that sciences such as physics and geometry are about universal natures or formal aspects, but that these natures and aspects only exist extramentally in ordinary particulars. Thus in Aquinas's mind it's not quite correct to say, as Ockham's imaginary interlocutor does, that there are "real things outside the soul in addition to the singular real things;" rather, better to say that there are real universal things outside the soul which are borne by or contained in the singular real things.


340 "Ad secundum argumentum principale dico quod scientia realis non est semper de rebus tamquam de illis quae immediate scintur sed de aliis pro rebus tantum supponentibus. Ad cuius intellectum et propter multa prius dicta et dicenda, propter aliquos inexercitatos in logica, est scendium quod scientia quaeslibet sive sit realis sive rationalis est tantum de propositionibus tamquam de illis quae scintur, quia solae propositiones scintunt. Propositio autem, secundum Boethium, i Perihermenias, habet tripex esse, scilicet in mente, in voce et in scripto, hoc est dictu: aliqua propositio est tantum concepta et intellecta, aliqua est prolata, et aliqua est scripta." (Ord., d. 2, q. 4; OTh II, pp. 134).
on); and so there is said to be rational science of such sentences. So then, it
doesn't matter at all for real science whether the terms of the known mental are
real external things or are only in the soul, provided that the terms stand and
supposit for real external things…\textsuperscript{341}

Ockham's response is ultimately that the subjects of scientific disciplines are not
universals, but merely concepts, while the objects of scientific disciplines are mental
sentences. In particular, the objects of a given science (say, geometry) are the mental
sentences that are the conclusions of the scientific demonstrations of that science (where
the demonstrations are themselves elements of mental language): thus the objects of
geometry are mental sentences like \textit{every triangle has interior angles that sum to
180 degrees} or \textit{the square of the hypotenuse of a right triangle is equal to the
sum of the squares of the other two sides}.\textsuperscript{342} The subjects of a given science are
simply the concepts which are the subject terms of the conclusions (i.e., the objects) of
the science.\textsuperscript{343} Thus, in contrast to his predecessors, Ockham denies that each science has

\textsuperscript{341} "Quia tamen termini aliquarum propositionum stant et suppouunt personaliter, scilicet pro
ipvis rebus extra, sicut in talibus; omne mobile partim est in termino a quo etc., omnis homo est risibilis,
onmis triangulus habet tres etc., et sic de aliis; ideo talium propositionum dicitur esse scientia reals.
Termini autem aliuarum propositionum supponunt simpliciter, scilicet pro ipsis conceptibus, sicut in ipsis:
onmis demonstratio est ex primit et veris etc., homo est species, et sic de aliis; ideo talium dicitur esse
scientia rationalis. Nihil igitur refert ad scientiam realem an termini propositionis scita:s sint res extra
animam vel tantum sint in anima, dummodo stent et supponant pro ipsis rebus extra; et ita propter
scientiam realem non oportet ponere aliquas tales res universales distinctas realiter a rebus singularibus."
(Ord., d. 2., q. 4; OTh II, p. 137)

\textsuperscript{342} “The object of a science is the entire known mental sentence…” (“Nam objectum scientiae est
tota propositio nota…” ExpPhys, Prologue, sec. 3; OPh IV, p. 9) Also: “The sentences which are known
by natural science are not composed from sensible things, nor from substances, but are composed from
intentions or concepts of the soul that are common to such real things.” (“Nunc autem ita est quod
complexa quae sciantur per scientiam naturalem, non componuntur ex rebus sensibilibus nec ex
substantiis, sed componuntur ex intentionibus seu conceptibus animae communibus talibus rebus.”
ExpPhys, Prologue, sec. 4; OPh IV, p. 11)

\textsuperscript{343} "In the way in which the Philosopher takes 'subject' in the Posterior Analytics, the very same
thing is the subject both of the conclusion and of the science; and it is called the subject [of the science]
only because it is the subject of the conclusion.” (“Et sic accipit Philosophus 'subiectum' in libro
Posteriorium; et sic idem est subjectum conclusionis et scientiae; nec dicitur subiectum, nisi quia est
subiectum conclusionis.” ExpPhys, Prologue, sec. 3; OPh IV, p. 9) More precisely, given my conclusions
but a single subject; rather, a science has as many subjects as there are distinct subject terms in the science's conclusions. Thus where Aquinas insisted that the sole subject of geometry is magnitude, Ockham claims that geometry has as subjects the concepts TRIANGLE, SQUARE, POLYGON, ANGLE, HYPOTENUSE, LINE, POINT, and more.\(^\text{344}\)

What distinguishes a real science like physics from a rational science like logic, on Ockham's view, is not that the real sciences have extra-mental universals for subjects while the rational sciences have intra-mental universals for subjects; rather, the difference between them rests upon the different modes of supposition had by their subjects:\(^\text{345}\) The subject (or subjects) of a real science supposit personally in the conclusions of that science, while the subject(s) of a rational science supposit simply in the conclusions of that science. To put it casually, the concepts which are the subjects of physics refer to extra-mental particulars, while the concepts which are the subjects of logic refer to intra-mental particulars; and this, Ockham thinks, is sufficient to distinguish the real sciences from the rational sciences.

Now, I stated near the beginning of this chapter that Ockham's response here is part of what I called Ockham's Master Argument for mental language. Recall that I claimed Ockham argues for the existence of mental language thusly:

**Ockham's Master Argument for Mental Language**

\[^{344}\text{For Aquinas's opinion on the subject of geometry, see In Posterior Analytics, book I, lectio 15.}\]

\[^{345}\text{I discuss the kinds of supposition in sec. 1.2.3.}\]
(M1) In order to fulfill the strictures of Aristotelian science, either there must be extra-mental universals or there must be a mental language.

(M2) All accounts according to which there are extra-mental universals are incoherent.

(M3) Therefore, for there to be Aristotelian science, there must be a mental language.

But given that no other scholars have identified such an argument in Ockham's works, let alone in this well-known passage, why think that this is how Ockham is ultimately arguing here? For several reasons: The first is simply that Ockham seems to indicate that this is exactly what he is doing; he concludes his reply to the Real Science Argument by stating that what he has done by positing mental language is to provide an alternative to positing extra-mental universals; while his predecessors were nearly all convinced that Aristotelian science committed them to some account of universals, Ockham concludes that,

Thus there is no need to posit any real universal things really distinct from singular real things on account of real science.\(^{346}\)

Second, as I noted at the beginning of this chapter, Ockham's philosophical methodology seems to commit him to provide some reason for positing mental language; it would appear to be a significant lacuna in his philosophical project were he to ignore it completely. And given that this passage in the second distinction of the *Ordinatio* is the

\(^{346}\) "... et ita propter scientiam realem non oportet ponere aliquas tales res universales distinctas realiter a rebus singularibus." (Ord., d. 2., q. 4; OTh II, p. 137)
first time in his corpus that he presents all the core elements of the theory of mental language, this would be a reasonable place to expect such an argument to arise.

Lastly, this is not the only place where Ockham offers roughly this argument for mental language. I remarked earlier that the secondary literature had largely overlooked this argument in the *Ordinatio*; I find it somewhat remarkable that the literature has missed this, but what's even more remarkable is that the literature has failed to notice that Ockham gives variations of this same condensed argument in a number of other works. For instance, each of Ockham's commentaries on the *Physics* presents roughly the same line of argument. A similar argument occurs in Ockham's *Brief Commentary on the Physics*:

It must be noted that this science – just as with all others – is about [non-extra-mental] universals and noncomplex [cognitions], and not of real things. For if it were of real things, these would be either universal real things or particular real things; but it is not of universal real things, because there are no such things (as is proved in Metaphysics VII); nor is it of singular real things (as is also proved in Metaphysics VII, and is frequently proved elsewhere). Thus, this science is of concepts.  

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Here Ockham clearly states a premise closely analogous to (M2) of the Master Argument: "[Real science] is not of universal real things, because there are no such things." But the other premise of this argument isn't quite (M1); instead of the claim that science entails either real universals or a mental language, Ockham here only concludes

347 "…notandum quod ista scientia, sicut et quaelibet alia, est de universalibus et de incomplexis, et non de rebus. Quod probatur, quia si esset de rebus, aut de universalibus aut de particularibus. Non primum, quia nulla talis est, ut probatur VII Metaphysicae. Nec de singularibus, sicut etiam probatur VII Metaphysicae, et alias frequenter probatum est; igitur est de intentionibus." (*BrevSumma*, Prologue, ch. 2; *OPh* VI, p. 5).
that science must be about concepts; and holding that science is about concepts doesn't
obviously entail a full theory of mental language.

And in the Prologue to Ockham's much longer *Expositio* on the *Physics*, he
expands the argument from the *Brief Commentary*, arguing that,

It must be known that a real science is not of real things, but is of concepts
suppositing for real things, because the terms of the mental sentences which are
known supposit for real things. Hence, in the known mental sentence *EVERY
HEAT IS CALEFACTIVE*, a concept common to every heat is made the subject and
supposits for every heat, and so it is called real knowledge and real science.348

Here we get several more conditions: not only must real science be of concepts as
subjects, but real science requires the existence of mental sentences as well; and the
concepts and sentences also need to be able to supposit for objects in the world. At this
point, it is looking more and more that what Ockham thinks real science requires, if not
extra-mental universals, is a mental language; and that is just what (M1) in the Master
Argument says.

348 And Ockham continues: "… In the same way, I say that logic is thus distinguished from the
real sciences because real sciences are about concepts (because they are about [non-extra-mental]
universals) suppositing for real things. For the terms of real sciences, although they are concepts,
nevertheless they supposit for real things; but logic is about concepts suppositing for concepts. Thus, in the
mental sentence *EVERY SPECIES IS PREDICATED OF MANY NUMERICALLY DIFFERENT THINGS,* one concept
that supposit only for other concepts (and not for real extra-mental things) is made the subject, because no
real extra-mental thing is predicated of many things (except perhaps a spoken or written word, which is
predicated by established convention)." "*Ad primum istorum dicendum est quod scientia realis non est de
rebus, sed est de intentionibus supponentibus pro rebus, quia termini propositionium scitarum supponunt
pro rebus. Unde in ista propositione scita 'omnis ignis est calefactivus' subicitur una intentionis communis
omni igni et pro omni igne supponit, et ideo dicitur notitia et scientia realis. Per idem ad secundum dico
quod logica per hoc distinguirit a scientiis realibus quia scientiae reales sunt de intentionibus, quia de
universaliibus supponentibus pro rebus: quia termini scientiarum realium quamvis sint intentiones, tamen
supponunt pro rebus; sed logica est de intentionibus supponentibus pro intentionibus. Sic igitur in ista
propositione 'species praedicatur de pluribus differentibus numero' subicitur una intentione et non supponit
nisi pro intentionibus, et non pro rebus extra, quia nulla res extra praedicatur de pluribus nisi forte vox vel
scriptum ad placitum instituentium." (ExpPhys, Prologue, sec. 4; OPh IV, p. 12)
Let us conclude that Ockham indeed does argue this way. The question then arises: is the Master Argument sound? Assessing the truth of premise (M2) is far beyond the scope of this work; determining whether or not there is some coherent realist theory of universals would require a quite different dissertation altogether.\footnote{349} Instead, I will focus my attention on (M1). But even here I will only carry out a small part of assessing that premise's truth; to do so in full would require showing that nothing other than mental language or a realist theory of universals can fulfill the demands of Aristotelian science. My project in the final chapter, instead, will be to discuss how Ockham takes his account of mental language to indeed fulfill all the requirements laid out by Aristotelian science, and how this attempt to satisfy the strictures of Aristotelian science is ultimately what drives Ockham's entire theory of mental language.

\footnote{349} Even determining whether Ockham successfully shows all the specific theories he considers to be incoherent would be a project in itself. For attempts to do just this, see Adams 1987, chs. 1-2, as well as Tweedale 1999.
CHAPTER 5:
MENTAL LANGUAGE AND THE STRICTURES OF ARISTOTELIAN SCIENCE

5.1 Introduction

In the previous chapter, we saw what I called Ockham's Master Argument for Mental Language; as we saw, Ockham argues for the existence of mental language by claiming that since (as he believes he has shown) no account of extra-mental universals is coherent, the strictures of Aristotelian science can only be met by positing a mental language. In this chapter, we will see whether Ockham can successfully show that his account of mental language can adequately meet these requirements. Thus, I will begin by detailing these requirements that Ockham's account must fulfill; I will then move on to discuss how Ockham takes his account of mental language to meet these requirements. My discussion here will be somewhat programmatic; a fuller account of this material will be a project for future research.

5.2 A Methodological Point

But before I continue on this project, I must defend a certain methodological decision. Most authors who have discussed Ockham's mental language have tended to confine themselves to the *Summa logicae*, and perhaps also the *Quodlibeta septem*. There are quite good reasons for this: as I've mentioned a number of times in previous
Ockham famously changed his minds on several issues, including issues related to mental language, throughout his philosophical career. As the *Summa* and the *Quodlibeta* are both late works, focusing on them ensures that we are discussing only Ockham's mature position, rather than views that he may have abandoned. Additionally, the *Summa logicae* seems to take the theory of mental language as one of its main topics: Ockham introduces the notion on the very first page, and the first dozen or so chapters are devoted to exploring the similarities and dissimilarities between conventional languages and mental language. In contrast, Ockham's other writings—his *Sentences* commentary, or his commentaries on Aristotle's *Physics*, for instance—clearly have other topics (theological, philosophical, and scientific) as their central focus, and mental language appears in a piecemeal fashion in these works: a small discussion here, another there, but without the sustained focus that can be found in the opening of the *Summa logicae*.

Despite these reasons, my method at present will put significantly less emphasis on the *Summa* and the *Quodlibeta*, and I will instead focus my discussion primarily on passages from Ockham's *Ordinatio* on the first book of the *Sentences* and Ockham's four commentaries on the *Physics*. I concentrate on these works because it is in these settings,

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350 See, for instance, secs. 1.2.2 and 3.3.1.

351 See, for example, King 2005b, pp. 3-7: "[Logic's] proper subject, according to Ockham, is not conventional 'natural' languages such as English or French, but rather what makes them possible in the first place: Mental Language." (p. 3)

352 Most Ockham scholars appear to believe that mental language is also the primary focus throughout the remainder of the *Summa logicae*; I'm unconvinced that this is the case, but cannot defend this contention here. I will merely note that many of the discussions throughout the *Summa* do not make much sense if they are of a language free of most equivocal and synonymous expressions, as Ockham supposes mental language to be. For just one example, the final part of the *Summa* is a short treatise on informal fallacies, focusing largely on the fallacies of equivocation and amphiboly.
when discussing theological or (broadly) scientific issues, that Ockham actually puts the theory of mental language *to use*; it is when confronting difficult problems or objections in these areas that Ockham deploys the theory of mental language. In the *Summa* and the *Quodlibeta*, conversely, Ockham largely spends his time explaining structural features of the theory, without ever making it clear what philosophical purpose he actually attributes to mental language. So, I claim, by carefully considering the sorts of problems that Ockham thinks mental language can solve, we can see what Ockham's theory is supposed to be a theory *of*; and the view we'll come to will be very different than if we had just focused on the discussions in the *Summa* and the *Quodlibeta*.

And when we look to the *Sentences* and *Physics* commentaries, we find a common theme running through the questions in which Ockham draws upon the theory of mental language can help solve. Ockham brings up mental language while tackling topics such as the nature of the referents of predicates in statements about God,353 as well as the nature of the referents of predicates in general,354 the nature of the objects of God's knowledge,355 and more in the same vein. Additionally, mental language is brought to bear on the questions of whether the subjects of Aristotelian sciences are universals,356 whether distinct sciences need distinct subjects, whether the priority relations among sciences entail an isomorphic priority relations among their subjects, whether the predicates demonstrated in real sciences are real passions, whether real sciences are of

353 *Ord.*, Prologue, q. 2 (*OTh* I, pp. 110-1).
354 *Ord.*, Prologue, q. 3 (*OTh* I, pp. 134-6).
355 *Ord.*, d. 39 (*OTh* IV, pp. 588-592).
356 *Ord.*, d. 2, q. 4 (*OTh* II, pp. 134-138).
necessary entities; and so on. There are also many more discussions closely tied to the nature of science; for example, Ockham appeals to mental language to argue that the passions predicated in the conclusions of a science are not identical to the subjects of that science, to distinguish science from other epistemic states, and to investigate whether there is any overlap between the conclusions of theology and the conclusions of natural science. Now, I must note that there are discussions of mental language in the context of cognitive theory in Ockham's works, but these discussions are most remarkable for not including the full theoretical machinery of mental language that Ockham brings to bear elsewhere.

