ARISTOTLE'S *PERI HERMENEIAS* IN MEDIEVAL LATIN AND ARABIC PHILOSOPHY:
LOGIC AND THE LINGUISTIC ARTS

DEBORAH L. BLACK

In many fields within the history of medieval philosophy, the comparison of the Latin and Arabic Aristotelian commentary traditions must be concerned in large measure with the influence of Arabic authors, especially Avicenna and Averroes, upon their Latin successors. In the case of the commentary tradition on the *Peri hermeneias,* however, the question of influence plays little or no part in such comparative considerations.[1] Yet the absence of a direct influence of Arabic philosophers upon their Latin counterparts does have its own peculiar advantages, since it provides an opportunity to explore the effects upon Aristotelian exegesis of the different linguistic backgrounds of Arabic and Latin authors. This is especially evident in the discussions in *Peri hermeneias* commentaries devoted to the relationship between logic and language, and to the question of the differences between a logical and a grammatical analysis of linguistic phenomena. While both Arabic and Latin exegetes inherited, directly or indirectly, some of the same materials of the late Greek commentary tradition, and of course, some of the same issues inherent in Aristotle's own text, Arabic and Latin authors filtered that same philosophical material through very different linguistic traditions, each with its own indigenous grammatical and linguistic theories. Given these circumstances, the very linguistic gulf separating the Latin and Arabic authors, which in many areas of philosophy remains merely incidental, becomes essential to the philosophical issues posed by certain parts of Aristotle's *Peri hermeneias.*

My aim in the present discussion is to explore a selection of the standard passages in the medieval commentary tradition which give rise to explicit considerations of logic's general status as a linguistic art, and its special relationship to grammar. Amongst the Latin commentators, I have confined my inquiry to authors whose commentaries were written in the thirteenth century, and with the exception of Robert Kilwardby, to commentaries available in printed editions.[2] Amongst Arabic authors, I have considered in the main the writings of Al-Fārābī (ca. 870-950 AD) and Avicenna (Ibn Sīnā, 980-1037 AD).[3] Since the question of Arabic influence on the Latin discussions of these topics is

 minimal, I propose to begin with the writings of Latin commentators, since the Latin discussions of the issues with which I am concerned are on the whole more thematic and homogeneous, and hence more approachable, than those of the Arabic authors.

I. LOGIC AND GRAMMAR: THE LATIN TRADITION

In the Latin commentaries on the *Peri hermeneias,* the question of the relationship between the logical and the grammatical study of language is treated thematically on both general and specific levels. On the general level, the question is addressed in the course of the standard introductory topoi regarding the subject-matter of the treatise, its place in logic, its purpose, and the significance of its title. These reflections provide, at least in theory, a set of canonical principles to which the more specific questions regarding the Aristotelian text can be referred and resolved. These specific questions occur primarily in the context of Aristotle's discussions of the noun and verb in chapters two and three of the text, and are generally concerned to explain the differences between Aristotle's perspective on linguistic topics, and that of the standard grammatical authority, Priscian.

1. General Principles of the Logician's Treatment of Language

The Latin translation of the title of Aristotle's *Peri hermeneias, De interpretatione,* often served as an occasion for reflecting upon the linguistic content of the first four chapters of the text. Boethius's attempts to explain and justify the title provided the inspiration for many of the thirteenth-century explications, though there is considerable diversity in the individual commentators" interpretations of Boethius's remarks. Some commentators, in fact, appeal to Boethius as an authority, even though their explanation of the meaning of *interpretatio* in the title is not entirely compatible with Boethius's own view.

In the case of Martin of Dacia and Thomas Aquinas, this is done by bringing the logician's concern with the truth-value of statements directly into the meaning of *interpretatio.* In making this move, both authors are forced to claim that *interpretatio* is a synonym for *enuntiatio,* the Latin translation for Aristotle's *apophansis,* used to denote a complete statement which has a determinate truth-value. Martin, for example, replies affirmatively to the question of whether *enuntiatio* is the subject of the science treated in the *Peri hermeneias,* by citing Boethius's definition of interpretation: "For according to Boethius, interpretation, as it is used here, is nothing but vocal sound significant through itself, *in which there is either truth or falsity*" (my emphasis).[4] Now while the first part of Martin's citation is indeed from Boethius, the stipulation that an interpretation must possess a truth-value is explicitly rejected by Boethius, for Boethius denies that enunciation is the same as interpretation, and the possession of truth-values

is the mark of an enunciation. For Boethius, then, nouns and verbs, as significant in themselves, *are* interpretations, although syncategorematic words are not.[5] Although Martin agrees with Boethius that syncategorematic terms are not encompassed by *interpretatio,* and hence are not discussed in Aristotle's text, he also argues that interpretation excludes the noun and the verb, that is, all non-complex vocal sounds, since complexity is a necessary condition for the assignment of a truth-value.[6] Aquinas, who offers essentially the same view as Martin,[7] links his reading of the title explicitly to the identification of logic as a rational science, and to the need to justify the *Peri hermeneias* as concerned in some way with an operation of the intellect.[8] However, the inclusion of the noun and the verb in the text can be explained, according to Thomas, even though they do not fall under the proper meaning of interpretation, construed as enunciation. For they are the principles or parts of enunciations, and "it is proper to each science to treat the parts of its subject, just as it [treats] its properties."[9]

While neither Aquinas nor Martin makes any explicit attempt to link the definition of interpretation to the logic-grammar distinction, both seem to be concerned to modify Boethius's definition of *interpretatio* so that the consideration of the noun and the verb becomes a preliminary, not an essential, part of the science of interpretation. Their addition of truth-values to Boethius's definition of interpretation, contrary to Boethius's own express intentions, indicates a desire to identify Aristotle's approach in the *Peri hermeneias* as unequivocally logical, and worthy of the designation of *scientia rationalis.*[10]

In contrast to Martin and Thomas, Kilwardby and Albertus Magnus allude explicitly to the differences between logic and both grammar and rhetoric in their explanations of the meaning of "interpretation." Kilwardby, who prefers to base his explication on Boethius's alternative definition of "interpretation" in the *secunda editio,* as *vox prolata cum imaginacione significandi,* remarks:[11]

> But here "interpretation" is to be understood according to Boethius, insofar as "interpretation" means "vocal sound uttered with an image of signifying." Nor should the book be placed under grammar or rhetoric for this reason, because "an image of signifying" adds something over and above 'signifying," namely, to signify by presupposing becomingly and congruously, which are indeed intended by the grammarian and the orator, congruously by the grammarian, and becomingly by the orator. But [the *De interpretatione*] is placed under rational philosophy, as well as under linguistic philosophy, since rational philosophy does not altogether prescind from speech. And thus it is clear under what part of philosophy it belongs.[12]

In this passage, Kilwardby does not allude explicitly to truth-values, but the insistence that logic is a rational as well as a linguistic science fulfills a similar function, while allowing him to preserve Boethius's claim that the noun and the

verb are in fact proper parts of the subject-matter of the text. Kilwardby, moreover, provides some explication of the relationship between linguistic and rational science: for according to the passage just cited, any rational science is by nature also linguistic, since it presupposes the fulfillment of grammatical and rhetorical well-formedness as a necessary condition. Rational sciences, however, add to their linguistic underpinnings an explicit reference to the conscious, signifying activity of a mind, the *imaginatio significandi* of Boethius.[13]

Among the Latin commentators, Kilwardby also provides one of the most direct formulations of the commonplace, encountered throughout the *Peri hermeneias* commentary tradition and in various other logical and grammatical texts, that logic considers language with a view to truth and falsehood, whereas grammar considers it with a view to congruity and incongruity. The occasion for his remarks is the observation that the definition of *oratio* (=*logos*) given by Aristotle in the opening sentence of *Peri hermeneias* chapter 4 (16^b26) differs from the definition of *oratio* given by Priscian:

> But one ought to say that the logician, in considering truth and falsity with regard to speech, defines speech through the things signified, since truth and falsity are caused in speech by the things signified; so [Aristotle] says, 'speech is a significant vocal utterance. . . .'' But the grammarian, considering congruity and incongruity with regard to speech, defines speech through ordering, since congruity and incongruity are caused by the things consignified; but they [in turn] are consequences of the things, insofar as construction and ordering are owing to [the things], since [the things] are the media of constructing or ordering one word with another. So [Priscian] says, 'speech is a congruous ordering of words.'' And thus does the diverse intention of the authors make for diverse definitions.[14]

In this passage, Kilwardby is quite willing to tie the logician's concern with truth-values not merely to the formal structure of predication, but also to the fact that speech signifies and refers to the things which determine truth and falsity. In accordance with Aristotle's focus on significant vocal sounds, logical truth is construed by Kilwardby to be as much a semantic property as a formal one. Thus, Kilwardby aligns the truth-congruity contrast between logic and grammar with the contrast between signification and consignification: logic attends directly to the signification of things, whereas grammar, while deriving its criteria of congruous construction from things, attends less directly to their representation as such. Now the distinction between signification and consignification is, of course, a common one in the logical and grammatical theory of the thirteenth century, and thus its employment as a solution to the doubt is not entirely unexpected. But Kilwardby uses the commonplace in a way that supplements his earlier suggestion regarding the relations between linguistic and rational sciences. While he does not here mention the mediation of the mind, Kilwardby's claim

that like signification, consignification reflects the real ordering of things outside the mind, suggests that grammar too must in some sense be a rational science. For the ability of grammatical constructions to consignify extramental reality linguistically would seem to entail a corresponding conceptual grasp of the ordering. If logic is primarily a rational art that cannot be totally indifferent to the concerns of language, here grammar seems to be a linguistic art that must attend in part to the demands of reason.[15]

Albertus Magnus is closest to Kilwardby in his treatment of the preliminary issues, and provides what is clearly a Boethian construal of interpretation, as "a speech which is concerned with a thing as it is, spoken verbally for the purpose of explanation."[16] It is broader than an enunciation, which requires that 'something be said or predicated of something else (*aliquid de aliquo dici vel praedicari*)," although enunciation is "the most powerful interpretation (*potissima interpretatio*)." Still, Albert agrees that since the term "interpretation" covers nouns and verbs as well as enunciations, the title handed down for the text is preferable to *De enunciatione,* even though it is conceded that enunciative statements are the work's proper subject-matter.[17] Unlike Kilwardby, however, Albert simply identifies rational and linguistic philosophy in this context. When addressing the traditional question, to which part of philosophy does the text belong, Albert assigns it to *scientia rationalis sive sermocinalis* as opposed to *realis,* since it considers "being under the form of words" (*ens stans sub sermone*). Yet even this is not sufficient for Albert, and he goes on to bring the Avicennian conception of logic, as a method for reaching knowledge of the unknown, to bear upon interpretation: "[F]or interpretation is useful in order to have knowledge of complex, unknown things through complex, known things, because interpretation comes to be known in speech."[18] Albert also adds, in his discussion of the placement of the *Peri hermeneias* among the sciences, that it considers speech in terms of the accidents of subjectibility and predicability, and is thus ultimately ordained to the study of syllogistic.[19] Finally, in accepting the Boethian refutation of the claim that the work has *oratio* 'speech" as its proper subject,[20] Albert, like Kilwardby, explicitly contrasts the logician with the grammarian (as well as the orator and poet), in terms of the nature of their respective concerns with speech. The basic point is that the genus of *oratio* is the common subject-matter of all the *artes sermocinales,* and thus proper to none. Rather, each art considers speech with a view to a different end: Albert does not mention the end of logic here, but he does concur with Kilwardby that the end of grammar is congruity, whereas that of rhetoric is agreeableness.[21]

While it is clear that the Latin commentators, in their explications of the title and subject-matter of Aristotle's *Peri hermeneias,* are all concerned in some way to delineate the relationship between reasoning and language within logic, there is considerable diversity in their approaches to this question. They agree that the principal concern of the text at hand is the enunciative statement and its parts, but

there is no generally accepted basis for explaining the centrality of enunciation, nor the extent to which the treatment of such things as the noun and the verb is contained under the notion of interpretation. Certain formulaic distinctions between logic and grammar, rooted in the differences between the texts of Aristotle and Priscian, appear commonplace: grammar is concerned with congruity, consignification, and syntactical construction; logic is concerned with truth, signification, and subjectibility and predicability. But the divergences amongst the commentators" approach to the preliminaries of exposition suggest that even these commonplace formulas were understood differently by the various authors who exploited them.

Ultimately, these divergences seem to stem from underlying differences in the commentators" views of the relation between the linguistic and rational orientations of logic. The acceptance of the traditional Boethian construal of the title seems to reinforce the harmony between logic and linguistic considerations, at the price of omitting to explain the underlying unity of the Aristotelian text. Attempts to bend Boethius's notion of interpretation to accommodate a fuller sense of logic's rational character and its peculiar concern with truth and falsity tends, for its part, to leave unexplained Aristotle's selective consideration of certain obviously linguistic topics, such as the nature of nouns and verbs, to the exclusion of others of at least equal logical interest, such as syncategoremata.[22] Yet even those like Martin of Dacia and Aquinas, who depart from Boethius, and thus gravitate towards the simple identification of logic as the rational science, and grammar as the linguistic science, are reluctant explicitly to sever logic from the linguistic arts. Rather, the logician, while focusing on the demands of logic as a rational science, is given license to include, as Aristotle does in chapters 2 and 3, a consideration of any linguistic phenomena that can be shown to have some bearing on, or participation in, his principal purpose.

2. Defenses of Aristotle's Treatment of the Noun
A more precise picture of how the Latin commentators view the respective approaches of logic and grammar to linguistic phenomena emerges from discussions devoted to Aristotle's treatment of the noun in chapter 2 and the verb in chapter 3. The most telling discussions are those that are concerned to justify the consideration of these apparently grammatical topics in a work of logic, and to explain why Aristotle, the foremost logical authority, does not concur with Priscian, the foremost grammatical authority, in his treatment of the same linguistic subjects.

Defining the Noun: The main focus of attention among the commentators, which will also provide the focal point of this second part of my consideration of the Latin logical tradition, is Aristotle's treatment of the noun in chapter 2. It is Martin of Dacia who addresses most directly the question of whether the noun is a proper subject of study for the logician. Question 17 of his commentary openly

challenges the logician on this point, objecting that since the noun is a grammatical object of knowledge (*scibile*), it does not "pertain to the logician to offer a determination of [it]."[23] In his reply, Martin does not take issue with the identification of the noun as a grammatical *scibile,* but he does argue that the grammatical characteristics of the noun do not exhaust its knowable properties. Martin constructs his positive case for the logician's right to determine the noun by appealing to the *ratio logica,* the formal perspective according to which logic studies its subjects. This *ratio* Martin identifies with the properties of subjectibility and predicability, that is, the properties that permit terms to form the subjects or predicates of an enunciative statement possessing a truth-value.[24] Thus, in his reply to the objection that the noun is a grammatical, not a logical, item of knowledge, Martin observes that there is nothing unwonted about diverse branches of philosophy considering the same thing from different perspectives, so long as each branch of philosophy remains within the confines determined by its own proper *ratio* or perspective. He parallels to the logical couplet of *subicibilis-praedicabilis* the familiar grammatical couplet of *congrua-incongrua,* here explicitly identified as the aim of the *modi significandi* insofar as they represent grammatical principles of construction.[25]

Martin's treatment of this question, in virtue of its specific appeal to the *modi significandi,* introduces further precision into the efforts to distinguish the grammatical and logical approaches to linguistic topics, by construing the commonplace points of contrast between the two arts as indicating the different formal perspectives of two distinct sciences. What is most noteworthy about this approach is Martin's insistence that the noun is not a distinctively grammatical *scibile,* but rather, a linguistic object that becomes a grammatical *scibile* when viewed from one perspective, a logical *scibile* when viewed from another. "Noun," then, is not an equivocal term used improperly in logic, and there is no suggestion that Aristotle would have done better to forget nouns and verbs entirely, and stick to the terminology of subjects and predicates.[26] For Martin, the overlapping of technical terms in logic and grammar serves to reinforce the underlying unity of the two sciences, which study two different sets of properties anchored in the same linguistic objects.