A close examination of all these texts is not possible here; but what this brief survey indicates is the close connection Ockham sees between his theory of mental language and the development of his account of the sciences: the questions that Ockham

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357 These discussions can be found in Ord., d. 24, q. 2 (arguing that distinct real sciences do not need distinct real subjects, and that the priority relations that exist among sciences do not necessitate isomorphic priority relations among their subjects; see OTh IV, pp. 92-93, 115-117); Rep. II, q. 7 (that a real science does not demonstrate real passions of a real subject; OTh V, pp. 99-151); ExpPhys, Prologue, sec. 4 (that the science of nature need not have some real thing as its subject in order for that science to be distinguished from rational sciences like logic; OPh IV, pp. 10-14); BrevSumma, Prologue, ch. 2 and Summulae, preamble (that real science is not of real, necessary things as subjects; OPh VI, pp. 5-8, 140-144).

358 Ord., Prologue, q. 3 (OTh I, pp. 129-143).

359 Quod., III.8 (OTh IX, pp. 232-237).

360 Quod., V.1-V.3 (OTh IX, pp. 475-491).

361 For instance, Ord., d. 22 (OTh IV, pp. 48-49); Rep. II, d. 12/13, (OTh V, pp. 277-297), Rep. II, d. 16 (OTh V, pp. 359-381) Rep. III, d. 14 (OTh VI, pp. 294-297), and QuesPhys. q. 7 ("An intellect apprehending by intuition a singular thing elicits an intuitive cognition in itself, which is a cognition of that singular, apt by nature to supposit for that singular thing"; OPh VI, p. 411). Among the "machinery" of Ockham's mental language that are lacking in these discussions are any mention of the nature of mental grammar; the approving quotation of Boethius' famous tri-partite division of language into written, spoken, and mental; an appeal to the distinction between absolute and connotative concepts, etc. Talk of the supposition of concepts is also largely absent in these texts, with the exception of the passage quoted from Ques. in Phys. q. 7.
thinks mental language can help answer are exactly those that deal with the relationships among the various scientific disciplines and the subjects and objects studied by those disciplines. This, I take it, is evidence in favor of the central claim of my last chapter, namely, that Ockham sees mental language as his alternative to postulating common natures for the purpose of fulfilling the requirements of Aristotelian science. In the following section I will turn to a closer examination of these requirements; the reminder of my discussion will consist in detailing how Ockham's theory of mental language is meant to fulfill these strictures.

5.3 The Requirements of Aristotelian Science

In the previous chapter, I touched on Aristotle's project in the Posterior Analytics to investigate the nature of scientific demonstration and scientific definition. In the course of this investigation, as well as elsewhere in his corpus, Aristotle invokes the notions of a scientific discipline (being a distinct sphere of inquiry with its own unique subject matter and its own unique form of inquiry) and of scientific knowledge (being...)

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362 See sec. 4.4.

363 Thus Aristotle: "...the mathematical sciences are acquired in this way, and so is each of the other arts." (PA 1.1, 71a3-4; translation by Jonathan Barnes in Aristotle 1994, p. 1) Consider also the discussion of the relationships between various sciences (including optics, geometry, harmonics, arithmetic, astronomy, medicine, etc.) in PA 1.13 (78b35-79a15) and PA 1.27-28 (87a30-87b4). Similarly: "...it will be like proving something in harmonics by arithmetic. ... the fact falls under one science, while the reason falls under the higher science." (PA 1.9, 76a10-13; Aristotle 1994, p. 14) For a contrary view, though, note Ferejohn 1991's dissenting opinion: "If by a 'science' one means to denote a scientific discipline, that is, a discrete area of investigation or expertise delineated from others by having ... a distinct subject matter ..., then it is simply wrong to think that any such highly specific concept is present from the outset of the Posterior Analytics." (p. 2) Much of the remainder of Ferejohn's book is dedicated to justifying this particular claim.

364 Thus Aristotle: "Whether there is also another type of understanding we shall say later: here we assert that we do know things through demonstrations. By a demonstration I mean a scientific deduction; and by scientific I mean a deduction by possessing which we understand something." (PA 1.2, 71b17-18; in
the distinct kind of knowledge which comes via scientific demonstration *propter quid*).

Along the way, Aristotle sets out a number of requirements for scientific knowledge. In what follows, I will focus on the following, which I take to constitute the core of Aristotle's theory:365

1. A scientific demonstration proceeds from premises that are known non-inferentially.366

2. In a scientific demonstration, it is demonstrated that some attribute necessarily belongs to the subject of the demonstration.367

3. The subjects of scientific demonstration are imperishable.368

4. The objects of scientific demonstration are necessary truths.369

To these four requirements, Ockham's predecessors added the following:

Aristotle 1993, p. 2) Also: "Deductions giving the reason why are carried out, either in general or for the most part and in most cases, through [the first] figure. For this reason, then, it is especially scientific; for study of the reason why has most importance for knowledge." (*PA* I.14, 79a21-24; Aristotle 1993, p. 22)

Cf. *NE* VI.3: "Knowledge, then, is a state of capacity to demonstrate, and has the other limiting characteristics which we specify in the *Analytics*…" (translation by W.D. Ross, revised by J.O. Urmson, in Aristotle 1984, p. 1799).

365 There are a number of further requirements; for instance, Aristotle specifies the form that the highest demonstration takes (it will be a syllogism in the mood *Barbara*, consisting of necessary universally quantified premises) and makes a number of observations on the nature of the middle term in scientific demonstrations.

366 Thus Aristotle: "Demonstrative understanding in particular must proceed from items which are true and primitive and immediate and more familiar than and prior to and explanatory of the conclusions. … There can be a deduction even if these conditions are not met, but there cannot be a demonstration—for it will not bring about understanding." (*PA* I.2, 71b21-25; Aristotle 1993, pp. 2-3)

367 Thus Aristotle: "Since in each kind whatever holds of something in itself and as such holds of it from necessity, it is clear that scientific demonstrations are concerned with what holds of things in themselves…" (*PA* I.6, 75a29-32; Aristotle 1993, p. 12)

368 Thus Aristotle: "There is no demonstration of perishable things…because nothing holds of them universally but only at some time and in some way." (*PA* I.8, 74b24-26; Aristotle 1993, p. 13)

369 Thus Aristotle: "If there is understanding *simplicer* of something, it is impossible for it to be otherwise." (*PA* I.2, 71b16-17; Aristotle 1993, p. 2) Also: "What is understandable in virtue of demonstrative understanding will be necessary." (*PA* I.4, 73a21-23; Aristotle 1993, p. 6) Again: "Therefore the object of knowledge is of necessity." (*NE* VI.3, 1139b20-21; Aristotle 1984, p. 1799)
5. There is a distinction between those sciences that study the external world (so-called "real sciences") and those that study cognition (so-called "rational sciences").

5.4 Ockham's Theory of Science

In this section, I detail Ockham's account of science, scientific knowledge, and scientific demonstration, as well as his views on their subjects and objects; I'll do so by first setting his views out and then rehearsing the arguments he presents for each of his positions. Following this, I will show how Ockham intends for his account to fulfill the requirements Aristotle laid out on these matters.

To begin, Ockham takes it that scientific demonstrations are themselves an element of mental language. For a demonstration is a certain kind of syllogism – namely, a syllogism which has two necessary truths as premises and which brings about knowledge of a previously unknown necessary truth – and syllogisms are just another

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\[\text{\textsuperscript{371}}\]"In the beginning it must be known that, according to the teaching of Aristotle, a demonstration is a syllogism producing knowing. … [Here] 'knowing' is taken for evident comprehension of a necessary truth brought about by evident comprehension of two necessary truths (placed in the proper mood and figure), so that those two truths make the third truth (which otherwise would have been unknown) known evidently." ("Oportet autem in principio scire quod, secundum doctrinam Aristotelis, demonstratio est syllogismus faciens scire. … Tertio modo dicitur scientia evidens comprehensio unius veritatis necessariae per evidentem comprehensionem duarum veritatum necessariarum, in modo et figura dispositarum, ut illae duae veritates faciant tertiam veritatem evidenter scire, quae aliter esset ignota. Et sic accipitur 'scire' in praedicta definitione." SL III-2, ch. 1; OPh I, pp. 505-506). I ignore here for ease of presentation Ockham's parenthetical comment, which refers to his view that only syllogisms in the modes \textit{Barbara} (a syllogism having two universal affirmative premises and a universal affirmative conclusion) and \textit{Celarent} (a syllogism having one universal affirmative premise, one universal negative premise, and a universal negative conclusion) count as demonstrations.
element of mental language, being composed of mental sentences.\textsuperscript{372} The object of the demonstration just is what is proved by the demonstration (thus being the conclusion that is demonstrated), while the subject of the demonstration just is the subject term of the conclusion. So then, the demonstration itself is an element of mental language, and so are the subject and the object of the demonstration, for the object of the demonstration is the mental sentence which constitutes the conclusion-part of the demonstration, while the subject of the demonstration is the mental term which constitutes the subject-part of the aforesaid mental sentence.\textsuperscript{373}

For an example, consider Aristotle's own example of a (supposed!) scientific demonstration from the \textit{Posterior Analytics}:

1. The planets are not far away.
2. What is not far away does not twinkle.
3. Therefore, the planets do not twinkle.\textsuperscript{374}

On Ockham's account, there is an element in mental language corresponding to this argument,\textsuperscript{375} and it is this element that is truly a demonstration; what is written above is

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\textsuperscript{372} "…passions of the soul…as well as mental sentences, syllogisms, and all universals, are nothing other than certain \textit{ficta} in the soul having only objective being (that is, being cognized), really existing nowhere." ("Tertia opinio principalis posset esse, sicut tactum est, quod passiones animae…et propositiones et syllogismi et universalia omnia non sunt nisi quaedam ficta in anima habentia tantum esse obiectivum, hoc est esse cognitum, nullibi existentia realiter." InPeri, Prologue, sec. 10; \textit{OPh} II, p. 370) Cf. \textit{Ord.}, Prologue, q. 8 (\textit{OTH} I, pp. 218-219): "I say that there can be a single habit of both principles and a conclusion. This is proved, for of what there is apt to be a single act, there can be one habit. But there can be one act with respect to the premises and conclusions, because it is no more repugnant that a syllogism composed from many sentences be understood by one act than that a sentence composed from many terms [be understood by one act]; but a sentence is understood by a single act; therefore, etc."

\textsuperscript{373} As I showed in chapter 2, Ockham does not take himself to be committed to the parthood language here.

\textsuperscript{374} \textit{PA} I.13 (78a30-78b4); in Aristotle 1993, p. 20.
only a demonstration in a secondary sense. The object of this demonstration, then, is the mental sentence THE PLANETS DO NOT TWINKLE, and the subject of the demonstration is the mental term PLANETS.

It's in his next step where Ockham departs most from the thought of his contemporaries and gives a new twist to his Aristotelianism. The object of scientific knowledge, he decides, cannot be anything other than that which is known by such knowledge. And that which is known can't be anything other than that which was demonstrated in the argument. So the object of scientific knowledge is identical with the object of the demonstration, which just is a mental sentence. And the subject of such knowledge is, Ockham tells us, nothing other than the subject-term of the known mental sentence. So then, what is known by someone who has walked through the demonstration above just is the mental sentence THE PLANETS DO NOT TWINKLE, and the subject of that knowledge is, again, the mental term PLANETS.

375 Using our naming scheme for elements in mental language, that element, of course, would be this: THE PLANETS ARE NOT FAR AWAY AND WHAT IS NOT FAR AWAY DOES NOT TWINKLE AND SO THE PLANETS DO NOT TWINKLE.

376 This is a subtle point that many of Ockham's interpreters have either missed or at least not made explicit, implying that Ockham's view is merely that sentences (of whatever kind) are the objects of knowledge. This is a natural way to read certain texts, but I show in the next section why it is incorrect. For instances of this, see Leff 1975 (the objects of knowledge are "conclusions" or "propositions," pp. 320-327), Maurer 1999 ("the object of a science [is] the whole proposition"; p. 142) and even the writer of the Ockhamist Tractatus de Principiis Theologiae ("the known conclusion is the object of a science", sect. 55; OPh VII, p. 538). Chatton has it right when he attributes to Ockham the view that the object of scientific knowledge is a "complex in the intellect" (Prologus, q. 1, art. 1; Chatton 1989, p. 21); see also the discussion in Brower-Toland 2007b.

377 "...the subject of scientific knowledge is the subject of the conclusion, while the object of a science is that which is known and terminates the act of knowing. This, however, is the conclusion which is known." ("...quia subiectum scientiae est subiectum conclusionis, sed objectum scientiae est illud quod scitur et terminat actum scendi. Huiusmodi autem est ipsa conclusio scitae." Ord., Prologue, q. 9; OTh I, p. 266) See also ExpPhys, Prologue, sect. 3 (OPh IV, p. 9): "The object of scientific knowledge is the whole known mental sentence, and the subject is part of that sentence, namely, the subject term."
Finally, Ockham extends this line of reasoning to the science as a whole: since a science just is a collection of individual instances of scientific knowledge, to be an object of a science – that which the science is directed at – can't be anything other than to be an object of one of those individual instances of scientific knowledge. Thus a science such as astronomy has *many* objects; the objects of astronomy are mental sentences such as *THE PLANETS DO NOT TWINKLE, THE MOON IS SPHERICAL, THE STARS ARE FAR AWAY*, and so on. Similarly, to be a subject of a science is nothing other than to be a subject of one of the instances of scientific knowledge contained in the science; thus, the subjects of astronomy include (but are not limited to) mental terms such as *PLANETS, MOON, and STARS.*

5.4.1 Mental Sentences as the Objects of Scientific Knowledge

Why does Ockham think *sentences* are the objects of scientific demonstrations and scientific knowledge, rather than, say, propositions? Well, largely because of his thorough-going nominalism: he doesn't believe in the existence of any such things as propositions (where 'propositions' are taken to be abstract objects which are the fundamental bearers of truth and falsity). In this respect he differs from later thinkers such as his disciple Adam Wodeham and the Parisian Gregory of Rimini, both of whom

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378 "So I say that the nature of a subject is nothing other than to be made the subject of some predicate in a sentence known by scientific knowledge properly speaking, so that universally the same thing and under the same *ratione* is the subject of a science and the subject of a scientifically known conclusion" ("Ideo dico quod de ratione subiecti scientiae non est aliud nisi quod subiciatur respectu praedicati in propositione scita scientia proprie dicta, ita universaliter idem et sub eadem ratione est subiectum scientiae et subiectum conclusionis scitae." *Ord.*, Prologue, q. 9; *OTH* I, pp. 247-248) See also *ExpPhys*, Prologue, sect. 3 (*OPh* IV, p. 9): "The same thing is the subject of a conclusion and of the science; for nothing is called a subject except because it is the subject of a conclusion. And so when there are many conclusions having many subjects, … then of that science which is aggregated from all the instances of scientific knowledge of those conclusions, there is not some one subject, but there are many subjects of its many parts."
take the object of knowledge to be some sort of abstracta which provides the content for mental sentences. But Ockham seems not to be aware of the arguments that the thinkers of the next generation will marshall for thinking that some additional entity over and above sentences is needed to be a fundamental truth-bearer; as far as I can tell, Ockham nowhere even considers this possibility.\(^379\)

On the other hand, why does Ockham think that the objects of scientific demonstrations and scientific knowledge are sentences, rather than ordinary material objects in the world? This is a proposal he is familiar with, as it is held in varying ways by his contemporaries Walter Burley and Walter Chatton;\(^380\) but Ockham's response to it is rather curious. Here, Ockham replies that ordinary objects lack a key property that the objects of demonstration and knowledge must have; namely, no ordinary material particular can be true or false. Instead, only sentences can be true or false.\(^381\)

\(^379\) Following Gregory, this abstractum has been come to be known as a \textit{complexe significabile} (literally, "something that can be signified by a complex"). For more on Wodeham and Gregory's views, see Wodeham's \textit{Lectura Secunda}, d. 1, q. 1 (in Wodeham 1990, vol. 1, pp. 180-208) and Gregory's \textit{Lectura super primum et secundum Sententiarum}, Prologue (in Rimini 1979, vol. 1). Secondary discussion of this point can be found in Kretzmann 1970, Nuchelmans 1973, Karger 1995, and Brower-Toland 2006.

\(^380\) Burley expresses his views in his three commentaries on Aristotle's \textit{De interpretazione}; the first two commentaries are available in Brown 1973 and Brown 1974. The third commentary is only available in an early modern edition; see Burley 1509. For Chatton's views, see q. 1, art. 1 of the Prologue to his \textit{Sentences} commentaries (in Chatton 1989, pp. 17-45). For secondary discussion on Burley, see Karger 1996 and Cesalli 2007; for discussion on Chatton, see Karger 1995 and Brower-Toland 2006.

\(^381\) "[The act of knowing scientifically] is a complex act, having a complex for its object, because this act is one by which something true is known. … Therefore, only what is true is an object of scientific knowledge." ("…ille proprie est actus complexus habens pro objecto complexum, quia iste actus est quo aliquod verum scitur. … igitur solum verum est objectum scientiae." Quod. III.8; \textit{OTH} IX, pp. 234-235)

This claim – that only sentences can be true or false – is a view Ockham holds throughout his career, but it is one that many of his predecessors reject. It was a truism among the scholastics that 'being' and 'true' are "convertible"; that is, everything that exists is true and (if there are degrees of existence) an object is true precisely to the degree to which it exists. See, for example, Aquinas's Fourth Way, which argues there must be "something which is truest, best, and most noble; consequently, there must be something which is maximally a being, for those things which are maximally true are maximally beings." (\textit{ST} I, q. 2, a. 3, \textit{resp.}) Aquinas explicitly argues for the convertibility of 'being' and 'true' in \textit{ST} I, q. 16, a. 3. Similarly, see Scotus's \textit{Questions on the Metaphysics}, book VI, question 3, where Scotus says a thing
But why does Ockham insist that these objects are *mental* sentences, rather than spoken or written ones? First, because he thinks that only *mental* sentences are true or false in a primary sense; spoken (and presumably written, though Ockham doesn't explicitly say this) sentences are true only insofar as they serve to bring about the tokening of a true mental sentence in the hearer.³⁸² (So if, *per impossible*, all cognizers ceased to exist, no written sentence would be true or false; all of them would fail to have a truth value at all. Even the sentence "there are no cognizers" would, paradoxically, fail to be true if there were no cognizers.) Furthermore, only mental sentences can be *necessary* in a primary sense – but this takes a bit of explaining.

Typically, we think that a necessary truth is something that is true in all possible circumstances; but this can be only if (some of) the fundamental truth-bearers are objects that exist necessarily. For if it is necessary that every prime number greater than two is odd, than it must be that the truth-bearer with this content exists in all possible worlds; otherwise, there would be a possible situation in which both it is the case that every prime number greater than two is odd but *Every prime number greater than two is odd* fails to be true (because it doesn't exist). But this would be a possible situation in which a necessary truth is possibly not true – which is absurd.³⁸³

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³⁸² See *Quod.* II.19 (*OTh* IX, pp. 193-197) and III.13 (*OTh* IX, pp. 251-253).

³⁸³ For a fascinating discussion of this sort of argument (centered on the particular question of whether singular propositions are contingent in virtue of their depending upon contingent ordinary particulars), see Plantinga 1983, David 2009, and Speaks forthcoming.
Since Ockham believes that the only necessarily existent object is God – and thus that truth-bearers must be contingent entities – he rejects this line of argument. But which premise of the argument to reject? He decides that it must be the initial claim that necessary truths are truths that are true in all possible circumstances; in place of this criteria, he proposes that a necessary truth is "[a sentence] that is true and can never be false." That is, a necessary truth is a sentence which correctly represents the world whenever it exists. Alternatively, a sentence fails to be necessary only if there is a possible circumstance in which the sentence exists and is false.

(It should be noted that Ockham's criterion here is faulty; this can't be the correct criterion for being a necessary truth. Consider the following mental sentence: AT LEAST ONE MENTAL SENTENCE EXISTS. That is a sentence which is true whenever it exists; furthermore, there is no possible circumstance in which that sentence exists and is false. According to Ockham's criterion then, it would be necessary that at least one mental sentence exists. But this cannot be correct; all mental sentences are contingent entities for Ockham, and God could have refrained from creating any of them)

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384 "'Necessary' or 'cannot be otherwise' can be taken in two ways; in one way, it means what cannot not-be, and this kind of necessity is not required for scientific knowledge, because nothing is necessary in this way other than God alone." ("Ad secundum dicendum quod 'necessarium' vel 'non posse aliter se habere' dicitur dupliciter: uno modo, illud quod non potest non esse, et ista necessitas non requiritur ad scientiam, quia sic nihil est necessarium nisi solus Deus." BrevSumma, Prologue, ch. 2; OPh VI, p. 6)

385 "In what way then is a conclusion necessary? It must not be thought that it is necessary because it is always actually true in the way in which it is apt to exist in actuality (except perhaps in the divine intellect); rather, it is necessary because it is true, and it can never be false." ("Tamen quomodo est conclusio necessaria? Non est intelligendum quod sic sit necessaria quia semper actualiter illo modo quo nata est esse in actu sit semper vera, nisi forte in intellectu divino; sed est necessaria quia est vera, et nunquam potest esse falsa." Ord., Prologue, q. 8; OTh I, p. 222) Compare SL II.9: "...a sentence is called necessary not because it is always true, but because it is true if it exists and cannot be false." (OPh I, p. 275). Also, BrevSumma, Prologue, ch. 2: "What is called 'necessary' is that which cannot be false, although it could not exist." ("Alio modo dicitur 'necessarium' illud quod non potest esse falsum, licet possit non esse." OPh VI, p. 6)
at all. Thus it is false that this mental sentence is a necessary truth, contrary to Ockham's proposed criterion.\textsuperscript{386}

But let's ignore this problem for now and assume that Ockham is correct in his definition of necessary truth. Why think that this definition can only correctly attach to mental sentences? Why can't spoken and written sentences be necessarily true? Well, Ockham thinks, there is no spoken or written sentence which possesses the property of correctly representing the world in any possible circumstance in which it exists; and this is because both spoken and written sentences have their content by convention, while mental sentences have their content essentially.\textsuperscript{387} Thus a purportedly necessary spoken sentence like "Every prime number greater than two is odd" is not, strictly speaking, necessary, since there are possible circumstances in which that sentence exists and misrepresents the world: circumstances such as that in which the word 'odd' is subordinated to the concept EVEN.\textsuperscript{388}

Before continuing on, it's worth pausing here momentarily to reflect on the account Ockham is giving here of scientific knowledge. As I discussed earlier,\textsuperscript{389}

\textsuperscript{386} This argument only succeeds if there are not mental sentences in God's mind. I find no reason to think Ockham posits that God has mental sentences, but Spade 2002 (p. 124) disagrees (on a philosophical, if not textual, basis). I take it that Buridan is aware of this problem with Ockham's criterion, and is the basis for his distinguishing between \textit{being possible} and \textit{being possibly true}. (See Buridan, \textit{Sophismata}, ch. 8, Third Conclusion; in Buridan 2001, pp. 954-955.)

\textsuperscript{387} Ockham expresses this point by noting that "the same mental sentence cannot be both true and false at the same time," which need not be the case for spoken propositions, since any given spoken word may have a multiplicity of meanings which varies the truth value of the corresponding sentence. See Quod. V.9 (\textit{OTh IX}, p. 517).

\textsuperscript{388} A contemporary philosopher of language will correctly point out here that Ockham simply needs to distinguish between the context of utterance and the circumstance of evaluation; "Every prime number greater than two is odd" is necessary, such a philosopher would say, because, \textit{according to the meanings those words have in our context}, they represent correctly in any possible world. This seems to me to utterly demolish Ockham's argument.

\textsuperscript{389} See sec. 3.3.1.
Ockham's view is that a simple apprehensive act – the sort of cognitive act by which I consider, say, an ordinary substance or one of its accidental properties – has that very substance or that very accidental property as its object; that is the entity to which the act is directed and from which it derives its content. (A simple apprehensive act may also be general in content, being directed at, say, all horses or every instance of whiteness.)

Ockham (at least on his later *actus* view of concepts) takes these apprehensive acts themselves to be concepts; tokening the concept HORSE just is thinking of horses, which just is having an occurrent apprehensive act which has all horses as its object.

It is when we come to judicative acts that Ockham's view becomes bifurcated; Ockham distinguishes between ordinary cases of judgment and judgments that occur only in the context of scientific knowledge and demonstration. In the first sort of judgment (which Ockham attributes to "the layman") a judicative act will typically have for its object some ordinary material objects arranged in a certain way; when my mother knows that the sun is shining, the objects of her judicative act just are the sun and its shining.

Nevertheless, even in these cases of ordinary cognition a mental sentence is present, for it is the mechanism by which the judgment is made; my mother knows that the sun is shining because she is tokening the mental sentence THE SUN IS SHINING. In cases

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390 "Speaking of the first kind of assent, I say that such an act does not have a sentence for its object…because when a layman knows that a rock is not an ass, he does not consider any sentence, and consequently he doesn't assent to any sentence. … But this act has extramental real things for its objects, such as a rock and an ass… ("Loquendo de primo assensu, dico ille actus non habet complexum pro obiecto… quia laicus sciens quod lapis non est asinus, nihil cogitat de propositione, et per consequens non assentit propositioni. … sed iste actus habet res extra pro objectis, puta lapidem et asinum, et tamen nec lapis est scitus nec asinus…" Quod. III.8; OTh IX, pp. 233-234)

391 "This [judicative] act can occur just by the formation of a mental sentence and without any apprehension of it … Although [the layman] assents and knows that *such is the case or such is not the case* by means of a sentence formed in the intellect, nevertheless, he doesn't perceive this." ("...ille actus potest esse per solam formationem complexi et sine omni apprehensione complexi, et ita non potest esse actus..."
of scientific knowledge, however, the judicative act focuses, not on the ordinary objects in the world, but on the mental sentence itself, making this mental entity the object of the cognitive act. And it does so for the reasons Ockham has already mentioned: the objects of scientific knowledge must be items that can be necessarily true; but only mental sentences, he claims, can have such a property. Similarly, a key portion of scientific demonstration is discovering entailment relationships; but only sentences can entail and be entailed.

5.4.2 Mental Terms as the Subjects of Scientific Knowledge

We've now seen why Ockham takes the objects of scientific demonstrations, scientific knowledge, and the sciences themselves to be mental sentences. But why think that mental terms are the subjects of each of these? In short, given that mental sentences are the objects of scientific demonstration and knowledge, Ockham reasons that their subjects should be something closely related to mental sentences; and as we've seen in previous chapters, there is indeed a very close relationship between mental sentences and mental terms.

But let me detail the steps of Ockham's thought here. Ultimately, mental terms are subjects in this way because mental terms are the relata of the kinds of predication involved in scientific demonstrations. In a demonstration, Aristotle teaches, an attribute (a passio, in Ockham's Latin) is predicated of a subject.392  But, for Ockham, predication

392 Ockham appeals to this, noting that "It is commonly said that a subject is that of which properties and attributes are demonstrated." ("Unde communiter dicitur quod illud est subjectum de quo proprietates et passiones demonstrantur." Summulae, Preamble; OPh VI, p. 141)
is fundamentally a relation that occurs between terms (whether spoken, written, or mental); thus, the conclusion of a demonstration must predicate one term (the attribute) of another term (its subject).\textsuperscript{393}

Why, for Ockham, is predication a relation between terms, rather than between an object and its properties? Why think predication is merely a linguistic relation, rather than a metaphysical one? (For, of course, at least some metaphysicians speak of 'predication' in a way that seems to be interchangeable with talk of 'exemplification' or 'instantiation.'\textsuperscript{394}) Ockham has two reasons to offer here: First, he claims that predications are sentences in which two terms are connected by the 'is' of predication. For predication to be a metaphysical relationship, it would have to be that ordinary particulars in the world could enter into the structure of a sentence; and this Ockham denies.\textsuperscript{395} Second, he notes that at least some of the predications his contemporaries agree with must be merely linguistic. For there are predications which are true of God, but since God is simple, there are no accidents which inhere in God. Thus a predication such as "God is wise" must be merely a linguistic relationship, rather than a metaphysical

\textsuperscript{393} See SL I.32 (OPh I, pp. 94-95).

\textsuperscript{394} For just one example, many have taken Aristotle's account of predication in the Categories to be an account of a metaphysical relationship between substances and their accidents. See, for instance, the discussion in Studtmann 2008.

\textsuperscript{395} Ockham provides eight reasons for denying this in Quod. III.12 (OTh IX, pp. 246-250). These eight arguments vary in quality; the most interesting among them are the second and the eighth. Ockham's second argument claims that if ordinary objects could enter into the structure of a sentence, then a sentence could be a human person, since it could contain a body and soul, and anything composed of a body and a soul is a human being. The eighth argument argues that if ordinary objects could enter into the structure of a sentence, then a sentence could contain God as a part; but God is not a part of any further object.

It should be noted that, in his earliest works, Ockham did believe that ordinary particulars could enter into the structure of a mental sentence, a position he seems to have picked up from Walter Burley. Ockham came to reject this view by the time he begin revising his lectures on the Sentences into his Ordinatio on book 1. For a study of Ockham's about-face here, see Karger 1996.
one relating God and wisdom. And so, Ockham argues, if theology requires us to state that some of our predications are linguistic, parsimony considerations should lead us to think that all predications are linguistic (barring some further considerations).\textsuperscript{396}

But even if we accept Ockham's reasoning that predication is a relation among terms, why should we accept that the predications involved in scientific demonstrations are predications among mental terms? This move is based on Ockham's contention that attributes (taking 'attribute' for "what is predicated in a scientific demonstration") are mental terms:

\ldots 'attribute' can be taken in multiple ways. In one way, it can be taken for some real thing which is said to coincide with another real thing. In a second way, 'attribute' is taken for that which is predicated of something in the second way of per se predication. \ldots 'Attribute' is not typically taken [in the first way] in the sciences. \ldots An attribute [in the second way of taking 'attribute'] is but a concept predicable of another [concept] which stands for a real thing (and does not stand for itself).\textsuperscript{397}

But this looks to be merely a stipulation on Ockham's part; he states that 'attribute' in the sense of scientific predications should be taken to refer to concepts which are only (truly) predicable of other concepts which supposit personally.\textsuperscript{398} Why though should we

\begin{footnotesize}
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\item[\textsuperscript{396}] So far as I know, Ockham never argues exactly in this way. But many things he says suggest an argument much like this; see, for instance, \textit{SL} I.37 (\textit{OPh} I, pp. 104-106): "Of God there are predicated attributes proper to him; but there are no other real things inhering in him; and so an attribute is not some real thing inhering in its subject."
\item[\textsuperscript{397}] "\textit{Ideo ad quæstionem istam dico quod passio potest accipi multipliciter. Uno modo pro aliqua re quæ dicitur alicui rei competere. Alio modo accipitur passio pro illo quod praedicatur de aliquo secundo modo dicendi per se. Primo modo dico quod passio universaliter distinguitur realiter a subiecto, quia sic nihil est passio nisi aliquod accidens vel aliqua forma alicui inhaerens realiter tamquam subiecto. Sed isto modo non accipitur passio communiter in scientiis. Secundo modo dico quod universaliter passio non est idem realiter cum subiecto, quia passio isto modo tantum est quidam conceptus praedicabilis de aliquo pro re, non pro se; et universaliter conceptus nunquam est idem realiter cum illo cuius est.}" (\textit{Ord.}, Prologue, q. 3; \textit{OTh} I, pp. 133-134)
\item[\textsuperscript{398}] This is the meaning of the clause that an attribute is "a concept predicable of another [concept] which stands for a real thing (and does not stand for itself)."
\end{itemize}
\end{footnotesize}
accept this usage of the term, rather than taking 'attribute' also for spoken and written words which are predicable in this way?

Here Ockham seems to offer no specific argument. The section on attributes in the *Summa logicae* offers no help either, beyond telling us that we *can* take 'attribute' for written or spoken terms, but we'll only be speaking loosely if we do so:

…According to the way 'attribute' is used by the logician … a passion is some mental or spoken or written predicable, predicable per se in the second way of that subject of which it is called the attribute. However, properly and strictly speaking, an attribute is nothing other than a mental predicable (and not a spoken or written one); yet secondarily and improperly a spoken or written word can be called an attribute.\(^{399}\)

Even though Ockham doesn't state his reasoning here, though, it seems relatively clear that the reason only mental terms can, properly speaking, be the attributes predicated in scientific demonstrations is because – as I explained in the previous section – only mental sentences can be necessarily true in the way needed for scientific demonstrations. But if only mental sentences can be the components of a demonstration, then it must be that mental terms are what are being predicated in those mental sentences.

5.5 Mental Language as Fulfilling Aristotle's Requirements

Earlier, I mentioned five requirements for Aristotelian science:

\(^{399}\) "Et est sciendum quod quamvis multiplicant accipi possit, sicut dixi super Praedicamenta, tamen secundum quod logicus utitur 'passione' passio non est aliqua res extra animam, inhaerens illi cuius dicitur passio, sed passio est quoddam praedicabile mentale vel vocale vel scriptum, praedicabile per se secundo modo de subiecto cuius dicitur passio. Quamvis proprie et stricte loquendo passio non sit nisi tale praedicabile mentale et non vocale neque scriptum, secundario tamen et improprie vox vel scriptura potest dici passio, illo modo quo dicimus quod in ista propositione prolata 'omnis homo est risibilis' praedicatur passio de suo subiecto." (SL I.37; OPh I, pp. 104-105)
1. A scientific demonstration proceeds from premises that are known non-inferentially.