Kilwardby and Albertus Magnus seem to have in mind the same sort of justification as Martin, although they attempt to provide an account of the underlying causes of the logician's distinctive perspective on both the noun and the verb. According to Kilwardby, the grammarian begins his treatment of the noun by analyzing its embodiment in a vocal sound, and his analysis terminates in the intellect, that is, in the conceptual content to be signified by the imposition of the word as a linguistic sign. The grammarian is properly concerned with the actual vocal construction of a word in its own right. The logician, however, begins with the conceptual content that is to be signified, and terminates in its vocal sign.[27] Kilwardby does not mean, of course, that the logician's ultimate

concern is with vocal expressions; rather, his claim reflects the order of sign-relations established by Aristotle at 16ª3-8, in which vocal words are said to be signs of the *passiones animae.* Since the logician is concerned with language principally as a sign of concepts, the concepts constitute the primary focus of logic, to which the study of their verbal embodiment is referred. Given this difference in the starting point of his investigation of language, then, the logician cannot simply take the grammatical definitions of nouns and verbs as ready-made principles. In explaining his rejection of this type of dependency of logic on grammar, Kilwardby further observes that the grammarian attends to those properties of nouns and verbs that render them *constructibilia,* and that these are not the same as the logically relevant properties which render them *subicibilia et predicabilia.*[28] Read in conjunction with the argument from their different starting-points, Kilwardby's claim would seem to be that words are constructibles insofar as they are considered *qua* vocal sounds, whereas they are subjects and predicates insofar as they are considered *qua* signs of concepts. Thus, given that the logician and the grammarian study their common objects from different starting points, and with a focus on different properties, the definitions of "noun" and "verb" offered by Priscian and Aristotle must differ.[29] As with Martin, Kilwardby accepts the claim that logical and grammatical nouns are essentially the same objects, understood in different ways; the divergence in their definitions is introduced, not by an equivocation, but by the diversity of Aristotle's and Priscian's ultimate intentions in their study of the noun.[30]

Albert presents the most detailed consideration of why the logician cannot simply borrow his definitions from the grammarian, elaborating upon Kilwardby's claim that logic begins with the intellect and ends in speech. Albert explains that the logical definition of the noun as a conventionally significant vocal sound (*vox significativa ad placitum*) given by Aristotle takes the vocal utterance as a direct sign of the likeness of an object in the soul, as alluded to in the opening discussion of the *Peri hermemeias.* This in turn is the basis for the logician's appeal to truth and falsity as his primary principles, for truth and falsity properly speaking are only said to arise in relation to a knowing mind which composes and divides concepts in order to make them correspond with the things known. The grammarian's, that is, Priscian's, definition of the noun as 'substance with quality" completely overlooks the relation between language and mind, and hence the conceptual mediation that makes possible the assignment of a truth-value to the utterance, insofar as Priscian's definition refers directly to the substance and quality of the thing itself:[31]

> But for this reason, namely, that [vocal sounds] are signs of the passions which are caused in the soul by the intentions of things, it is held that they are not primarily signs of the things, but rather, they are primarily signs of the likenesses which are in the soul, and through these likenesses they are referred to things. And in this the signs

considered here differ from the grammarian's consideration, for he considers those vocal sounds to the extent that they are signs of things immediately, and thus he says that the noun signifies substance with quality, whereas the logician says that it is a conventionally significant vocal sound.[32]

Albert's solution here, conditioned as it is by the need to explain the texts of Priscian and Aristotle, seems sound: Priscian's reference to substance and quality in his definition of the noun appears to be founded upon the metaphysical structure of the external world, whereas Aristotle's definition of the noun, and the general approach of the *Peri hermeneias,* seems to be rooted more in the signification of reality as mediated by concepts. But viewed as part of the commentary tradition as a whole, Albert's remarks illustrate a pervasive feature of the approach of Latin authors to the linguistic aspects of logic. We have seen in our consideration of the introductory discussions of the commentators that Albert displays an approach to the general problem of distinguishing logic and grammar that is closest to that of Kilwardby. Yet Albert's comparison of Priscian and Aristotle in the present context has led him to claim that there is a stronger link between grammar and extramental reality than between logic and that same reality. By contrast, Kilwardby's comparison between Priscian's and Aristotle's definitions of *oratio* led to an emphasis on logic as more directly concerned with signifying things, although for Kilwardby grammar too ultimately takes the things as the measure of its study of consignification.[33] Yet when Kilwardby addressed the differences between the two authorities in their definitions of the noun, the relation to the intellect, as principle or as terminus, was a factor in *both* the logician's and the grammarian's perspectives on language. That two authors can begin from such similar perspectives on the general orientation of logic, and yet offer such varied explanations for the logician's concern with specific linguistic topics, is evidence of the general difficulties the commentators face in reconciling the goal of exegesis with the desire to offer a systematic account of logic's place amongst the linguistic arts.

Infinite Nouns: Aristotle's claim at 16[a]29 and following that terms such as "non-man" (*ouk anthrōpos*) are not nouns, and have no proper label of their own, was a common locus for discussing the effects of the logician's purposes upon his account of linguistic phenomena. The Latin commentators—unlike their Arabic predecessors—accept the view of Boethius and Ammonius, stemming from Aristotle's remarks 16[b]15, that these terms, for which Aristotle coins the term *aorista* "infinite" or "indefinite," are infinite in the sense that they signify pure negations rather than privations.[34] On this reading, the term "non-X," say, "non-sighted," can be applied to all things other than X's, and even to non-existent subjects; it does not name a specific disposition that may be viewed as the privation of X, say, "blindness," which can be meaningfully predicated only with reference to things that have the potentiality to be X's.[35] Thus, according to

the Latin tradition, "non-sighted" can meaningfully be said not only of blind humans and animals, but also of walls and stones. Against the background of this reading, the Latin commentators generally interpreted Aristotle's claims regarding infinite nouns not as a simple observation about the absence of a technical term for these kinds of negations in Greek grammar, but rather, as a claim excluding infinite nouns from the proper domain of logic.

On this reading, Aristotle is generally interpreted by the Latin philosophers to hold the view that infinite nouns *are* nouns in the grammatical sense. Martin of Dacia, as one would expect, addresses this area of concern by appealing directly to modistic doctrine. Thus, when it is objected that the infinite noun must in fact be a noun, because it possesses the *modus significandi* of signifying substance with quality, which is proper to the noun. Martin concurs with this claim, but argues that it is logically irrelevant.[36] "Grammatically speaking," he says, the infinite noun does signify substance with quality; but its indeterminacy prevents it from signifying any "nature" and thus it is excluded from the *ratio logica* of subjectibility and predicability.[37]

Similar reasoning is found in Simon of Faversham, where it is argued that infinite nouns cannot be parts of enunciative statements, since they signify no conceptual content, and hence, cannot be composed or divided by the mind:

> Note that the infinite noun and infinite verb are excluded from the consideration of the logician, because the noun and verb which the logician considers should be parts of enunciation; but infinite nouns are not parts of enunciation, because everything which can be a part of enunciation must signify some concept of the mind, for enunciation is principally for the sake of truth. But we cannot have truth except through that which expresses a determinate concept. For [the infinite noun and verb] are said indifferently of being and non-being, and therefore are neither verbs nor nouns for the logician, and thus are not his concern. However, they are not excluded from the grammarian's consideration, because they do possess those accidents of the noun and verb by means of which they can be composed with one another. And the Philosopher implies this when he says that the infinite verb is the sign of a saying about another.[38]

There is, of course, an obvious problem with Martin's and Simon's construal of Aristotle's remarks here. Although the application of the criteria for inclusion in logic seems unobjectionable, such an explication runs up against the realities of Aristotle's own text. While Aristotle does claim that infinite nouns and verbs are not fully nouns or verbs in the proper sense, the prominent place of infinite terms in the discussion of opposition in chapter 10 seems to belie the claim that it is *logice loquendo* that infinite nouns are not truly nouns. A more likely reading of Aristotle would be that he has introduced infinite terms into the text because of

their logical importance to the theory of contraries and contradictories, recognizing nonetheless that traditional Greek grammar has no name for such terms.