2. In a scientific demonstration, it is demonstrated that some attribute necessarily belongs to the subject of the demonstration.

3. The subjects of scientific demonstration are imperishable.

4. The objects of scientific demonstration are necessary truths.

5. There is a distinction between those sciences that study the external world (so-called "real sciences") and those that study cognition (so-called "rational sciences").

It's easy to see how Ockham's account of science, as we have it so far, covers (4): Ockham thinks that mental sentences can serve as the objects of demonstration, since they are both nominalistically-acceptable and can be necessary truths. Ockham's account of (1) is closely tied to his broader epistemological views, and detailing it would take us far beyond the scope of this work. In brief, though, Ockham rejects the view that we can come to know the initial premises of scientific demonstrations a priori; instead, he claims that we can somehow come to know causal connections in the world merely by intuitively cognizing instances of that connection. By repeatedly seeing instances of a certain illness being healed after application of a certain herb, Ockham claims, I come to know that every herb of that kind heals every illness of that kind. Furthermore, in some

\[\text{400}\] Ockham discusses the way in which we come to know premises non-inferentially in SL III-2, chs. 8-10, 13-16 (OPh I, pp. 519-524, 527-532). See also Longeway 2007, pp. 104-108, for a very useful discussion; my remarks here rely heavily on Longeway's exposition.

\[\text{401}\] In his own words, "knowledge of a cause does not virtually contain the knowledge of its effect" (and vice versa), so one who knew of fire but did not know that fire produces smoke could never come to know this fact a priori (Ord., Prologue, q. 9; OTh I, p. 229).

\[\text{402}\] For a primer on Ockham's account of intuitive cognition, see sec. 3.3.2.
cases, he thinks we can even know these causal connections on the basis of intuitively cognizing a single instance. 403

This leaves (2), (3), and (5). We've already seen that Ockham agrees with (2), and that he claims that subjects and attributes are mental terms because these are the only things that could be predicated necessarily. Interestingly, another well-known feature of Ockham's mental language seems to be closely tied into this point. Perhaps no aspect of Ockham's mental language has generated more secondary literature than his distinction between absolute and connotative concepts. 404 But what little (if any) of the secondary literature has noted405 is that Ockham takes it that the attributes predicated in scientific discourse are always connotative concepts:

403 "I say that sometimes one experience suffices for acquiring a principle of an art or science, and sometimes many experiences are required. For if a most specific species is the subject of the first principle of an art or science, then one experience suffices. For instance, in order to know that "every heat is calefactive," which is a first principle, it suffices to evidently cognize that this heat is heating or was heating, and this is so for the reason just stated. If, though, the subject is something common to many species, then many experiences are required, because an experience of some singular of each species is required. For example, in order to evidently know that every act is able to generate a habit, one must experience that an act concerning a principle is able to generate a habit, that an act concerning a conclusion is able to generate a habit, and so on for all other species [of acts]." ("Ad primum istorum dico quod aliquando sufficit unum experimentum ad habendum principium artis et scientiae, et aliquando requiriuntur multa experimenta. Si enim in principio primo artis et scientiae subiciatur species specialissima, sufficit unum experimentum. Sicut ad sciendum istam propositionem 'omnis calor est calefactivus', quae est principium primum, sufficit evidenter cognoscere quod iste calor calefacit vel calefacit, et hoc propter causam iam dictam. Si autem subiciatur aliquid commune ad plures species, tunc requiriuntur plura experimenta, quia requiritur experimentum de aliquo singulari cuiuscumque speciei. Sicut ad sciendum evidenter quod omnis actus est generativus habitus, requiritur experimentum quod actus principii est generativus habitus, quod actus conclusionis est generativus habitus, et sic de aliis speciebus." Ord., Prologue, q. 2; OTh I, pp. 92-93)

404 For a primer on this distinction, see section 1.2.4. There are two main reasons for the secondary literature's emphasis on Ockham's doctrine of connotative concepts: First, the older "ideal language" interpretation of Ockham's mental language saw connotation as a key element in Ockham's nominalist program: in short, it was thought that Ockham used connotation as a way to dispel apparent ontological commitments. (See, for example, Spade 1990 and Spade 1998.) Second, the ideal language interpretation was ultimately rejected by most scholars because Panaccio and others showed that Ockham rejected the theory of connotation the ideal language attributed to him. (See, for example, Panaccio 2004, chs. 4-6.)

405 I am unaware of a single piece of secondary literature that connects Ockham's theory of attributes to his theory of connotative concepts. Whether the account of attributes exhausts the theory of
"...although an attribute can supposit for its subject, nevertheless it in some way conveys some real thing other than its subject. For example, although 'risible' supposits for humans in the sentence "Every human is risible," nevertheless 'risible' conveys in some way the act of laughing – whether primarily or secondarily, I do not care right now – and because of this one thing can be an attribute of another. ..." \textsuperscript{406}

Let's now turn to (5); we already saw in the last chapter that Ockham uses his account of supposition to account for this distinction among the sciences. Ockham's claim is that real sciences are those in which the subject terms of its conclusions supposit personally (that is, for ordinary material objects), while the rational sciences are those in which the subject terms of its conclusions supposit simply (that is, for the concepts themselves). \textsuperscript{407} Thus the distinction between real sciences and rational sciences is

\textsuperscript{406} Ord., Prologue, q. 3 (\textit{OTh} I, pp. 134-135). This claims that an attribute is a connotative concept, because a connotative concept just is a concept which signifies something in addition to signifying that for which the concept supposits. Ockham says much the same in \textit{Summa logicae}: "An attribute is a certain predicable, distinct from its subject, and really conveying what the subject conveys and also something more (or at least that very same thing in another way)." (\textit{SL} III-2, ch. 2; \textit{OPh} I, p. 507) And again: "It must be known that an attribute always supposits for the same thing for which its subject supposits, although it [also] signifies in another way something distinct from that for which its subject supposits, either in the nominative or in an oblique case, either affirmatively or negatively." (\textit{SL} I, ch. 37; \textit{OPh} I, pp. 105-106)

\textsuperscript{407} Thus Ockham: "Yet because the terms of some sentences stand and supposit personally, namely for the very external real things (as in the mental sentences 'EVERY MOBILE THING IS PARTLY IN THE TERMINUS A QUO [AND PARTLY IN THE TERMINUS AD QUEM]', 'EVERY HUMAN IS RISIBLE', 'EVERY TRIANGLE HAS THREE [SIDES]', and so on), the there is said to be real science of such sentences. The terms of other mental sentences supposit simply, namely for the concepts themselves (as in 'EVERY DEMONSTRATION IS FROM TRUE FIRST [PRINCIPLES]', 'HUMAN IS A SPECIES', and so on); and so there is said to be rational science of such sentences. So then, it doesn't matter at all for real science whether the terms of the known mental are real external things or are only in the soul, provided that the terms stand and supposit for real external things..." ("Quia tamen termini aliquarum propositionum stant et supponunt personaliter, scilicet pro ipsis rebus extra, sicut in talibus; omne mobile partim est in termino a quo etc., omnis homo est risibilis, omnis triangulus habet tres etc., et sic de aliis; ideo talium propositionum dicitur esse scientia reals. Termini autem aliarum propositionum supponunt simpliciter, scilicet pro ipsis conceptibus, sicut in istis: omnis demonstratio est ex primis et veris etc., homo est species, et sic de aliis; ideo talium dicitur esse scientia rationalis. Nihil igitur refert ad scientiam realem an termini propositionis scito sint res extra animam vel tantum sint in anima, dummodo stent et supponant pro ipsis rebus extra; et ita propter scientiam realem non oportet ponere aliquas tales res universales distinctas realiter a rebus singularibus." Ord., d. 2., q. 4; \textit{OTh} II, p. 137)
preserved, despite the fact that both of these kinds of sciences take mental terms for their subjects.

Finally, let us turn to (3). This seems more difficult for Ockham to account for; assuming that subjects are mental terms, and mental terms are contingent things, it seems he cannot accommodate Aristotle's claim that the subjects of the sciences are imperishable things. And Ockham admits as much:

From this it is clear that – although it contradicts the sayings of Aristotle – according to the truth no sentence made from terms which convey only contingent things, and which is affirmative, categorical, and about the present, can be the principle or conclusion of a demonstration, because such a sentence is contingent.  

Ockham's precise point in this passage is that there can't be scientific knowledge concerning certain terms which supposit for contingent things, but the point transfers to the terms themselves; there are no imperishable things other than God in Ockham's universe, and so Aristotle's dictum cannot be preserved. But Ockham believes that mental language comes close enough to preserving Aristotle's vision, since the subjects of science will be concepts such as the concept HORSE, which would represent horses even if there weren't any horses:

…even though genera, species, and ever universal distinct from the cognition of God are simply contingent in such a way that they could be nothing, yet of them there can be demonstrations and scientific knowledge, because even though they

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408 "Ex quo patet quod quamvis repugnet dictis Aristotelis, tamen secundum veritatem nulla propositio de illis quae important praecise res corruptibiles, mere affirmativa et mere categorica et mere de praesenti, potest esse principium vel conclusio demonstrationis, quia quaelibet talis est contingens." (SL III-2, ch. 5; OPh I, pp. 512-513)
could be simply destroyed, yet necessary sentences can be formed of them, which can be known by scientific knowledge strictly speaking.\textsuperscript{409}

Thus, Ockham claims, mental terms come close enough to fulfilling Aristotle's dictum to suffice for science. There can be scientific knowledge even of perishable subjects, for the subjects have their contents essentially.

5.6 A Preliminary Evaluation of Ockham's Master Argument

This then, I take it, is Ockham's central purpose in putting forth his theory of mental language; he believes that positing this sort of representational system is the only way to harmonize his nominalism with his commitment to the basic outlines of Aristotle's account of scientific demonstration and scientific knowledge. And it is possible that his thinking here owes even more to Aristotle than I've suggested; though I'm not aware of any place where Ockham explicitly cites this passage, Aristotle himself suggests that fulfilling the strictures of Aristotelian science merely requires positing the right kind of representational system:

There need not be any forms, or some one item apart from the many, in order for there to be demonstrations. It must, however, be true to say that one thing holds of many.\textsuperscript{410}

\textsuperscript{409} "Et ex isto patet quomodo, non obstante quod genera et species et quaecumque universalia distincta a cognitione Dei sunt simpliciter corruptibilia sic quod possunt esse nihil, tamen de eis possunt fieri demonstrationes et scientiae, propter hoc quod, non obstante quod possunt simpliciter destrui, tamen de eis possunt formari propositiones necessariae, quae possunt sciri scientia proprie dicta." (SL III-2, ch. 5; OPh I, p. 513)

\textsuperscript{410} Aristotle, \textit{PA} I.11 (77a5-7; in Aristotle 1993, p. 16)
But is Ockham correct, and does his Master Argument for mental language succeed? Recall once more his Master Argument:

(M1) In order to fulfill the strictures of Aristotelian science, either there must be extra-mental universals or there must be a mental language.

(M2) All accounts according to which there are extra-mental universals are incoherent.

(M3) Therefore, for there to be Aristotelian science, there must be a mental language.

There are three questions that need to be answered to determine whether Ockham's argument is sound: First, are all accounts of extra-mental universals indeed incoherent? Second, does Ockham's mental language successfully fulfill the strictures of Aristotelian science? And, finally, is mental language the only nominalistically-acceptable means of fulfilling these strictures? Here I can offer only preliminary answers to these questions; a more sustained evaluation of Ockham's project must await future work.

With regards to the first question, Ockham is almost certainly wrong; surely there are realist accounts of universals which meet the relatively low bar of logical coherence. (Whether any such accounts are true is a further question; but even here, I suspect that the realist is closer to the truth than the nominalist.) Regardless, however, Ockham surely hasn't met his dialectical obligations in demonstrating M2. I have nowhere in this dissertation evaluated the lengthy attack on realist accounts of universals that Ockham provides in the second distinction of his Ordinatio, but I take it that any fair evaluation of
that text will conclude that Ockham does not succeed in refuting every *possible* realist account, as he takes himself to do and as M2 assumes.

Turning to the second of our three questions, does Ockham's mental language meet Aristotle's requirements for scientific demonstration and scientific knowledge? Here, I think Ockham fares much better. It seems to me that mental language successfully fulfills all the requirements for Aristotelian science outlined above. Yet, turning to the third question, is positing a mental language the *only* way to meet these requirements? I find it difficult to believe that it is. It certainly seems that other representational systems would work just as well; for instance, any conventional language should be able to meet the requirements of Aristotelian science just as well as Ockham's mental language does. Ockham, so far as I can tell, has little to offer in terms of an explicit argument against this possibility. At best, he can argue that conventional languages couldn't provide the subjects and objects of scientific knowledge for two reasons: first, no spoken or written sentences are (properly speaking) necessary, since they don't have their content essentially; and, second, such sentences are also not true in a primary sense. But, as I noted above, the first of these claims is faulty. Ockham fails to recognize the distinction between evaluating a sentence according to its context of utterance versus evaluating it according to its circumstance of evaluation; had he recognized this distinction, he would have seen that a sentence of a conventional language is necessary so long as it represents correctly in any possible world according to the meaning we ascribe to that sentence. As for the second claim, if Ockham's argument for M1 ultimately depends on his view that spoken and written sentences aren't true in a primary sense, then the argument for mental language begins to look circular: for
conventional sentences are true in a secondary sense only insofar as they derive their truth value from mental sentences. But surely the claim that conventional sentences have their truth value in virtue of corresponding to a mental sentence can't be the basis for an argument intended to establish the existence of mental sentences.
APPENDICES

In these appendices, I have included complete translations of those passages which are both critical for my arguments and (to my knowledge) not available elsewhere in English translation. These translations are here to provide additional context to the selective quotations made in the main text. Appendices A, B, and C contain passages which are the basis for the case made in Chapter 2; the passage translated in Appendix D figures prominently in Chapter 3.
APPENDIX A:

WILLIAM OF OCKHAM, EXPOSITIO IN LIBRUM PERIHERMENIAS ARISTOTELIS,

PROLOGUE, SECTION 6

[1] Another possible view is that an affection\textsuperscript{412} of the soul \passio animae is the act of understanding itself.\textsuperscript{413} And since this view seems to me more probable than any view that posits that affections are in the soul as true qualities of it (being in the soul really and subjectively\textsuperscript{414}), in treating this view I first set out the most plausible version of it to hold \modum ponendi probabiliorum, should it be held at all; \{352\} second, I set out the real or apparent difficulties against it; and I will then respond to those difficulties in the way in which I think someone holding this opinion ought to respond.

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\item[411] O\textit{Ph} II, pp. 351-358. Numbers in curly brackets (e.g., \{352\} ) are page references to this volume.
\item[412] In chapters 4 and 5, I regularly translate the Latin 'passio' as 'attribute.' Ockham himself makes clear that the usage of 'passio' in the present context differs from the usage in the context of scientific knowledge and demonstration. When speaking of 'passio animae,' the term means something that is taken up or received by the soul (perhaps, though not necessarily, in the sense of an accidental form taken on by a substance); in the context of the \textit{Posterior Analytics}, however, 'passio' means an attribute predicable in the second mode of \textit{per se} predication. (In\textit{Pred}, ch. 14, sec. 7; O\textit{Ph} II, pp. 277-278)
\item[413] Chapters 3-10 of the Prologue of the \textit{Expositio in Perihermenias} constitute an attempt by Ockham to determine the ontology of concepts (what the Latin translation of Aristotle calls a "\textit{passio animae}," an "affection of the soul"). In these chapters he surveys several possibilities: that a concept is a merely intentional entity, the object of an act of understanding; that it is the act of understanding itself; or that it is a real quality of the soul, distinct from the act of understanding. Here in chapter 6, Ockham presents the view he will defend in all his later works, namely that a concept (aka an "affection of the soul") is "the act of understanding itself."
\item[414] 'Subjectively' here meaning existing in the way in which an accident exists in its subject.
\end{footnotesize}
[2] I say, therefore, that one who wants to hold the aforesaid opinion can suppose that an intellect apprehending a singular real thing elicits one cognition in itself which is only of that singular. This cognition is called an affection of the soul and is, by its own nature, able to supposit for that singular real thing. So, just as by institution the word ‘Socrates’ supposits for the real thing that it signifies (so that one hearing the words ‘Socrates runs’ does not understand by them that the word ‘Socrates’ which he hears runs, but that the real thing signified by the word runs), so one who would see or would understand something to be affirmed of that intellection of a real singular would not think that the intellection is this way or that [talem vel talem], but would think that the real thing, which the intellection is of, is itself this way or that. So, just as a word supposits for a real thing by institution, so the intellection supposits for the real thing that it is of from its own nature, without any institution. But in addition to the intellection of that real singular, the intellect makes for itself some intellections that are no more of this real thing than of another, just as the word ‘man’ does not signify Socrates more than Plato, and so it does not supposit for Socrates more than for Plato. Likewise, it would be the case that Socrates is no more understood by such an intellection than Plato is, and so on for all other human beings. Also, there would likewise be some intellection by which this animal is no more understood than that animal, and so on for all other animals. Briefly then, these intellections of the soul are called affections of the soul and supposit by their own nature for the real things outside the soul or for other real things in the soul, just as words supposit by institution.
[3] But this view can be argued against in many ways. The first is this: I consider a common or confused cognition that corresponds to the word ‘man’ or the word ‘animal’, and I ask whether something is understood by this cognition or nothing is understood by it. It cannot be said that nothing is understood by it, because just as it is impossible that there be a vision and nothing be seen or there be a love and {353} nothing be loved, so it is impossible that there be a cognition and nothing be cognized by that cognition. If something is cognized by that cognition, either what is cognized is something in the soul or something outside the soul. If (3.2), that is, if it is some real thing outside the soul (and it isn't a universal real thing, because there is no thing of that sort, as was shown in the preceding books and will be further shown in this book), then some singular real thing is cognized by that cognition. But there is not one real singular that is cognized any more by that cognition than any other real singular is cognized; therefore, either every one of them is cognized or none of them are. But it's not the case that none of them are cognized; therefore, every one of them is understood. So then, whenever I were to understand a human being or form the sentence in the soul A HUMAN BEING IS AN ANIMAL, I would understand every human being omnem hominem, and so I would understand and cognize many human beings that I have never seen and whom I have never thought of, which seems difficult to accept.

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415 Paragraphs 3-7 are a series of objections to the view that was presented in paragraph 2.

416 Namely, Ockham's commentaries on Porphyry's Isagoge and Aristotle's Categories.

417 In this passage, as well as the passage translated in Appendix B, Ockham interchangeably uses the expressions propositio in anima, propositio in mente, propositio intellectualis and propositio standing alone. I typically translate these terms as 'sentence in the soul,' 'sentence in the mind,' 'intellectual sentence,' and 'mental sentence,' respectively, except in those occurrences where context makes it clear that propositio is referring to spoken and written sentences as well as (or instead of) mental sentences; in these occurrences, I translate propositio simply as 'sentence.'
[4] If (3.1), however – if what is cognized by such a cognition is something existing in the soul – then I ask what is it that is cognized? And no answer can be given except the intellection itself, and so the intellection would be cognized by itself, which seems difficult to accept.

[5] This is confirmed: when, without any word being spoken or conceived, EVERY HUMAN BEING CAN RUN is said in the soul, either [5.1] some human being is understood, [5.2] no human being is understood, or [5.3] something other than a human being is understood. Assume (5.1), that it is said that some human being is understood, that none is understood more than any other, and that no human being that actually exists is understood more than any human being that only possibly exists (because the concept supposits for those things that can be human beings as well as for those things that actually are human beings). Those things that can be human beings are infinite; therefore, by such an intellection infinitely many things are understood. If, however, (5.2) or (5.3), so that no human being is understood, then it is obvious that no other real thing outside the soul is understood. So, either nothing is understood or something in the soul is understood. And it cannot be said that there is something else {354} really in the soul that is understood other than the intellection itself; therefore, the intellection itself is understood, which seems difficult to accept.

[6] Furthermore, consider the act of knowing a mental sentence. I ask what is understood by such an act? Either [6.1] something simple is understood or [6.2] something composite is understood. Contrary to (6.1), something simple is not

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418 Here Ockham gives an additional argument supporting the claim of paragraph 4 (namely, that the view of paragraph 2 is committed to the cognitive object of an intellectual act being the intellectual act itself).
understood, because every sentence is composed from, at least, a subject and a predicate and a copula. If (6.2) though, so that what is understood is something composite, I ask what is this mental sentence composed of? Either it is composed entirely from real things—but then the mental sentence would exist in external reality and not only in the intellect—or it is composed from some things in the intellect. And it is not composed from acts of understanding, because then in addition to the act of understanding the mental sentence there would be the acts from which the mental sentence is composed, and so there would be many acts existing at the same time. Therefore, something other than the act of understanding is understood, which, nevertheless, is in the intellect, and consequently this thing would more truly be the affection (of which the Philosopher speaks in De interpretatione, chapter 1) than the act of understanding would be.

[7] If it is said that an act of apprehending or knowing one mental sentence is not one simple act but is instead an act composed from many acts, all of which make one mental sentence, then there is this problem: then the mental sentences EVERY HUMAN IS [AN] ANIMAL and EVERY ANIMAL IS [A] HUMAN would not be distinguished in the mind. For if the sentence in the mind is nothing other than an act of understanding composed from these particular intellections—and since there could not be in this case some particular act in one mental sentence that is not also in the other, nor does a difference of order intervene [impedit] as it does in speech—then there does not seem to be any way that one sentence in the mind could be distinguished from the other.

419 The suppressed premise in this argument is that only one act of understanding can be in the intellect at any one time. This assumption, apparently held by at least some of his contemporaries, is denied by Ockham in Quod. I.14 (OTh IX, pp. 78-82.)

420 As Latin lacks articles, Ockham's example sentences do not differ in that respect.
Similarly, an act of knowing is distinguished from all the other acts separately and taken together at the same time, because all the other acts can exist at the same time and yet the act of knowing not exist.  

[8] One who wishes to hold this view can respond to these objections.  

To the first objection [presented in (3)-(5)], it can be said that external, singular real things are understood by this sort of confused intellection, as having a confused intellection of human being is nothing other than having one cognition by which one human being is understood no more than any other and, nevertheless, by such a cognition a human being is cognized or understood more than a donkey is. And this is nothing other than that such a cognition, by some sort of similarity [aliquo modo assimilationis], is more similar [magis assimilatur] to a human being than to a donkey, but is no more similar to this human being than to that human being. According to that, consequently it seems that one must say that an infinite number of things can be cognized by this sort of confused cognition. This seems no less believable [inopinabile] than that by the same love or desire an infinite number of things can be loved or desired. But the latter does not seem unbelievable, for someone can love every part of a continuum—the parts of which are infinite in number—or can desire that every part of a continuum remain in existence, and yet by such a desire nothing is desired other than some part of the continuum and no more one part than any other. It must be that all of them are desired, even though they are infinite in number. Similarly, someone can desire existence for all the human beings

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421 Ockham's somewhat enigmatic point here is that the act of knowing must be something other than a mere aggregate of its component acts, since neither the existence of any one component act, nor the simultaneous existence of all the component acts, is sufficient for the existence of the act of knowing.

422 Namely, the view set forth in paragraph 2, that concepts / affections of the soul just are acts of understanding / intellections.
that can exist, though they are infinite in number since infinitely many can be generated. So then, it can be said that one and the same cognition can be about an infinite number of things; nevertheless, the cognition will not be proper to any of them, nor can one of them be distinguished from another by this cognition due to some specific likeness [similitudinem] this cognition has to that individual and not to another.

[9] The second objection [presented in (6)-(7)] can be responded to in several ways. Here is one: a sentence in the mind is one act of understanding composed from many acts of understanding, so that [sicur] the sentence in the mind [A] HUMAN BEING IS [AN] ANIMAL is nothing other than an act by which all human beings are confusedly understood, an act by which all animals are confusedly understood, and one act {356} corresponding to the copula. Alternatively, it could be said that this mental sentence is one act equivalent to three such acts existing in the intellect at the same time, and so according to this way of speaking the mental sentence is not something really composed but is only composed by equivalence; that is, it is equivalent to this sort of composite.

[10] But then it is difficult to preserve [salvare] any way in which sentences in the mind like EVERY ANIMAL IS WHITE and EVERY WHITE [THING] IS [AN] ANIMAL are distinguished; because they are not distinguished in the mind by a difference in order in the way in which they can be distinguished when spoken. For the conjoining of this sign with one spoken word or with the other clearly results in a

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423 As Latin lacks articles, Ockham's example sentence is 'homo est animal', thus his explanation of the three parts of the sentence.

424 The Latin examples are omne animal est album and omne album est animal, respectively.

425 Namely, 'every' (or omne).
different sentence. But this cannot be preserved in the mind, because such acts of understanding in the mind—since they exist at the same time and in the same subject (that is, in the intellect)—cannot have such a difference of order, nor can the same act of understanding be composed with one more than another.

[11] In response [to (10)] it can be said that a mental sentence could be an act of understanding equivalent to one whole sentence composed from really distinct acts of understanding, if the acts were to have the kind of order that the spoken words have. And then the mental sentences will be distinct insofar as their corresponding sentences would be distinguished if the terms or parts of each were ordered differently. Alternatively, it can be said that in a sentence in the mind one act of understanding corresponds to the composition of a universal sign and a common term. So, in the sentence in the mind corresponding to the spoken sentence ‘every animal is white’, one act that is a part of the mental sentence corresponds to ‘every animal’ and another act corresponds to ‘white’, but in the sentence in the mind corresponding to ‘every white [thing] is [an] animal’, one act corresponds to ‘every white [thing]’ and another corresponds to the term ‘animal’. And so there are not the same parts for the sentences in the mind EVERY ANIMAL IS WHITE and EVERY WHITE [THING] IS [AN] ANIMAL, because the act of understanding corresponding to ‘every white [thing]’ is distinguished from the act of understanding corresponding only to the term ‘white’. And other cases would be answered similarly.

[12] According to this view it can be said that every sentence in the mind, {357} which is in no way spoken or written, is composed from intellections and in no way from real things. And so, if someone were to affirm or deny that Socrates is Plato, that mental
sentence would not be composed from Socrates and Plato but from intellections of
Socrates and Plato, or there would be one intellection equivalent to the distinct
intellections of Socrates, Plato, and the intellection that is called the copula (as well as the
intellection that is called the negation if the sentence were negative). And so to each
significative utterance, whether categorematic or syncategorematic, there corresponds (or
can correspond) one intellection that naturally has the same mode of signifying regarding
the same thing that the spoken word has by institution. Just as the sobbing and groaning
of the sick and many other utterances naturally signify the same thing that significative
utterances can signify at will, so intellections of the soul—which the Philosopher in this
book calls affections of the soul—can naturally signify the same thing that the utterances
instituted at will signify. And not only thus; on the contrary, some single intention can
naturally signify—and in the same way—what is signified by something composed from
a categorematic and a syncategorematic word [voce]. Nevertheless, there is a difference
in this: a word signifies not only for the speaker but also for the hearers; the intellections
of the soul, however, signify only for the thinking soul itself, and this is so because others
cannot apprehend affections of the soul.

[13] So, one can respond to the argument that there is a difference when speaking
about the act of knowing a mental sentence and the act of apprehending it, because the
act of apprehending, rather than being of a mental sentence, will itself be a mental
sentence; and so to apprehend a mental sentence is nothing other than to form it. So,
when it is asked what is understood by this sentence in the mind and whether what is
understood is simple or composite, it can be said that what is understood is neither simple
nor composite. For example, properly speaking neither something simple nor something
composite is apprehended by the mental sentence [A] HUMAN BEING IS [AN] ANIMAL, but this sentence in the mind is an act of understanding by which every human being and every animal are apprehended confusedly and by which it is apprehended that numerically the same thing is a human and an animal, for this {358} is what is denoted by that mental sentence. So, by such a mental sentence many things—but not a composite thing—are understood. And when it is said that every sentence is composed from a subject and a predicate and a copula, it can be said that this is true of spoken and written sentences. But concerning a conceived sentence, which exists only in the mind, it can be said that a certain one is composed from a subject and predicate and copula and another one is equivalent to this kind of composite. And this suffices for a sentence.

So, according to this way of speaking it would be more correct to say that a sentence is not always understood when it is in the soul, but it is that by which real things or intentions of the soul are understood, i.e., the act of understanding, because then the mental sentence is the act of understanding. But if we were speaking of the act of knowing some mental sentence, then it can be said that this act is a different act than the sentence. So, when some sentence in the mind is known, then there are two intellectual acts at the same time, namely, this mental sentence and another act by which this mental sentence is known. And there is no place in Aristotle where he denies that two intellectual acts can exist at the same time in the intellect; this is especially the case concerning acts which are ordered, as a mental sentence and the act of knowing it are.

\[426\] An alternative rendering of this sentence would be, "But concerning a conceived sentence, which exists only in the mind, it can be said in some way it is composed from a subject and predicate and copula and in another way that it is equivalent to such a composite." But it is rare to see 'aliqua' used adverbally in Scholastic texts.
[14] So then, if anyone wished, they could hold the view that the affections of the soul of which the Philosopher speaks are intellections, which is a likely view and shares a common conclusion with what has been said in previous chapters, namely, that the affections of the soul are true qualities of the mind. For those who wish to hold this view, I think that they will speak more consistently if they go on to say that all mental sentences, all syllogisms, all intentions of the soul, and universally all things that are called beings of reason, are true, real, positive beings and are true qualities of the mind, really informing the mind, just as whiteness really informs a wall and heat really informs fire. And then the division of being into being in the soul and being outside the soul is nothing other than if being were divided into qualities of the mind and all other beings.
Question 6: Whether a Common Concept is a General Intellation

[1] That it is not: Because a concept is the subject or predicate of a sentence, but an intellection is not. Therefore, etc.

[2] Against this: A concept is not a disposition [habitus], a species, or a quality terminating the act of understanding; therefore, it is the intellection itself.

Ockham's Response:

[3] To the question I say briefly that a common concept is a general intellection, because when a sentence is made true by real things [verificatur pro rebus], if two real things suffice for its truth, then a third real thing is superfluous. But an intellect and an intellection are sufficient to make true all the sentences in this matter. Therefore, etc.

Objections to Ockham's View:

[4] But against this: I consider a common cognition which corresponds to the spoken word 'human', and I ask whether something or nothing is understood by this

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427 OPh VI, pp. 406-410. Numbers in curly brackets (e.g., \{352\}) are page references to this volume.
cognition. It's not the case that nothing is understood by it, because just as it is impossible that there be a vision and nothing be seen or there be a love and nothing be loved, so it is impossible that there be a cognition and that nothing be cognized by that cognition. But if something is understood by that intellection, then either what is understood is something outside the soul or something in the soul. Not the former, because neither a universal real thing (because there is no such thing) nor a singular real thing (because no one thing is understood more than any other) is understood by that intellection; so either everything is understood or nothing is understood. Thus, whenever I form the mental sentence EVERY HUMAN IS ANIMAL, I understand every human being, and consequently I understand many humans that I have never seen and of whom I have never thought. Nor is something in the soul cognized by this sort of cognition, because nothing in the soul can be suggested as that which is understood except the intellection itself, in which case the intellection is understood by itself.

[5] Furthermore, I form in my mind the sentence EVERY HUMAN CAN RUN, and I ask whether in this case some human being is understood or not. If some human is understood, then this human who runs is no more understood than one who can run or one who can be human, because HUMAN supposits for those things that can be human as well as for those that are human. But those that can be human are infinitely many; so, by such an intellection infinitely many things would be understood, which is false. If no human is understood, then by the intellection either nothing is understood or something in the soul is understood, and nothing other than the intellection; therefore, etc.
Furthermore, I consider an act of knowing the mental sentence and I ask what is understood by this kind of act, something simple or something composite? What is understood is not simple, because every sentence is composed from at least a subject, a predicate, and a copula. Nor is it composite, because it would be composed either from real things – and then the sentence would belong to external reality – or from acts of understanding; but then in addition to the act of understanding the sentence there would be the other acts from which the sentence is composed, and so there would be many acts of understanding at the same time.

If you say that the act of knowing the sentence is not some one simple act but is an act composed from many acts, since all the acts make one sentence, then the sentences EVERY ANIMAL IS HUMAN and EVERY HUMAN IS ANIMAL would not be distinguished in the mind, because there is no particular act in one sentence {408} that is not in the other, nor does a difference in order intervene [impedit] as it does in writing and in speech, therefore, etc. Furthermore, an act of knowing is distinct from all the other acts taken jointly or separately, because all the other acts could exist at the same time even though the act of knowing doesn't exist; therefore, etc.

Responses to Objections:

To the first of these objections [presented in (4)] I say that external, singular real things are understood confusedly by this kind of cognition. And so to have a confused intellection of human being is nothing other than to have one intellection by which one human being is understood no more than another. This is nothing other than that this kind of cognition is no more a likeness of one human being than of another
human being, but a human being is understood more than a donkey is by this kind of cognition. This is so because such a cognition is, by some sort of similarity \( \textbf{aliquot modo assimilationis} \), more similar \( \textbf{assimilatur magis} \) to a human than to a donkey. Consequently, I say that infinitely many things can be understood by such a confused cognition, just as infinitely many things can be loved by the same love, just as someone can understand all the parts of some continuum (which are infinitely many) and can desire that every part of the continuum remain in existence (and not desire this for any one part more than any other). Similarly, infinitely many things can be signified by the same utterance without a particular cognition of the infinitely many things, just as 'human' signifies infinitely many humans. Nevertheless, that cognition will not be proper to any one of the infinitely many things, nor can one individual be distinguished from another by that cognition due to some specific likeness the cognition has to that individual that it does not have to another.