Since both Martin and Simon wrote rather brief and selective question commentaries on the *Peri hermeneias,* which are generally confined to problems arising from the first three chapters of Aristotle's text, they give little indication of how they would respond to such a criticism. In the penultimate question of his commentary, question 10, Simon does, however, address the problem of whether an infinite verb, "while remaining infinite, can enter into an enunciation."[39] Simon answers the question affirmatively, on the grounds that even an infinite verb is a 'sign of a saying about another" (*nota dicendi de altero*),[40] and so meets the conditions required for inclusion in an enunciative statement. While these verbs thus fail to meet the stipulated definition of verbs, they have the accidents of a verb, and so can perform its functions. Simon appeals further to the *modi significandi* of the verb, "through which it is capable of being ordered with something else in an enunciation."[41] Since the infinite verb retains this capacity, and since it does not possess the modes of signifying proper to any other part of speech, it can be included under the modes proper to the verb by default.

Simon's argument is clearly concerned to salvage the use of infinite terms within propositions, despite his denial of their logical status as verbs. Moreover, Simon explicitly mentions the square of opposition later in his reply. His justification, however, is quite unsatisfactory. The second argument seems circular: only if it is already assumed that the infinite verb *can* enter into an enunciation does it seem to follow that it must possess the *modi significandi* of the verb. Moreover, the appeal here to the grammatical notion of modes of signifying seems inappropriate for establishing the logical legitimacy of infinite terms.[42] And the first argument seems incompatible with Simon's denial of the logical status of infinite terms:[43] if it has already been argued that infinite nouns and verbs do not meet the criteria by which they can be parts of enunciation, it is difficult to see how infinite verbs, whatever their affinity to true logical verbs, can then enter into enunciations. At the very least, this justification calls into question the meaningfulness of the earlier discussion. For Simon would seem to be in a position of holding that the failure to meet the logical definition of a part of enunciation is totally irrelevant to the ability of a term to enter into an enunciation.

Albert's treatment of infinite nouns shares with Simon's discussion of infinite verbs in question 10 the tendency to appeal to grammatical definitions and authorities to explain Aristotle's intention. Albert continually evokes Priscian's definition of 'signifying substance with quality" to defend the claim that the infinite noun is *not* properly a noun. While it might seem that Albert is using Priscian to prove that Aristotle held the infinite noun is not a *grammatical*

noun, this is not in fact how Albert argues. Rather, he uses the grammatical definition of the noun to prove the logician's point, claiming that the failure to signify substance with quality prevents the infinite noun from being "enunciated" of anything, and hence from participation in the end of logic.[44] Albert argues, like Simon, that since there is no other part of speech under which to classify such terms, they can be classed as nouns by default. While one might think that Albert is thus making a grammatical point, or more accurately, arguing, as did Kilwardby on a general level, that grammatical congruity or meaningfulness is a necessary but insufficient condition for logical consideration,[45] Albert manages to confuse matters in what follows. For despite the fact that he has appealed to Priscian's definition of the noun, he concludes, "Therefore, if you will, it shall be called an infinite noun, so that it will have the definition of the noun (*ratio nominis*) with respect to the method of grammar, and also be excluded from the perfect definition of the noun with respect to logic."[46]

A later passage, in which the grammatical definition of the noun is also used, seems to clarify matters somewhat, although Albert's emphasis in the passage leads one to believe at first reading that it is in blatant contradiction to the earlier passage. In this case, Albert argues that the infinite noun does fulfill the grammatical definition of the noun, since it signifies substance with quality in an attenuated sense, for the quality that is signified is infinite and hence fails to name a determinate substance.[47] This is, in fact, the reason why Albert had earlier denied that the infinite noun could be used in enunciations. But his failure to articulate explicitly the exact role that the grammatical definition of the noun plays in the determination of its logical acceptance is frustrating, particularly since Albert seems to have found the grammatical reference to the ontology of substance and quality more suited to philosophical explication than Aristotle's own definition of the noun. It is not so much that what Albert says about the indeterminacy of the infinite noun does not adequately explain why he believes it should be excluded from logical consideration: it is simply that he has inadvertently suggested that the traditional delineations between the logical and grammatical approaches to language are rather arbitrary.[48]

Ironically, because of his general lack of concern with the grammar-logic distinction, it is Aquinas who gives the most satisfying explication of the status of the infinite noun. Since he accepts that the infinite noun expresses a negation, and not a privation, he agrees with the other commentators that the reason for Aristotle's remarks is that the indeterminacy of terms like "non-man" allows them to signify being and non-being indiscriminately. However, Thomas does not read Aristotle as allowing infinite nouns to be grammatical nouns in some attenuated sense, but rather, to be admissible in logic to the extent that some sort of underlying subject (*suppositum*) is presumed by the mind upon hearing them, thus allowing them to 'signify according to the mode of the noun, so that they can be made subjects and predicates."[49] This explains Aristotle's ability to use

infinite nouns in the central parts of the *Peri hermeneias,* and calls upon the extension of the logical criteria of subjection and predication as a vindication of that employment. Since Aristotle is not read as excluding infinite nouns from the logical definition of the noun in the first place, no violation of logical principles is required in order to explain logical practice.

II. LOGIC AND GRAMMAR: THE ARABIC TRADITION

Unlike their Latin counterparts, who take their cue from Boethius, the Arabic philosophers seldom offer detailed discussions of their views on the linguistic aspects of logical study in their *Peri hermeneias* commentaries. To discover the principles upon which their exegesis of that text is based, it is necessary to begin with more general works on logic and language.

1. General Views of the Logician's Treatment of Language in Arabic Philosophy

Of the principal Arabic Aristotelians, it is Fārābī who devotes the most attention to the philosophy of language.[50] His *Iḥṣāʾ al-ʿulūm* (Catalogue of the Sciences)[51] devotes its first two chapters respectively to the science of language (*ʿilm al-lisān*), which is essentially grammar, and to the science of logic (*ʿilm al-manṭiq*).[52] Fārābī uses the assumption that logic and grammar are two distinct rule-based arts or sciences to argue that each art must be autonomous in its own sphere, and that the two arts are directed towards different ends and concerned with different subjects. In this context, he offers what is perhaps the best-known formula for distinguishing logic and grammar in medieval philosophy: "And this art [of logic] is analogous to the art of grammar, in that the relation of the art of logic to the intellect and the intelligibles is like the relation of the art of grammar to language and expressions. That is, to every rule for expressions which the science of grammar provides us, there is a corresponding [rule] for intelligibles which the science of logic provides us."[53] Lest it should be thought that Fārābī has effected a simple correlation between logic and rational science on the one hand, and grammar and linguistic science on the other hand, his later consideration of the subject-matter of logic dispels any such view. While logic clearly has intelligibles as its principal focus, it is also concerned with language insofar as language embodies the intelligibles:

> And as for the subjects of logic, they are the things for which [logic] provides the rules, namely, intelligibles insofar as they are signified by expressions, and expressions insofar as they signify intelligibles. And this is because we only verify belief for ourselves by thinking, reflecting, and establishing in our souls facts and intelligibles whose role is to verify this belief; and we only verify [it] for someone else by communicating to him by means of statements by which we cause to be understood the facts and intelligibles whose role is to verify this belief.[54]

Fārābī clearly does not wish to relinquish all study of language to the realm of grammar, then, as his original formulation would suggest, but rather, he insists that the study of expressions, as signs of intelligibles, is an integral part of logic.