[9] The response to the second objection [presented in (5)] is clear from what has been said.

[10] To the third objection [presented in (6)], I say first that a sentence in the mind is one thing composed from many acts of understanding; for example, the mental sentence [A] HUMAN IS [AN] ANIMAL\textsuperscript{428} is nothing other than an act by which all humans are understood confusedly, an act by which all animals are understood confusedly, and a third act that corresponds to the copula. Alternately, it can be said that a sentence in the mind is one act equivalent to three such acts existing at the same time in the intellect; according to this way of speaking a mental sentence is not something really

\textsuperscript{428} Ockham's example sentence is \textit{homo est animal}. 
composed but is only composed by equivalence, because it is equivalent to this sort of composite.

Doubts about the Mental Sentence:

[11] {409} But then there is this doubt: how are the sentences in the mind EVERY ANIMAL IS WHITE and EVERY WHITE [THING] IS [AN] ANIMAL distinguished, since in the mind they are not distinguished by a difference in order as when spoken (since the conjoining of the sign\textsuperscript{429} with one spoken utterance rather than with another clearly brings about a different sentence)? But this difference in order cannot be posited in the mind, because such acts in the mind exist at the same time in the same indivisible subject, so that they cannot have this kind of difference of order, nor can the same act of understanding be composed with one act more than with another.

[12] I respond first that a mental sentence can be one act of understanding equivalent to one whole mental sentence really composed from distinct acts of understanding, if they were to have the kind of order that they have in speech. Then there would be three\textsuperscript{430} distinct mental sentences, insofar as the sentences corresponding to them would be distinguished if their parts were to have such an order. Alternately, I say that in a sentence in the mind one act of understanding that is a part of the sentence in the mind corresponds to the whole composite 'every animal' and another to the term 'white'; but in the intellectual sentence corresponding to the spoken sentence 'every white [thing] is [an] animal,' one act corresponds to the whole composite 'every white [thing]' and

\textsuperscript{429} Namely, 'every' (or omne).

\textsuperscript{430} I have no idea what three mental sentences Ockham could be talking about here. The critical edition notes that tres is (rightly?) omitted in one of the three manuscripts of QuesPhys.
another to the term 'animal.' So, the sentences in the mind EVERY ANIMAL IS WHITE and EVERY WHITE [THING] IS [AN] ANIMAL do not have the same parts, because the act of understanding corresponding to the term 'every white [thing]' is distinct from the act of understanding corresponding only to the term 'white', and so it is for the conceived sentence. Hence an intellectual sentence is composed from intellections or intentions and not from real things.

[13] To the form of the argument I say that one response is to be given concerning the act of knowing a mental sentence and another response is to be given concerning the act of apprehending it, since to apprehend a mental sentence is nothing other than to form a mental sentence. Finally, I say that what is understood by this sort of sentence is neither simple nor composite, for the sentence in the mind [A] HUMAN IS [AN] ANIMAL is an act of understanding by which every human is apprehended and an act by which every animal is apprehended confusedly, and by which it is apprehended that numerically the same thing is both human and animal, {410} because that is what is denoted by this kind of mental sentence. So, several things are understood by this kind of mental sentence, but what is understood is neither something composite nor something simple.

[14] When it is said that each sentence is composed from a subject, a predicate, and a copula, I respond: this is true of written and spoken sentences. A certain mental sentence, however, is composed from a subject, a predicate, and a copula, and a certain mental sentence will be equivalent to this kind of composite. Hence, according to this manner of speaking, I say that a sentence is not always understood when it is in the soul, but it is that by which real things or intentions of the soul are understood; the mental
sentence is then the act of understanding. But speaking of an act of knowing a mental sentence, I say that this act is an act distinct from the mental sentence. So, when some sentence is known in the mind, there are two acts in the mind at the same time: namely, the mental sentence and the act by which the mental sentence is known. Aristotle does not deny this—especially not concerning ordered acts, such as a mental sentence and the act of knowing it.

[15] To the principal argument [presented in (1)] I say that a mental sentence [propositio mentalis] is composed not from real things but from acts of understanding, and so I deny the assumption.
A Doubt about Mental Sentences:

[1] But a doubt can be raised whether the mental assertion [enuntiatio mentalis] is essentially composed from some simple, partial cognitions [notitiis], one of which is the subject and another the predicate, or whether it is an act not put together [constitutus] from such parts.

Solution of the Doubt:

[2] For now it seems to me more reasonable to say that such an assertion (namely, a mental one), which belongs to the genus of mental things [cuiuscumque generis mentalium sit], is not composed in this way. I argue for this position as follows: if a mental sentence [propositio mentalis] were composed in this way, where the very same thing is a part [ratio] in any other sentence as much as it is here [in cunctis quantum ad hoc], it seems that it would be possible for there to be two mental sentences—signifying naturally and not by convention—entirely similar and of the same specific kind [rationis specificae], one of which would be possible (and not just possible, but even true) and the

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other absolutely impossible. The consequent is false; for any such sentences equally
signify the same thing and, consequently, if one is true or possible, so is the other (and
vice versa). The conditional is proved thus: for the mental sentence to which is
subordinated the spoken sentence "every whiteness is an entity" is possible (and,
moreover, true), while the sentence to which is subordinated the spoken sentence "every
tility is a whiteness" is thoroughly impossible. But if these mental sentences were
composed [componerentur] from their terms, the terms of both sentences would be
entirely similar and would belong to the same species. Now, since these things would
exist primarily in the same indivisible subject and, consequently, they could not differ
[variari] by any situation or other condition [habitudine] existing between them or in
relation to the whole, in one of them more than the other, both of these sentences would
be of the same specific kind. For it is not intelligible that there be any two wholes such
that: (i) every part of one is similar to some part of the other (and conversely); and (ii)
ey every way in which one is related to its whole or to the other parts of its whole, the other
is similarly related to its whole and to the other parts of its whole; without it being the
case that those wholes are similar and of the same kind.

[3] Furthermore, there does not seem to be any possible means of such
composition. For, if someone who is not affirming or denying anything has some simple
cognitions [notitias] and then forms a sentence, there does not seem to occur any
variation in these cognitions on account of which they are put together [componant ad
invicem] more than before. Nor will it do if some other concept is newly caused (whether
it be categorematic or syncategorematic), since neither together with the new concept nor
because of the new concept will some of these cognitions be put together with others
more than they were put together before, since they would exist in the same subject just as much before this concept is newly added as afterwards.

[4] Furthermore, why will one part be the subject or the predicate rather than the other? Surely it does not seem possible to assign a cause, since both exist in the same subject primarily and are equally apt to be the subject or the predicate (supposing that both are so apt). From this it additionally seems to follow that either: (i) neither part will be the subject or predicate (and thus there will be no mental sentence so composed); or (ii) both parts will be both subject and predicate. If the latter, it follows that numerically the same mental sentence will be both true and impossible, just as one of the spoken sentences subordinated to it will be true and another impossible (as is clear from the example given above). But this seems to be allowed in no way, therefore etc.

[5] Perhaps it will be said in response that, although the parts of such sentences are similar and they exist primarily in the same subject, nevertheless, because of a difference in the order of their production, diverse sentences result and it is not the same part according to species that is the subject in each sentence. Rather, one part is a subject in one sentence, while the similar part in the other sentence is the predicate; the part of a sentence produced first is the subject, the part which is produced later is the predicate.

[6] This response is unsound, since this succession of productions is posited without reason. For there can be and can be produced in the intellect many acts of diverse kinds [rationum], as will be shown later, and it would be quite remarkable if one whole sentence could not be produced all at once.

432 The reference here is to Rimini 1979, vol. 1, pp. 201-208.
Furthermore, it will be necessary to say that the same succession of productions holds in the case of angels; which seems to be exceedingly absurd. For Augustine says in *On Genesis* 4.32 that the angelic mind comprehends "all at once all the things that it wills by the easiest [facillima] cognition." And in 4.33 he says that "the angelic mind can comprehend all at once everything which speech distinguishes separately by the order of the connection of causes." Or, if this succession of production is denied for angels, in their case the same difficulty will remain, namely, how such sentences are made distinct in them and all the rest that have been argued.

Furthermore, it is agreed that God at least could produce the parts of any such sentences in the intellect all at once, and so the aforesaid difficulty will remain.

Moreover, the objection [argumentum] is not answered [impeditur] by this sort of succession of productions. Since the parts of both mental sentences are entirely similar and are in the same subject primarily, a different succession of productions will not make it the case that different wholes result; for a different kind of house does not result if the roof be made before the walls rather than vice versa (provided that the parts are identical [dummodo identitas sit in partibus]). Likewise, if the hand of an animal were generated before the heart (or, similarly, were there any other order of the generation of its organs [membrorum] whatsoever, provided that they are the same organs [dummodo non alia et alia membræ]), then the same animal would be equally generated; some other body according to species would not result, but the same body, as is clear. So it is in the case at hand.

From these considerations it is clear that affirmation and negation in the intellect are not called composite or complex acts in the literal sense (as if they were
essentially composed from such distinct partial cognitions, of which one is the subject and the other the predicate) as many think. Instead, they are called composite or complex acts because they are equivalent in signifying to many spoken or written words composing in their own way a spoken or written sentence, or because they signify composition or division in beings in the manner of speaking of the Commentator in *Metaphysics 6, comment 8*, where he says that "a true affirmative signifies composition in beings, and a true negative division in beings."
Question 2: Whether the word of the created intellect is a true quality subjectively produced in the mind

[1] The second principal question concerning this distinction I ask is about the word; first I ask about the created word, and second I ask about the uncreated Word. Concerning the first, I ask whether the word of the created intellect is a true quality subjectively produced in the mind.

[2] That it is: Every actual intellection is a quality produced in the mind; but every word is an actual intellection, because according to Augustine in De trinitate IX.10\textsuperscript{434}, "The word is knowledge with love…"; therefore, etc.

[3] But opposing this: Augustine begins De trinitate XV.12 by saying, "The word that sounds externally is a sign of the word that lies within." On the basis of this authority I accept the sentence, "A spoken word signifies a mental word." But a spoken word doesn’t signify something that exists subjectively in the intellect; rather, it only signifies that which is understood by the intellect, because it primarily signifies an external real

\textsuperscript{433} OTh IV, pp. 196-227. Numbers in curly brackets (e.g., \{352\}) are page references to this volume.

\textsuperscript{434} Throughout, I provide Ockham's actual citations to Augustine's \textit{De trinitate}; these frequently do not match our own divisions of Augustine's text. In addition, when translating Ockham's frequent quotations of Augustine, I have compared my renderings with Gareth Matthews's translation in Augustine 2002.
thing. Therefore, the mental word exists in the intellect only objectively, not subjectively.

Status of the Question

[4] In this question are some real difficulties, as well as some that are largely terminological. One real difficulty concerns what things are in the mind; {197} for some say that powers, habits, acts, species, and concepts are subjectively in the mind, and real external things are objects existing in the mind only objectively. Another [real] difficulty concerns definitions, whether they are subjectively in the intellect or only objectively in the intellect and subjectively in real things, or only objectively in the intellect and subjectively nowhere. Another difficulty, which seems to me only terminological, is this: supposing that a word is one of the things that are in the mind—whether subjectively or objectively—which of these [things in the mind] is most appropriately called a word?

[5] So, concerning this question I proceed as follows: first I will recite one opinion that touches on each of these difficulties, and second I will respond to the question.

The opinion of Henry of Ghent

[6] Concerning the first topic, one view is put forward that posits that the word is described thus: 435 "A word is a term of an intellectual action emanating from the understanding according to an act, remaining in the intelligence itself, declarative of

435 In the next two paragraphs, and in paragraphs 11, 12, and 20 below, Ockham is liberally quoting Henry of Ghent, Summa quaestionum ordinariarium, a. 40, q. 7.
another." The first particle [namely, "a term"] is posited "in order to differentiate [the word] from the intelligible object, which is the formal principle of an intellectual operation." The second particle [namely, "of an intellectual action"] is posited "in order to differentiate [the word] from the love which proceeds. Third, 'emanating' is said in order to differentiate [the word] from the simple understanding of the understood real thing, which does not emanate but proceeds. And 'from the understanding according to an act' is said in order to differentiate [the word] from the action, which is understanding by simple intelligence, which emanates from the intelligence not according to an act, but only according to a habit. Fifth, 'remaining in the intelligence itself' is said in order to differentiate [the word] from the spoken word which is emitted externally and bodily. Sixth, 'declarative of another' is said in order to differentiate [the word] from whatever is accepted after the first understanding by simple intelligence, which is not declarative of it."

[7] "For understanding this, it is said that any intellect can be considered either (i) insofar as it is a cognitive power; and as such it is a passive power ordered per se to a first act of the simple intelligence in perceiving an object, and this only as it is moved or quasi-moved by the object. Or, (ii) [the intellect] can be considered insofar as it is a nature, and as such it is an active power which, presupposing a first act of the simple intelligence, elicits a second act which is 'speaking.' By this act it forms in itself a concept maximally similar to what is understood by the simple intelligence, a concept which is declarative and manifestive of it, and so this concept is called a 'word.' For example, after the intellect has a simple understanding of some complete definable, its active power forms in itself a concept of that definable, namely the 'what it is' of that
thing, which signifies a definition distinguishing into parts that which is conceived as a
confused whole. And this 'what it is' is declarative and manifestive of the thing, on
account of which it is called a true word, because this 'what it is' fulfills the six conditions
given above for being a word."

Against the Opinion of Henry

[8] {199} In this view I find many things that are false and contrary to blessed
Augustine, from whom the term 'word' is chiefly taken: [8.1] that no first cognition of an
object has the character of a word; [8.2] that a word necessarily presupposes a simple and
quasi-confused cognition; [8.3] that everything declarative of another has the character of
a word; [8.4] that the 'what it is' is a word; and [8.5] the fifth concerns the twofold
consideration of the intellect itself.

[9] Concerning (8.1), I argue thus: according to blessed Augustine, in De trinitate
XV.14-15, our word is born from our knowledge, in the very way that the Word of God is
born from the knowledge of the Father. On the basis of this I argue thus: everything
which can be born from knowledge or memory is a word; but simple understanding is of
this kind, because a habit can be left behind by simple knowledge. This is clear since
someone more readily elicits simple knowledge of some thing if there have been many
elicted acts than if many acts have not been elicited. Thus, there is a habit left behind
from which similar knowledge can be generated, and, consequently, the second simple
knowledge is born from the memory.

[10] If it is said that a habit is not left behind in the memory from simple
knowledge, a habit from which the knowledge can be born a second time, against this: if
a habit is not left behind, this must be because it is non-complex knowledge. But this can't be what hinders, because, according to blessed Augustine, a word is born from the memory. But the word, according to the view being considered, is non-complex knowledge or something produced by non-complex knowledge. Therefore, in the same way it can be said concerning simple knowledge that it can leave behind a habit, just as with other non-complex knowledge.

[11] Furthermore, according to this author, in the very same question, "Being declarative and manifestive of another is maximally the chief criterion for being a word, because it is the last and compleitive criterion, without which the character of a word cannot be, and with which (even if the other criteria are deficient) there can be some character of a word." But knowledge of the simple intelligence or simple understanding is manifestive and declarative of another; therefore, it has the character of a word.

[12] To this he appears to respond that it has in some way the character of a word, but not perfectly, and so it is not a perfect word. But this does not suffice, because this author simply concedes that "if it is conceived that a human being is a sensible animated substance, this is an imperfect word." So, by the same reason, if it is conceived that a human being is an animal, this will be a word, albeit a more imperfect one. Therefore, he should not simply deny the one and concede the other at one time, and yet later uniformly concede both.

[13] This is confirmed because every spoken word corresponds or can correspond to some mental word. For, according to blessed Augustine in De trinitate XV.12, "The word that sounds externally is a sign of the word that lies within." But saying 'animal' or some other name expressing something confusedly to another is [to utter] a
spoken word. So, there corresponds to it something mental; and this is nothing other than simple knowledge according to him; therefore, etc.

[14] Concerning (8.2) I argue thus: whenever some power is perfectly disposed to a particular act and the object (according to its whole and each of its parts) is completely present, then there can follow an act distinctly apprehending that object without any confused cognition beforehand. This is clear since the intellect (especially the angelic intellect) is no less perfectly disposed and unimpeded than vision or any other sensitive power. But if its object is suitably present and the power is sufficiently disposed, a sensitive power distinctly apprehends its object immediately, since it is clear from experience that the power never apprehends its object more distinctly. Therefore, in the same way, if the intellect is sufficiently disposed and its object according to each of its parts is sufficiently present, the intellect apprehends distinctly without any prior confused cognition. This is also true of the angelic power; therefore, etc.

[15] If it is said that the intellect proceeds from imperfect to perfect, and so a confused and simple cognition is presupposed by distinct and declarative knowledge, against this: This sort of process is due to the imperfection of what is doing the proceeding. Yet without evident reason or certain experience, no more ought to be attributed to the more perfect than to the more imperfect. {202} But we see that such a process does not pertain to the sensitive power. So, it does not pertain to the angelic intellect either, since this cannot be proved either by evident reason nor by certain experience; therefore, etc.

[16] If it is said that even a sense first apprehends its object confusedly and only then distinctly, against this: If this is so, it follows that whenever something is
apprehended distinctly by a sense then that sense would have distinct sensations of that object, which is unacceptable because it posits a plurality without any necessity.

Similarly, then two accidents of the same species would be in the very same subject (which he [i.e., Henry] denies), because no reason is seen why these distinct cognitions would be distinguished by species. The consequence is clear: assume there is an object placed before the sense in such a way that it can immediately be distinctly cognized; then in the first instance there will be a distinct cognition and also a confused cognition. Therefore, there are at the same time two cognitions, and there does not seem to be any reason why the confused cognition should pass away in the next instant rather than in the preceding instant.

[17] Furthermore, as is clear from what has been said previously,\(^4\) that which is simply simple cannot be apprehended both confusedly and distinctly. But an angel can apprehend something simply simple; therefore, it cannot have two such ordered cognitions of such an object. And yet an angel can form a word of any simply simple thing; therefore, a word does not always presuppose this kind of [confused] cognition.

[18] Concerning (8.3), which says that everything declarative of another thing \{203\} is a word, I argue thus: An effect in some way declares its cause, and yet an effect is not called a word of its cause, nor conversely.

[19] If it is said that this equivocates on 'declarative,' because not everything declarative in any way whatsoever is the word of another thing, but only what declares in the way in which knowledge declares, against this: According to him [i.e., Henry], the knowledge of some premises would be a word of their conclusion. In addition, then he

\(^4\) See Ord. I, d. 3, q. 5 (OTh II, pp. 459ff.).
insufficiently described the word, by not distinguishing which declarative thing is a word and which is not.

[20] If he responds to the first of these objections by conceding that knowledge of some premises is a word of their conclusion – as he does seem to say, because he says that, in these very words, "every complex intellectual cognition is terminated in that which is 'on account of which,' for then the 'on account of which' is a declarative complex word of that which is conceived by the simple intelligence, in the same way that 'what it is' is a declarative non-complex word."

[21] From these words it follows that knowledge of the premises is a word of the conclusion. But this is false, because according to blessed Augustine, in De trinitate XV, chapter 11, "When we speak the truth, that is, when we speak what we know, a word is born from the knowledge which we hold in the memory, a word that must be entirely of the same kind as the knowledge from which it is born." From this authority it is clear that a word and the knowledge from which that word is born are entirely the same. This is because we speak that which we know, namely, by forming a word; but knowledge of some premises and the word of their conclusion are not of the same respect. Therefore, knowledge of some premises is not a word of their conclusion.

[22] Against (8.4), which says that the 'what it is' is a word declarative of a thing, I ask: Either (i) declarative knowledge and the 'what it is' are entirely the same, or (ii) they are not entirely the same. If he answers with the first, then the 'what it is' of the thing would be truly produced by the intellect and then it would follow that the 'what it is' of a substance would be a true quality informing the soul, just as the declarative knowledge is a true quality informing the soul. But this seems to be unacceptable. If
they are not the same – since according to this author in distinction 60, question 1, "declarative knowledge is a word" – then the 'what it is' is not a word.

[23] Against the fifth [falsehood], concerning the twofold consideration of the intellect, I argue thus: whatever pertains to something insofar as it is a nature, pertains to every nature, because reduplication posits universality, as has been declared previously. Therefore, if the intellect as a nature is an active power, it follows that every nature is an active power, which is clearly false.

[24] This is confirmed, because according to the Philosopher in Physics, book II, 'nature' is said of matter just as of form. So, it is said of passive [powers] just as of active [powers]. Therefore, the intellect as a nature is no more an active power than a passive power.

The Response of the Author

[25] So, I answer otherwise to the question. Concerning this question, I will proceed as follows: [25.1] First, it must be seen what things are to be posited in the mind; [25.2] Second, which of these meets the conditions for being a word. Concerning (25.1), it is clear that in the intellect there are acts of understanding and also habits; but [25.3] whether some species prior to the act is to be posited in the soul or not is a doubtful matter. It is also a doubtful matter [25.4] whether, in addition to the act of understanding, there is some concept formed by the act of understanding, or whether there is some concept having only objective being. Also, it is a doubtful matter [25.5] whether there is some species in the intellect which cannot exist without the act of understanding.

437 See Ord. I, d. 12, q. 2 (OTh III, pp. 401-406).
[26] Concerning (25.3) and (25.5), I say that no species (spoken of in any way whatsoever) is to be posited in the intellect, because plurality should never be posited without necessity. But, as will be shown elsewhere, whatever can be explained [salvari] by such species can be explained equally easily without them. So, such species should not be posited.

[27] But (25.4) is more doubtful to me. Yet it seems probable me – although I am not affirming this – that in addition to the act of understanding, when something common to many is understood, there is something in the intellect (either subjectively or objectively). This item in the intellect is in some way similar to the real external thing which is understood, {206} and is called by many a certain 'image' [idolum], in which in some way the real thing itself is cognized, although to cognize a real singular in the image is nothing other than to cognize the image (unless, perhaps, in addition to this the image is cognized to be a concept of something else). This has been spoken of previously, and elsewhere, perhaps, it will be explained further. 439

[28] Concerning (25.2): [28.1] first, it must be seen that there are some criteria which are apt to pertain to that which is called a 'word'; [28.2] second, the resolution of the question. Concerning (28.1), it seems, according to everyone, that the character of the word is that it is something in the mind, because according to blessed Augustine in De trinitate XV.11, "the word which we carry in the mind is made known by corporeal signs." Second, it is conceded by all that the word is something begotten in the mind, as it is a sort of 'offspring,' just as Augustine says in De trinitate IX.8: "We hold the truthful


439 See Ord., d. 2, q. 8 (OTH II, pp. 266-292) and InPeri, Prologue, sections 6-10 (OPh II, pp. 351-371).
knowledge of things conceived within us as a word, and we give birth to it by speaking within; and it does not depart from us after it is born." Third, it is conceded that the word is a likeness of a real thing and its image, just as Augustine says in De trinitate IX.11:

"And since knowledge has a likeness to the thing which it knows (i.e., that which it is knowledge of), this has a perfect and equal [likeness], by which the mind that knows is itself known. Therefore, it is both an image and a word." Similarly, in De trinitate XV.15 he says, "The word is maximally similar to the thing which is known, from which its image is born."

[29] Given these [concessions], I reply to the question (28.2) that, according to the intention of blessed Augustine, 'word' is taken in several ways. In one way, [29.1] it is understood broadly, and in this way a word is an act of understanding born or produced. In another sense, [29.2] 'word' is taken for a complex word, and thus every complex true or false act is a word. [29.3] It is taken strictly for a true word. [29.4] In another, even stricter way, it is taken for a true word brought forth with love. [29.5] Lastly, 'word' is also taken for a concept of the mind, whether existing subjectively in the soul or only objectively, whether distinguished from the act of understanding or not. |440 |

[30] The blessed Augustine takes 'word' in the first way (29.1) in De trinitate XV.11, where he says, "Although the words do not make a noise, one who thinks certainly says them in his heart." Therefore, whatever is thought is called a word of the mind. But being thought pertains to all sorts of things, whether complex or non-complex; so being called a word of the mind pertains to all such things. Similarly, in De trinitate VIII.10, he says, "Indeed, when I wish to speak of Carthage, I search for it within me so

|440 The words between vertical lines are from a latter redaction of the text.
that I might speak of it, and I find within myself an image [phantasiam] of Carthage."

And he goes on: "I have seen it with my senses and I have retained it in my memory, so that I might find within me a word of it when I wish to speak it. For the image of it in my memory is its word."

[31] {208} From this authority I argue thus: it is possible for someone to apprehend Carthage and retain it by memory, even setting aside everything that is neither habitual cognition nor actual cognition of Carthage. Therefore, without anything other [than these cognitions], a word of Carthage can be had. Consequently, either the actual cognition of Carthage or the habitual cognition will be a word. Furthermore, the habitual cognition is not a word, according both to blessed Augustine and to everyone else. Therefore, the actual non-complex cognition of Carthage is a word. But by this reason every actual non-complex cognition is a word, and by the same reason every actual cognition is a word (speaking about the cognition of a created intellect).

[32] Furthermore, to every spoken word there corresponds some mental word. Because of this, Augustine says, in De trinitate XV.12, "The word which sounds without is a sign of the word that lies within." But the only thing in the mind that corresponds to spoken words that are simply non-complex is a non-complex cognition – especially to the proper names of singular things (such as 'Socrates' and 'Plato'). Thus, the cognition will be a word.

[33] If it is replied that, corresponding to such words, there is an image, species, concept, or some such thing, against this I say that, setting aside whichever of these you choose, God can make someone understand a [spoken] word which signifies some singular thing, and from this conceive the thing signified by that word. Consequently,
this person would have a mental word corresponding to the spoken word, and yet they would have nothing other than an actual non-complex cognition.

[34] However, blessed Augustine sometimes takes 'word' for every complex act to which someone assents or dissents, as is clear when he says, in De trinitate XV.16, "Are there not many things which we say even though we don't know them? We say them, not doubting them but judging them to be true; and if perchance they are true, they are true in the things themselves of which we speak but not in our word, because the word is not true unless it is born from the thing which is known. Thus our word is false in this way, not because we are lying but because we are mistaken. And when we are doubting, there is not then a word of the thing about which we are doubting, but there is a word of the doubting itself. For although we do not know whether that about which we doubt is true, we nevertheless know that we are doubting; and so, when we say this, there is a true word because we say that we know. How then can we lie? We do this when, entirely willingly and knowingly, we have a false word, where the true word is that we are lying; for we know this [that we are lying]. And when we confess that we are lying, we speak the truth; for we are saying what we know! For we know that we are lying."

[35] From this authority it follows that not every act of understanding is a word, because doubt, which is an act of understanding, is not a word. As Augustine says, "And when we are doubting, there is not then a word of the thing about which we are doubting". Therefore, the doubt itself is not a word, and yet the doubt is an act of understanding, just as assenting is also an act of understanding.
Second, it follows that not every word is born from knowledge in the memory, because a false word cannot be born from knowledge. But there are false words, as Augustine says: "Thus our word is false in this way, not because we are lying but because we are mistaken."

Third, it follows that every judicative act of the intellect, by which the intellect assents to or dissents from some complex, is a word. Because every such act is either true or false, and every such act is word, according to blessed Augustine in this place, since he posits that just as there are true words, so there are also false words.

Fourth, it follows that sentences, whether true or false, are not words. Because if such a sentence were a word, no one could have such a sentence in mind without having a word, which blessed Augustine denies. For one who doubts about a certain sentence whether it is true or false does not have a word; yet in the mind this person has the sentence about which they doubt, and so the sentence is not a word, taking 'word' in this second way. Nevertheless, taking word in the first way, according to the view which says that a concept is the intellection itself, it ought to be said that a sentence is a word or words.

From these points, it is inferred that a word, as it is taken here by Augustine, is the same as a judicative act of the intellect by which some sentence is either assented to or dissented from. And so, since doubted sentences are neither assented to or dissented from, no one has a word of such a sentence. Yet because anyone who doubts a doubtful sentence assents to the doubt by which they doubt, so they have a word of this doubt, because they know and assent to it.
[40] But the final part of this authority itself seems to be doubtful, because it seems incompatible with what has already been said, since blessed Augustine said that someone who is knowingly lying has a word. So I ask, what is this word a word of? For example, consider someone who lies in his heart by saying that Christ is not God. By lying, he thus has a word; but I ask, a word of what? Either (i) a word of the sentence "Christ is not God" or (ii) a word of the sentence "I am lying [ipse mentitur]." It can't be a word of the first sentence, since either he is doubtful of this and then it would follow that there is a word of a doubted sentence, which was denied earlier; or, he assents to this, and then he isn't lying; or he dissents from it and is thus mistaken, in which case he is not lying. So, what remains is that there can be a word of a doubted sentence.\footnote{Ockham doesn't address the second horn of the dilemma, that the word is of the sentence, "I am lying," which seems to be what Augustine actually says in the passage quoted above. A more salient objection would be that Augustine appears to say that we have both a true word and a false word when we are lying; and then it could be asked what false word we could have while we're lying. Sadly, there is simply no way to read Ockham as asking this question.}

[41] To this I respond without passing judgment [sine praeiudicio] that Augustine takes 'word' in various ways. So, when he says that "when we knowingly and willingly lie, we have a false word," he takes 'word' here for the spoken word, because considering only [sistendo praecise] the mental word we can in no way knowingly lie. For (when speaking only of the mental word), either to knowingly lie is to knowingly utter a false locution without any adherence [adhaesione] to that falsehood (and then this is nothing other than apprehending a false thing), or to knowingly lie is to utter a false locution with adherence. In the first case, then to knowingly lie is nothing other than to knowingly apprehend a falsehood, and consequently anyone who dissents from a falsehood would be lying, which is \{212\} clearly false. In the second case, there is a contradiction, since it is
a contradiction that someone assents to that which he knows or believes to be false. For since he knows or believes that it is false, it follows that he dissents from it; but since he adheres to it, it follows that he assents to it. But assenting to and dissenting from the same thing is a contradiction. Therefore, in no way can someone knowingly lie, considering only the mental word. And so blessed Augustine here takes 'false word' for a spoken word, because that is false simply because it is a sign of what is false. Nevertheless, there can be a true word about this spoken word, because it can be truly said that this word is false and that someone uttering it is lying.

[42] But yet it must be understood that this – namely, what has been said about knowingly lying – is to be understood about someone speaking mentally, not about someone speaking to someone else; for if someone were speaking to another person mentally, he could indeed knowingly lie. For in that case, to lie would be nothing other than to apprehend a falsehood, knowing it to be false, so that someone else apprehending the initial apprehension believes the apprehension to be true, even though it is false, because this would be apprehending a falsehood with the intention to mislead, which is to lie. But this is not possible for us, except, perhaps, with respect to angels, by in some way pointing out our apprehension to them. Also, 'false word', speaking in this way, includes not only the act of the intellect but also the act of the will by which one wills to deceive. And so, setting aside the act of the will, it will not be lying; just as someone who utters a falsehood in order to reject it does not lie.

[43] I say that Augustine frequently takes 'word' in a third way, {213} for (29.3) a true judicative act that is apt to be born from a scientific habit or a true habit. Augustine takes 'word' in this way in De trinitate XV.11: "It is necessary that when we speak the
truth, that is, we speak what we know, a word is born from the knowledge which we hold in our memory." And he goes on, "The thought which is formed from the thing that we know is, of course, the word that we speak in our heart, which is neither Greek nor Latin nor any other language." From this authority it is clear that the word is born from knowledge.

[44] Similarly, in chapter 13, he says, "We must arrive at that word of man, which precedes all words by which it is signified and is born from the knowledge that remains in the mind." Similarly, in the same chapter, "The mind knows all things that it has perceived through itself, through the senses of the body, and through the testimony of others, holding them preserved in the vault of memory. From these a true word is born when we speak what we know, a word prior to all sound, prior to every thought of sound." From this authority it is clear that 'word' is taken here for the act produced from a truthful intellectual habit, whether that habit is scientific, evident, or even only believed on the basis of the testimony of others.

[45] Blessed Augustine takes 'word' in a fourth way, for (29.4) a true knowledge which is brought forth in love. He takes it in this way in De trinitate IX.8, where he says, "A word is conceived in love, whether the love of a creature or of the Creator." Similarly, in chapter 10, he says, "Rightly it is asked {214} whether all knowledge is a word or only knowledge which is loved. For we also know things which we hate." This is blessed Augustine's question, and he answers it by saying, "But those things that displease us should not be said to be conceived or brought forth by the mind. For not all things that touch it in any way whatsoever are conceived; some things that are only known should still not be called words, such as these things which we are now
considering." And he goes on, "In one way what is known is called a word impressed on
the mind as long as it can be brought forth from the memory and defined, although the
thing itself displeases; in another way, when what is conceived by the mind is pleasing.
The second sense of word is to be understood when the Apostle says, 'No one says 'Lord
Jesus' except in the Holy Spirit;' but another sense of word is used by those of whom the
Lord speaks when he says, 'Not all who call to me 'Lord, Lord' will enter the kingdom of
heaven.'" And later on Augustine continues, "Therefore, the word which we wish to
discern and enter into [insinuare] is knowledge with love."