A more precise sense of the differences between a logical and a grammatical study of language is offered by Fārābī in terms of the contrast between universal and particular rules of language use. According to this formula, grammar and logic share a mutual concern with expressions, but whereas grammar provides rules pertinent to the correct use of expressions in a given language, logic provides rules encompassing all correct expression, insofar as it is significant of intelligibles. Thus, logic will have to concern itself with certain common features of all languages, on the assumption that common linguistic features are indicative of some fundamental intelligible content. While those features common to all languages will therefore fall under the scope of both logic and grammar, Fārābī claims that this does not blur the distinction between the two arts: each maintains its own proper perspective on these features, logic attending to them *qua* common, grammar *qua* idiomatic.[55]

An approach which is similar to Fārābī's occurs in a work by Abū Zakkarīyā Yaḥyā ibn ʿAdī (d. 974), a Syriac Christian who was active in the translation movement, and reportedly a pupil of Fārābī.[56] In his treatise *Fī tabyīn al-faṣl bayna ṣināʿatay al-manṭiq al-falsafī wa-al-naḥw al-ʿarab* (On the Difference Between the Arts of Philosophical Logic and Arabic Grammar), he attempts to argue that there is no conflict between the philosopher's study of language within logic and the traditional study of Arabic grammar, appealing as did Fārābī to the notion of two distinct sciences, each defined by its own unique method, end (*gharaḍ*), and subject-matter (*mawḍūʿ*).[57] Like Fārābī, Yaḥyā is concerned with the differences between the grammar of a particular nation and the universal science of logic. He argues that the subject-matter of grammar is mere expressions (*al-alfāẓ*), and that it considers those expressions with a view to their correct articulation and vocalization according to Arabic conventions.[58] The grammarian, then, is primarily concerned with the oral aspects of language, in particular with what vocal endings to use in what circumstances. What he is not concerned with, according to Yaḥyā is the investigation of "expressions insofar as they signify meanings (*al-alfāẓ al-dāllah ʿal-al-maʿānī*)."[59] Nor is Yaḥyā content simply to assert this as a bare fact; rather, he goes on to argue for this claim, on the grounds that grammatical operations upon words do not affect their basic significations. For example, in the sentence, "ʿAmr hit Zayd (*ḍaraba ʿAmrun Zaydan*)," the fact that in Arabic, "ʿAmr" is given the ending "un," and "Zayd" the ending "an," according to the norms for vocalizing the indefinite nominative and accusative, does not alter the significata of the words "ʿAmr" and "Zayd," namely, the essences of these two individuals.[60]

These two defenses of the boundaries drawn by philosophers between logic and grammar contain a number of points noteworthy as background to the interpretation of the *Peri hermeneias.* Like their Latin counterparts, including the speculative grammarians, the Arabic philosophers construe the notion of signification quite narrowly: the signification of any expression corresponds solely to its bare lexical meaning.[61] Thus, it can be said that changes in case, gender, number, and so on do not affect the signification of a term at all, and the grammarian has no concern with language *qua* meaningful. Unlike their Latin counterparts, however, the Arabic philosophers do not appear to allow the grammarian anything analogous to meaning as part of his subject-matter, along the lines of the Latin *modi significandi.*[62] Grammar is strictly limited to the conventional rules of articulation in a particular language group, and does not concern itself with whether or how such rules reflect universal linguistic structures, or relate to the semantic content contained within the utterances.

While it seems overly simplistic to claim on the basis of this survey of views that someone like Fārābī or Yaḥyā would simply identify logic as a universal grammar,[63] nonetheless I would argue that it is Fārābī's intention to subsume the study of universal grammar under logic as one of its principal parts. This cannot help but be significant for Fārābī's reading of the *Peri hermeneias,* especially when it is viewed in comparison with the readings of Latin authors. For where Latin authors will assign to grammar, i.e. speculative grammar, what they believe to be properly philosophical considerations of the nature of language and linguistic constructions, Fārābī would seem to be forced either to view those same considerations as essentially logical, or alternatively, to require the logician to transgress his proper bounds, and borrow certain distinctions from the grammarian.

Yet the Fārābīan model of logic as a science of reason which includes universal grammar as an essential part is not universally favoured in the Arabic tradition, at least not in theory. In the *Isagoge* of his *Shifāʾ* (Healing), Avicenna openly challenges the formulaic presentation of logic's relation to expressions that is found in Fārābī's *Catalogue of the Sciences:*

> There is no merit in what some say, that the subject-matter of logic is speculation concerning the expressions insofar as they signify meanings. . . . And since the subject-matter of logic is not in fact distinguished by these things, and there is no way in which they are its subject-matter, [such people] are only babbling and showing themselves to be stupid.[64]

Avicenna's critique is based upon the view that speech is entirely accidental to the activities of the intellect, and hence cannot properly be considered even part of the subject-matter of logic.[65] Avicenna invokes his doctrine of the so-called

common nature, established in the previous chapter of the *Isagoge,* and its attendant claim that logic considers the quiddities of things insofar as they are subject to the accidents that accompany them as objects of conception (*taṣawwur*) by the mind.[66] The logician's need to refer to expressions at all is induced by pure necessity, and Avicenna goes so far as to argue that "if it were possible for logic to be learned through pure cogitation, so that meanings alone would be observed in it, then this would suffice. And if it were possible for the disputant to disclose what is in his soul through some other device, then he would dispense entirely with the expression."[67] Although the suggestion that language might be entirely dispensable under ideal conditions seems implausible, it is entirely consistent with Avicenna's epistemology, since he holds an extreme rationalist position on the origin of knowledge, and believes that in some rare cases (the paradigm case being prophecy) discursiveness, with its connection to imagination and cogitation, can indeed be dispensed with.[68] But given the adverse conditions under which human thought normally operates, logic is a necessary instrument of philosophy, and it must take into account the accidental properties that accrue to intelligibles via their sensual signification in speech:

> Thus the art of logic is compelled to have some of its parts come to consider the states of the expressions. And were it not for what we said, it would not also be required to have this part. And despite this necessity, the discourse concerning the expressions corresponding to their meanings is like the discourse concerning their meanings, except that the expressions are imposed as more fitting for actual practice.[69]

In practice, then, Avicenna as much as Fārābī recognizes the linguistic component of logic: his disagreement is simply that, as a merely accidental condition of the intelligibles, it should not enter into the definition of the subject-matter of logic in any formal way. Avicenna thus differs with Fārābī in identifying logic solely as a rational art whose purpose is always to lead the mind from the known to the unknown. Logic ceases to be a linguistic art essentially, though it remains one accidentally. The gap between Avicenna and Fārābī is thus narrower than Avicenna's polemic might seem to indicate. And it becomes narrower still when the two men's commentaries on the opening sections of the *Peri hermeneias* are considered.

2. The Nature of the Logical Teaching of the "Peri hermeneias"

Among the principal Arabic commentaries on the *Peri hermeneias,* only Fārābī's *Sharḥ* (Long Commentary) provides a consideration, parallel to the Latin discussions inspired by Boethius, of the meaning of "interpretation" as it appears in the title of Aristotle's text. In that discussion, it becomes clear that despite his greater willingness to accept the linguistic character of logic, and to appropriate for logic many of the functions of a universal grammar, Fārābī generally concurs with the majority of medieval commentators, both Latin and Arabic, that the *Peri*

hermeneias has the enunciative statement as its principal focus, and refers its treatment of all other topics to that end. Like Aquinas and Martin of Dacia in the West, Fārābī is forced to construe the meaning of "interpretation" very narrowly in order to make it reflect the perceived aims of Aristotle's text.

Thus, Fārābī tells us that "interpretation" means "complete statement" (*al-qawl al-tāmm*), so that the title of the *Peri hermeneias* is meant to capture Aristotle's intention to examine the most perfect type of statement, namely, the one which is best able to cause a complete understanding in the mind, which Fārābī identifies as the simple, predicative, categorical enunciation (*al-qawl al-jāzim al-ʿamlī al-basīṭ*).[70] Although Fārābī does not have to deal with the precedent of the Boethian commentaries, which posed problems for the Latin authors who wished to offer a similar reading of the title, Fārābī's own remarks in other contexts highlight how strained is his repudiation here of the more natural reading of "interpretation" as a reference to the interpretation of thought by language. When elaborating on the theme of inner and outer speech (*nuṭq*=Gr. *logos*) in his independent logical treatises, Fārābī is fond of the formula that external speech is "the *interpretation* through language of what is in the mind" (*al-ʿibārah bi-al-lisān ʿan mā fī al-ḍamīr*),[71] in which he uses the same term for "interpretation" that is used as a translation for the title of the Arabic version of the *Peri hermeneias.*

Thus, despite Fārābī's own preoccupation with questions of language, and his staunch defense of significant language as principally the logician's concern, he opts for an identification of the subject-matter of Aristotle's *Peri hermeneias* that is biased in favour of the conception of logic as a purely rational science. In some ways, it is more difficult to justify this move in Fārābī's case than it is among the Latins, precisely because he has subsumed all consideration of language as interpretive of thought under the realm of logic. While the Latin philosophers were able, even forced, to assign some consideration of interpretive speech to the speculative grammarian, Fārābī's opting for this construal appears to leave him, at least in theory, without a niche in the philosophical canon to which the consideration of language as significative can be properly assigned.[72]

The imbalance in favour of logic's rational, as opposed to its linguistic, status, is balanced somewhat in both Fārābī's and Avicenna's comments on the opening themes of the *Peri hermeneias.* Fārābī, for example, begins his commentary on the text by evoking his general claim that logic must concern itself equally with both language and intelligibles:

> One of the first things anyone taking up logic must know is that there are sense-objects, or more generally, existents outside the soul; then intelligibles, conceptions, and images in the soul; and finally, expressions and script. We must know how they are related to one another; for the logician considers intelligibles insofar at they relate to

both sides, namely, to the existents outside the soul and to expressions.
He also studies expressions by themselves, but always in terms of their
relation to intelligibles.[73]

At the end of his discussion of the nature of writing, Fārābī explains further that
the *Peri hermeneias* studies significant statements "with respect to their imitation
of the intelligibles, in the sense of taking their place and being substituted for
them."[74] In the course of reaffirming the claim that logic gives equal
consideration to both language and intelligibles, Fārābī has moved once again to
a position asserting the priority of the rational to the linguistic within the
logician's study of signification. In a move that evokes Avicenna's remarks on
language in the *Isagoge,* Fārābī goes on to argue that the imitative relation
between language and thought is in fact the principal reason why the logician can
focus on the more perspicuous rules of linguistic composition, rather than
directly upon the composition of the thoughts themselves:

> Complex expressions here take the place of complex intelligibles, since
> similar remarks attach to them. It makes no difference whether we
> discuss complex expressions or the compositions of the <complex>
> intelligibles signified by these expressions. Principally, the purpose is
> to explain the composition of intelligibles. But since intelligibles are
> difficult to grasp, Aristotle substitutes for them the expressions that
> signify them and studies their composition instead, with the result that
> it appears as though there were no difference between the composition
> of expressions and intelligibles.[75]

In order to complete the harmonization of the linguistic focus and rational aims
of the text, Fārābī concludes his discussion of signification with an assertion of
the parallelism between truth and falsity in language, and truth and falsity in
intelligibles. The concern of the logician with the signification of truth and
falsehood is, Fārābī argues, fully reflected in the logician's consideration of
language as imitative of thought, for "combination in the soul parallels
affirmation in speech; separation in the soul parallels negation in speech."[76]

As for Avicenna, in the first chapter of the *'Ibārah* (Interpretation) of the
Shifā', he too echoes the general principles laid down in his *Isagoge.* Logic
discusses expressions only accidentally, limiting itself to knowledge of the basic
states of expressions that allow them to function as vehicles for arriving at
knowledge of the unknown, these basic states being the signification of simple
and complex meanings, with a view to their bearing upon truth and falsity:[77]

> Know too that among both the expressions and the traces which are in
> the soul there are some which are singular and some which are
> composite. And the nature of the two is parallel and corresponding. For
> just as the single intelligible is neither real nor vain, so too the single

expression is neither true nor false. And in the same way that if another intelligible is combined in the mind with the single intelligible, and predicated of it so that there is a belief that this is or is not so, then that belief is either real or vain, so too when another expression is combined with the single expression, and predicated of it so that it is said to be so or not so, then it is true or false.[78]

The view expressed in this passage exactly parallels that expressed in Fārābī's consideration of the same Aristotelian passage: both men are concerned to defend the claim that the logician's prominent concern with questions of language can contribute to his ultimate goal of discerning truth from falsity in the realm of intelligibles. What is distinctive of Avicenna's presentation here, however, is the careful and deliberate manner in which he has chosen his terms for truth-values in the intelligible and linguistic realms. Perhaps in order to stress the difference between expressions and intelligibles, Avicenna deliberately uses different pairs of terms in each case: truth and falsity (*al-ṣidq/al-kidhb*) for language, real and vain (*ḥaqq/bāṭil*) for intelligibles. Now, if logic is primarily concerned with intelligibles, not expressions, we would expect the technical terminology of the logician to coincide with the terms applicable to intelligibles. But in fact, Avicenna uses "true" and "false" as terms denoting the status of expressions, and "real" and "vain" as terms denoting intelligibles. The probable reason for this is to emphasize that the bond between intelligibles and reality is stronger and more direct than the bond between language and reality, since the terms chosen by Avicenna to designate the intelligibles suggest a concern with the ontological reality or fictiveness of what the intelligibles represent.[79] Yet its effect in this context is to suggest that even though the logician is primarily concerned with intelligibles, his substitution of the more perspicuous expressions corresponding to them is so deep-rooted that it determines the very import of his own technical language.

Their opening treatments of signification in their commentaries on the *Peri hermeneias* reinforce the impression that, despite the polemic directed by Avicenna against the Fārābīan presentation of the subject-matter of logic, both commentators agree essentially that Aristotle's initial consideration of signification serves to justify the discussion of linguistic topics in a logical text, given that logic is primarily interested in intelligibles. Both authors share the presumption that the ultimate goal of logic is the determination of truth and falsehood, and thus both relate their justification of the linguistic preoccupation of the text to the means whereby truth-values are assigned to enunciative statements. On the level of these general considerations of the scope and aims of the *Peri hermeneias,* neither Fārābī nor Avicenna has explicitly evoked a comparison of logic with grammar as a means of delineating more precisely the limits of the logician's focus upon language. But this is not unexpected, given the analysis of the relations between logic and grammar exemplified in such texts as

Fārābī's *Catalogue of the Sciences* and Yaḥyā Ibn ʿAdī's *Philosophical Logic and Arabic Grammar.* If grammar is viewed as an idiomatic, particular, and non-philosophical science, it is less likely to be perceived as capable of providing much illumination of the methods and aims of a universal, philosophical science like logic, despite the accidental concern of both logic and grammar with linguistic phenomena. It is a general feature of the Arabic commentaries on the *Peri hermeneias* that the topos of logic versus grammar does not figure prominently in the discussion of the linguistic elements of the text, in the way it does amongst thirteenth-century Latin authors. But in their comments on Aristotle's consideration of the noun and the verb, Fārābī and Avicenna do provide important indications of their underlying presuppositions about the specific relations between logic and grammar.