[46] From this authority it can be taken that 'word' is taken in one sense for
knowledge with love. And 'word,' said in this way, names two acts, namely one of the
intellect and one of the will, in that the thing which is known is also loved. 'Word' is
taken in yet another sense for all knowledge that can be brought forth from memory, and
in this sense all actual knowledge can be called a word.

[47] In a fifth way, 'word' is taken for (29.5) a concept of the mind; this can be
taken from Augustine in De trinitate XV.11, where he indicates that every sign following
after knowledge, which {215} is or can be used in some way for signifying what is
understood by that knowledge, is in some way a word. And so, since concepts in some
way signify those things that can be understood, such concepts can be called words in this
sense. Similarly, Augustine seems to say that thought has the nature of a word, which
should be understood as saying that without thought there cannot be a word, just as there
cannot be concepts without thought. For things which can exist without thought and yet
can be thought about cannot be called words. This assumption can be proved by
appealing to blessed Augustine, in the place quoted above, where he says, "We are now
discussing those things that we think are known, and which are known to us, even if they are not thought of by us. But it is certain that if we wish to speak them, we can do so only by thinking." Therefore, it also seems that the things which are thought, given that they are only in the mind and cannot exist without thought, can be called words. But whether such concepts differ from acts of understanding should not be discussed now.

[48] So, then, I say that this question chiefly owes its difficulty to the words of blessed Augustine, and so we ought to use this term just as he used it. But he sometimes used 'word' for every act of understanding, sometimes for every judicative act, sometimes for every veridical act, sometimes for a veridical act with love {216} or for a judicative act with love (as in De trinitate IX.8), and sometimes for everything that is thought which cannot exist without thought. So, where there appear to be some contrary views, they are preserved by this distinction; and we should treat the authorities of the Saints and the authors who follow Augustine in the same way.

[49] But then there is a doubtful matter: whether the word, spoken of in whatever way, is necessarily born from memory, which Augustine seems to say very frequently. In response to this, I say that 'memory' is taken by blessed Augustine in two ways. [49.1] In one way, 'memory' is taken for an intellectual habit left behind after an act, which can be the principle of an act of the same kind [consimilis]. [49.2] In another way, 'memory' is taken for any principle sufficient for generating a word, whether that principle is the soul itself, something informing the soul, or something including each of these.

[50] And he takes 'memory' in this way (49.2) in De trinitate XV.22, where he says, "We are said to especially understand the truth that we find by thinking, and we even leave it again in our memory. But there is a more remote depth of our memory
where we also find for the first time what we think, and an innermost word that is of no language is born, as knowledge is born from knowledge, vision from vision, and the understanding which appears in thought from the understanding which was already in the memory but which laid hidden." It is implied in this authority that memory (spoken of in this way) is what precedes every word and every thought, from which a thought can be born, and which can be called knowledge, vision, and understanding. But this is not because it really is vision, knowledge, or understanding, but because it is the principle of vision, of knowledge, and of understanding. And blessed Augustine expressly says this in De trinitate XIV.6, where he also posits that memory is the soul. Hence, he says, "It remains that its sight [conspectus] is something pertaining to its nature – namely, to the nature of the soul – and when it considers itself it is called back into itself, not as if by a passage of place but by an incorporeal turning. But when it does not consider itself, it is certainly not in its own sight nor is its gaze formed by it, but yet it will know itself just as if it were a memory of itself for itself. Just as the things known by one skilled in many disciplines are what his memory contains, and henceforth there is nothing in the sight of his mind other than what he thinks from his memory; the rest is hidden in a certain secret knowledge which is called memory." From this authority it is clear that the substance of the soul itself can be called 'memory,' for no other reason but that it is a sufficient principle of bearing a word. By this reason the soul can be called 'memory;' by the same reason everything that belongs to the soul [se tenet a parte animae], if it is a principle of bearing a word and is not itself a word, can be called 'memory.' From the same authority it is clear that the knowledge in the memory of a skilled person, which (as is clear) is not
acquired except after \{218\} exercising many acts \textit{[magnum exercitium actuum]}, can be called 'memory.' And so the first way of taking 'memory' \textit{(49.1)} is also clear.

[51] If it is objected that according to what has been said a stone could be called memory, since a stone can be a principle of intellection and of a word, I respond to this that a stone is not called memory because it is neither the soul nor something in the soul. So, if there were some species in the soul preceding the act, that could in some way be called memory, according to the intention of blessed Augustine; and this is so because everything in the mind to which it could have recourse in order to actually think is memory, according to blessed Augustine.

[52] From what has been said, it can be elicited that it is not blessed Augustine's intention to posit in the soul some hidden or habitual knowledge of any kind – distinct from the substance of the soul – that is prior to an act of understanding. But he posits that such knowledge, by which the soul knows itself before it considers itself, is the same as the substance of the soul, which is memory. For, unless there were some impediment, the soul could consider itself by virtue of its substance; just as it can, assuming it has habitual knowledge of many things that has been acquired from acts, think of those things so long as it is not impeded. Just as he says, in the place cited above, "Certainly, the mind does not give birth to its own knowledge when by thinking it sees that it understands, as if prior to this it was unknown to itself. But it was known to itself in the same way that things that are contained in memory are known even if they are not being thought."

[53] \{219\} It may be objected that it is true that [the soul] is known in the same way as other things are known, and so just as other things are known (not by the substance of the soul alone but also by habits differing from the soul), so the soul also is
known by means of a habit differing from the soul, which nevertheless precedes the act because memory always precedes understanding, according to blessed Augustine.

[54] But this is not the intention of blessed Augustine, as it clear in De trinitate IX.13, where he says, "Every thing whatsoever that we know immediately begets in us its knowledge; for knowledge is born both from the one who knows and from what is known. And so the mind, when it knows itself, is the sole parent of its knowledge, for what is known and the one who knows are the same." From this authority, I argue: nothing belonging to the soul other than memory is a parent of the word, according to blessed Augustine in many diverse places. But according to blessed Augustine in this place, only the mind is the parent of its knowledge. Therefore, the mind alone is memory with respect to its knowledge, which is especially true with respect to its first act. Therefore, nothing precedes the first act of thinking except the substance of the soul; therefore, etc. All these things are to be understood about the soul if it were not impeded in the way it is [actually] impeded in the present life.

Doubtful Matters Concerning the Solution of the Author

[55] Nevertheless, there is a doubtful matter concerning what has been said, [55.1] because it does not seem that our first act could be a word, because according to blessed {220} Augustine, in De trinitate IX.13, "A certain desire [appetitus] precedes the offspring of the mind, a desire by which – by our seeking and finding what we wish – this offspring knowledge is born." From this authority it follows that a desire precedes the begetting of a word; but desire does not precede the first [instance of] knowledge; therefore, the first [instance of] knowledge is not a word.
Furthermore, every word is born from knowledge, according to blessed Augustine in various passages in De trinitate XV. But a first act is not born from knowledge, since a first act (particularly the first act by which the soul would consider itself if it were not impeded) is preceded by nothing other than the substance of the soul. But the soul is not knowledge; therefore, etc.

Additionally, there is De trinitate XV.16: "What is this thing, formable but not yet formed, except something of our mind that we toss out here and there by a certain twisting thought, when first this thing and then that thing is thought by us, just as they are found or as they occur to us? And then it becomes a true word when, as we have said, what we toss out by a twisting motion reaches that which we know; and then it is formed by taking on in every way its likeness, so that the thing is thought just as it is known." From this authority one can argue: that which is born from the twisting motion of the intellect presupposes many acts of the intellect; but the word is born in this way; therefore, the word presupposes many acts of the intellect; therefore, the word is not a first act.

Furthermore, according to blessed Augustine, a word is formed from knowledge by means of a twisting motion; therefore, it presupposes knowledge; but a first act does not presupposed knowledge; therefore, etc.

The Author's Response to these Doubts

To, I reply that according to the intention of blessed Augustine, the word of which he frequently speaks in that passage by which we know something is preceded in us by desire, because this sort of word frequently is born from inquiry, and
inquiry only comes about by means of desire. From this, Augustine provides a reason why the love by which the soul loves itself is not called begotten as the knowledge [by which it knows itself] is called begotten, saying, "So, it – namely, love – is not correctly called begotten from it, as its knowledge by which it knows itself is so called. For this knowledge that has now already been found is what is called born or discovered, and it is often preceded by an inquiry that will come to rest in this knowledge as an end. For inquiry is a desire to discover." From this authority it is clear that inquiry frequently precedes [a word]. But if it were not preceded by inquiry, it would be no less a word; and so a first act is a word, although it is not a true word, the kind of which blessed Augustine frequently speaks. This is so because a true word is a complex word, and a first act is not this kind of thing.

[60] To (56.1), I say that the word that blessed Augustine says is born from knowledge is not [the only\textsuperscript{442}] word, because not every word is born from knowledge, as has been shown. For it is true that every true word is either born \{222\} from knowledge that is brought forth from a habit in the memory or, at least, is apt to be brought forth; and this is either itself or some word of the same nature as it. But a first act of our intellect is a noncomplex word, not a complex word; and of a noncomplex created word blessed Augustine rarely speaks.

[61] To (57.1), [I reply] that blessed Augustine is speaking about complex words, which can be doubted at one time and known at another. All such words are brought forth from such twisting thoughts and motions, or can be brought forth in this way. This

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\textsuperscript{442} Here I follow a variant reading 'omne' in several manuscripts, without which the sentence makes no sense.
suffices for blessed Augustine, because he intends in this passage to provide the
difference between our words and the divine Word; and the difference is that our word is
formable before it is formed, while the divine Word is not formable prior to being
formed. But it does not follow from that a first act is not a word; though it does follow
that a first act is not this kind of word [namely, a complex word].

[62] [I reply] to (58.1) in the same way: something is not a complex word unless
some word of the same nature could be brought forth from habitual knowledge which is a
thing other than both the word and the mind. This suffices for the intention of blessed
Augustine.

[63] If it is asked whether every cognition which is a word could be brought forth
from a habit, I say that every abstractive cognition of the created intellect beyond an
evident knowledge of a contingent sentence can be produced from a habit (so long as it is
not impeded), so that with a habit existing and no impediment existing, a corresponding
word can be produced; but a habit does not suffice [for producing] an intuitive cognition.

{223} Similarly, although a habit suffices [for producing] an act of apprehending a
contingent truth and also an act of believing that truth, still the habit does not suffice [for
producing] an evident cognition of that truth.

Conclusions According to Augustine's Mind

[64] From what has been said, several conclusions or claims can be elicited which
I believe to be according to the mind of blessed Augustine. First, that at least some
thought is a word, so that some act of understanding really and truly is a word. Because
there are various views of various doctors on this point, I will specifically prove that this is according to the mind of blessed Augustine.

[65] First, according to De trinitate IX.8, where he says, "We hold the truthful knowledge of things conceived within us as a word, and we give birth to it by speaking within; and it does not depart from us after it is born." So, according to Augustine, truthful knowledge is a word; but [he's not speaking of] habitual knowledge; therefore, actual knowledge [is a word].

[66] In addition, in chapter 10: "When those things that we hate are rightly found displeasing and rightly disapproved of, then our disapproval is approved and is found pleasing, and is a word." So, according to blessed Augustine, disapproval is a word; but disapproval is an act of the intellect; therefore, etc.

[67] In addition, in chapter 13: "Here is a certain image of the Trinity: the mind itself, its knowledge, which is its offspring and its word of itself, and love the third." Here it is clear that blessed Augustine posits this trinity: mind, knowledge or word, and love. But if knowledge and word were not really the same, either there would be a "quaternity" or the word would not be part of the trinity, both of which Augustine denies.

[68] In addition, in De trinitate XV.11: "Some thoughts are speeches of the heart," but speeches are particular words, therefore, words are thoughts.

[69] In addition, in the same chapter, "A thought formed from a thing which we know is a word." Therefore, a thought which has been brought forth is a word, since blessed Augustine frequently uses 'formed' for 'brought forth.'

[70] In addition, in chapter 13, "Then there is a word maximally similar to the thing that is known, from which is brought forth an image of it, when a vision of thought
comes from a vision of knowledge. And this is a word of no language." Therefore, a vision of thought is a word.

[71] In addition, in chapter 22, "The word which is of no language is brought forth within, as knowledge from knowledge, vision from vision, and the understanding which appears in thought from the understanding which was already in the memory but which laid hidden." Therefore, a word is a vision, knowledge, and intelligence; but only actual vision, knowledge, and intelligence; therefore, etc.

[72] Another conclusion is that every act of understanding is a word. This is made clear by Augustine in De trinitate XV.11, where he says, "There are no human works that are not first spoken in the heart. Hence it is written, 'the beginning of every work is a word.'" From this I argue thus: every human work is preceded by a word, according to this authority. But something can be a human work with nothing existing in the intellect other than an intuitive cognition of some thing or some things, because someone having only an intuitive cognition can love, which is a kind of work. Therefore, an intuitive cognition is a word and, consequently, so much more is every abstractive cognition.

[73] Another conclusion is that 'word,' in one way of speaking, names two acts, namely an act of the intellect and an act of the will, so that if either one of these passed away, the other which remained could not be called a word in this way of taking 'word.' This is made clear by blessed Augustine in De trinitate IX.10, just as was laid down above. Similarly, in chapter 8, "The word that we wish to enter into is knowledge with love." Similarly, in chapter 11, "When knowledge is pleasing and worthily loved it is a word."
Response to the Form of the Question

[74] From what has been said, I respond to the form of the question that a word is a quality of the mind inhering in it, if 'word' is taken for an act, for a complex word, or even for an act of the intellecction along with the will's love. But if 'word' is taken for a concept of the mind, which is an object of the intellect and which cannot exist without the mind, then if it is held that a concept is some quality subjectively existing in the mind, it should be said that a word spoken of in this way is a quality of the mind. If, however, it is held that a concept only has objective being in the soul, then it should be said that a word spoken of in this way would not be a quality of the mind.

In Response to the Principal Argument

[75] {226} To the principal argument, I reply that not every word is knowledge with love; this is so only according to one signification of the name 'word.' If it is asked which act is the word – the act of understanding, the act of the will, or one thing composed from both acts – I respond that according to the intention of blessed Augustine, it should be said that only the act of the intellect is a word, taking 'word' in this way. For blessed Augustine posits a trinity here, namely, mind, knowledge or word, and love. Therefore, love is not the second part of this image, nor is it part of the second part of the image. Therefore, since the word is the second part, love is not a word nor part of a word.
[76] Nevertheless, according to the intention of blessed Augustine, knowledge does not deserve the name 'word' and is not a word unless love is present, because this term was imposed in such a way that it does not name knowledge unless love is present.

[77] Yet, taking 'word' in another way, knowledge is a word whether love is present or not. This is so because blessed Augustine uses the term 'word' in various ways in various places, as has been proved.

In Response to the Opposing Argument

[78] To the argument in opposition, I reply that it is not the intention of blessed Augustine that a spoken word should always signify a mental word, taking 'signify' properly. Instead, he takes 'signify' improperly, so that one sign signifies another when the first sign is imposed in order to signify the same thing that the second sign signifies (this usage has been explained elsewhere). 'Mental word' and 'spoken word' are these kinds of sign, according to what blessed Augustine explains in this passage.

[79] In various places he speaks in the same way, namely, that the thing which we conceive with the mind is nothing other than what we express by a spoken word or some other sign; and so the same thing is signified by a mental word and a spoken word. Nevertheless, it is first signified by the mental word, and then signified by a spoken word. Hence, Augustine says in De trinitate XV.11: "A thought formed from the thing that we know is the word that we speak in our heart, which is neither Greek nor Latin nor any other language, but when it is useful to bring it forth to the knowledge of those to whom we are speaking, then some sign is taken up by which [the word] is signified. And generally this is a sound, although sometimes just a gesture." From this authority it is
clear that a spoken word chiefly signifies what we first speak within and the knowledge of which we chiefly intend to express. But someone speaking to another typically chiefly intends to express a quality had by an external thing. For example, one teaching some natural philosophy does not chiefly intend to teach about his mental words, but about real things which he first conceives by a mental word. So, a spoken word will primarily signify the real thing, yet that thing is first signified by speaking a mental word.


[Hagedorn in-progress A] Eric W. Hagedorn, "Grammar and Syntax in Ockham's Mental Language."

[Hagedorn in-progress B] Eric W. Hagedorn, "LOT and the Metaphysics of Mind."


[Spade 2002] Paul Vincent Spade, *Thoughts, Words, and Things: An Introduction to Late Mediaeval Logic and Semantic Theory*. Published online at http://pvspade.com/Logic/docs/Thoughts, Words and Things1_2.pdf.