3. Aristotle's Treatment of the Noun in the Arabic Tradition
Generally the Aristotelian definition of the noun as significant in isolation and prescinding from time caused no difficulty for Arabic authors. However, as with the Latin philosophers, both the infinite noun—which the Arabic philosophers called "indefinite" (*ghayr muḥaṣṣal*)[80]—and the inflections of the noun, were discussed in some detail.[81]

The Indefinite Noun: Unlike their Latin counterparts, the Arabic commentators generally accept the indefinite noun as properly logical, and thus they read Aristotle's remarks about the namelessness of indefinite nouns as a point about normal Greek usage. Fārābī, for example, implies in his *Long Commentary* that the indefinite noun has essentially the same status as compound nouns which signify a single intentional object, such as the proper names Kallipos and ʿAbd al-Malik,[82] since the indefinite noun is similarly composed of a negative particle and a noun 'so that the complex of the two of them comes to be in the form of a single expression."[83] Fārābī also differs from both the Greek and Latin commentators in his interpretation of the signification of these nouns, which, he argues, is not infinite, nor of "any random thing, no matter whether existent or non-existent."[84] Fārābī suggests instead that Aristotle holds that both the indefinite noun and the indefinite verb signify something, either something existent, in the sense of something affirmed, or something non-existent, in the sense of something denied. That is, Aristotle is making the point that these terms have the force of a positive term, and so can be negated as well as affirmed, as in expressions of the form "not non-P". Thus, what is signified by indefinite terms is not non-being absolutely, but rather, the privation of a specific quality. The label "indefinite," therefore, simply indicates that no actual disposition or state (*malakah*=Gr. *hexis*) is signified by the term.[85] Fārābī also explicitly claims that his interpretation is justified by Aristotle's own practice in chapter 10, where statements with indefinite terms are interpreted by Aristotle as having the same force as "plain" statements, i.e. those without any indefinite terms.[86]

Clearly, then, Fārābī takes Aristotle's interest in the indefinite noun (and the indefinite verb as well) to be purely logical. Such terms are not being excluded from logic; rather, they are being added to it. If anything, it is *grammatically* that indefinite nouns are not properly considered nouns. Nonetheless, Fārābī appears to assume that Greek grammar reflects the logical status of indefinite nouns better than does Arabic. For he mentions several times the fact that indefinite nouns and verbs "hardly exist" in Arabic, although they are quite common in other languages.[87] Indeed, Fārābī even appeals to conventional usage in languages other than Arabic to support his claim that indefinite nouns have the force of a simple noun and signify privations, noting that "the communities that use them do not count them as phrases" and give them an affirmative meaning. He even goes so far as to imply that other languages manage to reflect this logical point in the grammatical form of the words, claiming that for these other languages, "their shapes are the same as those of single expressions: for they behave like single expressions and they inflect like single expressions."[88]

Avicenna's explication of indefinite terms differs in certain details from that of Fārābī. Avicenna agrees with Fārābī on the fundamental point that terms of the form "non-X" usually have the force of determinate privations, so that "non-sighted," for example, usually signifies that something which should be able to see is blind, and can only be applied to existent subjects.[89] But in the *Interpretation* of the *Shifāʾ*, Avicenna departs from Fārābī in his construal of the nature of the composition involved in indefinite nouns. Thus, in reply to the objection that the property, "no part of which signifies in isolation" does not apply to all nouns, Avicenna argues that the indefinite noun is in some sense composite not only in its form, but also in its signification.

The way in which Avicenna defends the Aristotelian definition of the noun against this objection also highlights the difference between his view of the interplay between logic and grammar in the Aristotelian text, and the readings of the philosophers of the Latin tradition. The objection which Avicenna addresses naturally enough points to the fact that both the negative particle *l.* "not,"[90] and the noun with which it is combined, are significant in separation. Hence, it seems unlikely that their combination into an indefinite noun can signify in the same way as simple nouns do, since in this sort of combination each part appears to retain the significance it would have had in isolation. In his reply, Avicenna claims that indefinite nouns are not in fact nouns in the full sense, and hence (as Aristotle observes) they do not have any proper grammatical label. They are not, Avicenna agrees, complete statements possessed of truth-values; rather, they are "composite expressions whose force is that of single [expressions], just like definitions."[91] Avicenna is implicitly evoking here his epistemological doctrine that some concepts, such as definitions and descriptions, while analyzable into parts and verbally complex, are nonetheless simple in meaning, and can, therefore, be signified as well by a corresponding simple expression. For

example, the definition "rational, mortal animal" signifies a single concept that can also be represented by the simple expression, "human."[92] What Avicenna means by simplicity here, is, therefore, the fact that such expressions, and their corresponding intelligibles, are merely objects of conception (*taṣawwur*), not of an assentive judgement (*taṣdīq*).[93] However, since their signification depends upon their autonomously significant parts retaining their significance even when composed, Avicenna likens them, not to names like ʿAbd al-Malik, in which the literal meaning of the parts has no bearing on the noun's denomination of a particular individual, but rather, to expressions like 'shepherd," "marksperson," and "philosopher." Of such phrases, Avicenna claims:

> And their correspondence to nouns does not indicate that they are in fact nouns. For the nature of both definition and description is like this. And despite this, there is no need for you to be deceived by the inclusion of the particle of negation in them, and thus for you to suppose that there is a negation in them. Not at all; rather there is neither affirmation nor negation in them, but instead, they are permitted to be affirmed, denied, or posited through affirmation and negation. But since they closely resemble nouns, let them be called indefinite nouns. And their judgement is like the judgement[94] of the predicate in our saying, "Zayd is in the house," for "Zayd" is a subject and "in the house" a predicate, while the latter is not in fact a noun, but rather, it is a composite. However, its composition is not like the unqualified statement, which is composed from two nouns, or from a noun and a verb, because it is composed from a particle and a noun. And it is neither a noun, nor is it an unqualified statement. And this is how you must understand this passage, nor should you pay any attention to the interpretations in which [others] are engaged.[95]

Avicenna's disagreement with Fārābī over the nature of the composition involved in indefinite terms seems to be a minor one from a logical perspective. Both philosophers agree that the significates of such terms are single concepts or intentions in the mind, and both seem ultimately concerned to argue the way they do for similar reasons—namely, to distinguish indefinite terms from negative statements, and thereby uphold their admissibility in both affirmative and negative enunciations. Where the two seem to differ is in their understanding of the *grammatical* underpinnings of Aristotle's dismissal of indefinite terms. Thus Fārābī, as already noted, upholds the parallel between compound proper names and indefinite terms because he believes that indefinite nouns assume the grammatical form and inflection of single expressions in all languages but Arabic, and have not only the signification of the noun, but also the outward grammatical properties of the noun. Although Avicenna appears to be taking Aristotle's repudiation of the nominal status of indefinite terms more seriously than Fārābī, he too seems to be construing that repudiation as an assertion of the lack of *grammatical* simplicity in indefinite terms, not of their logical

inadmissibility. This is shown by Avicenna's use of the complex predicate, "in the house" to illustrate the tension between unity and complexity in these terms, as well as from his *purely* grammatical analysis of the composition of indefinite terms, i.e. as composed from a noun and a particle. Unlike his Latin counterparts, then, Avicenna does not hold that the ability to function as an independent subject or predicate term is at issue in this or parallel claims in the *Peri hermeneias.* Indefinite nouns are not fully nouns, as Avicenna himself has said, simply because they are the product of two independently significant elements, and so contravene the proper definition of the noun. There is, of course, one other consequence to be noted, if this is indeed how Avicenna's argument is to be construed. For it is *Aristotle* who has defined a noun as having no part significant in isolation: if such a definition cannot be met by expressions which are clearly able to function as the predicates and subjects of enunciative statements, then Aristotle's definition of the noun is not meant to be a uniquely logical definition, but rather, an element borrowed from grammar as a propaedeutic to purely logical considerations.

There is, in fact, independent confirmation that Avicenna regards these points, and parallel ones, to be properly grammatical theories imported by Aristotle into his logical texts. At the end of his discussion of propositions containing indefinite terms in *Al-Ishārāt wa-al-tanbīhāt* (Remarks and Admonitions), Avicenna explicitly distinguishes those characteristics of indefinite terms that are idiomatic to particular languages, and thus the concern of the linguist or grammarian (*al-lughawī*) from those characteristics that are logically significant. Amongst the former characteristics, Avicenna includes the determination of what indefinite terms signify, and whether their signification extends beyond privations. Only two considerations are mentioned as logically relevant: (1) The formal consideration of how the placement of the particle of negation affects the status of the statement as an affirmation or negation; and (2) the requirement that the subject of any affirmation, whether or not it contains an indefinite term, must be existent.[96] Both logically relevant properties are clearly tied directly to the process of assigning truth-values to enunciative statements, and to the ultimate ordination of the enuciative statement to syllogistic.[97] Except for the minimally necessary condition that positive predications require an existent subject, the question of the exact signification of indefinite terms is left to the determination of normal usage in each language group. In this respect, Avicenna's criteria for logical relevance are hardly distinguishable from those employed by his Latin counterparts; what separates his reading of the *Peri hermeneias* from theirs is the acceptance that many of Aristotle's remarks in the text have a grammatical, rather than a logical, import.

In many ways, Avicenna's perspective here seems more faithful to the Aristotelian text than does the Latin tradition's assumption that everything in the *Peri hermeneias* must have a logical significance. But when viewed in the

broader context of the discussions in Islamic philosophy of the relation between logic and grammar, this attitude may seem problematic for a tradition that confines the grammatical study of language to the purely idiomatic, and eschews any claims that grammar considers language as significant of thought. While Avicenna's polemic against any essentially linguistic content in logic may make this problem less urgent than it might be for Fārābī or Yaḥyā Ibn 1AdM, in his *Remarks and Admonitions* Avicenna clearly shows that he accepts his predecessors" association of grammar with the study of the idiom of particular languages. But the linguistic properties that Avicenna mentions as idiomatic in his discussion of indefinite terms are clearly pertinent to the determination of the logical questions of whether an enunciation is affirmative or negative, and whether it predicates something of an existent subject. The grammarian's stipulation of where to place the negative particle in Arabic, and of what the scope of its negating force is, are at least partial determiners of the intended underlying logical structure embodied in an Arabic sentence. To make sense out of Avicenna's delineation of the concerns of logic and grammar, then, it cannot be assumed that the relegation of certain topics to the determination of the grammarian implies that they have no bearing upon logical concerns. Such remarks must rather be taken as indications of the pervasive, but accidental, determination of logical structure by its linguistic expression, and thus of the practical interdependence of logical and grammatical investigations. Unlike his Latin counterparts, Avicenna does not identify logical and grammatical concerns as parallel and mutually exclusive. While the delineations between logic and grammar remain formally as stringent for him, phenomena like indefinite nouns cannot be admitted in grammar and precluded from logic. Indefinite nouns must first be grammatical nouns before their logical status can be determined; if they do not exist in a particular grammar, they must be invented or imported from another language. But all linguistic phenomena must, from the Arabic philosophers" perspective, admit of grammatical analysis as a prelude to logical analysis.

The Inflected Noun: Like the indefinite noun, the oblique cases of the noun are denied the full status of nouns by Aristotle, on the grounds that the addition of the copula to them does not produce a complete enunciative statement which is true or false.[98] In their comments upon this exclusion, and upon the status of the oblique cases in general, the same interplay of logical and grammatical considerations that underlies the Arabic treatment of indefinite terms is evident.

Avicenna argues against the absolute nominal status of the inflections of the noun on much the same grounds as he disputes the status of the indefinite noun, namely, because both fail to have parts which do not signify in isolation. I use the term "inflection" here rather than "oblique cases" because Avicenna appears to include under inflection all vocalizations, and hence, all three cases of which Arabic admits, including the nominative. This, indeed, appears to be the key to

his ability to read Aristotle's remarks regarding cases as simply another instance of the violation of the general condition of unity that both nouns and verbs must fulfill. His argument hinges on the fact that whenever a noun is pronounced with a determinate vowel-ending, there is signified, in addition to the basic lexical signification of the term, some further meaning:

> The state of the nouns which are called inflected is like this, for through them something additional to the denomination may be combined with the noun, which indicates a meaning other than what the bare noun indicates—this being one of the vowels and one of the inflections—so that a complex originating from the two parts is heard, one of which is the noun and the other that which attaches to it as a part of what is heard. So there is found here one part which signifies a meaning and another part which either signifies an absolute meaning, or signifies some signification, and through the complex necessitates a judgement which would not occur were it not for [the addition].[99]

In these remarks, it is clear that Avicenna has Arabic grammar especially in mind: he focuses on the audible aspects of the utterance, and refers to the addition of one of the "motions" to the base meaning, using the traditional Arabic grammatical term for the case endings.[100] While the overall tenor of Avicenna's remarks clearly suggests something akin to the Latin distinction between the signification of a word and the *modus significandi* of its grammatical form, the very conception of a noun's signification being altered by all of its cases, including the nominative, seems to stem from the general dispensability of case endings in much spoken and written Arabic. For my purposes, however, the most telling point in Avicenna's explication of the exclusion of the inflections of the noun is the way in which he must revise Aristotle's argument that the oblique cases are not fully nouns because they yield no truth-value when joined to the verb "to be"—an argument ill-suited to Arabic at any rate. Avicenna substitutes as evidence for this exclusion the fact that the range of meanings implicit in the bare noun are considerably contracted when that noun is vocalized in any way: just as "human being" can be white, black, or brown, but "white human being" can only be white, so too the noun "Zayd" can be the subject of a verb, its object, or the object of a preposition, but "Zaydun" in the nominative case can only be a subject, "Zaydan" in the accusative only an object, and so on.[101] In both cases, a new conceptual content is involved, which limits and restricts the possible uses and significations potentially present in the noun. Once again, then, Avicenna has read Aristotle, not as making a point about the conditions of logical predication, but rather, as making what is essentially a grammatical point in order to elucidate those basic grammatical features of a particular language which might be relevant to the expression of thought in language. For it is clear that Avicenna does not believe that nouns have one definition in logic, which excludes the inflections, and another in grammar, which encompasses them, as do his Latin successors. Rather, the grammarian defines the noun for his particular language,

and the logician borrows this definition from the grammarian with a view to understanding its implications for his incidental need to embody meaning in a linguistic medium. That Avicenna views the entire Aristotelian discussion of the inflections of nouns as a grammatical exercise is, moreover, reinforced by the fact that he is conscious of having altered Aristotle's reference to the combination of inflected nouns with the copula in order to suit the needs of Arabic speakers. Despite Aristotle's reference to truth-values (which might be taken to indicate a point of logical doctrine), Avicenna here again assumes that Aristotle is simply drawing the reader's attention to a point of Greek grammar. At the end of his discussion of inflections in Arabic, Avicenna alludes to Aristotle's criteria for distinguishing the nominative and oblique cases, prefacing it with the observation that this is what the inflections of the noun are marked by in Greek: "As for the Greek language, the inflected noun in relation to it is that which, when temporal verbs like 'was,' 'will be,' and 'is now,' are added to it, is neither true nor false."[102]

Fārābī's discussions of inflected nouns in his commentaries on the *Peri hermeneias* do not give much attention to the question of whether the oblique cases have the full status of nouns, but his remarks on the oblique cases in his *Short Treatise* do shed further light on his presuppositions concerning the relation between logic and grammar. In explaining how one differentiates the oblique from the upright case, Fārābī deliberately plays upon the ambiguity in Arabic of the term "relation" (*iḍāfah*), which is used in logical contexts for the Aristotelian category, and also serves as the technical grammatical term for a genitival construction. Fārābī, however, extends the term "relation" so that it applies to all the uses of all the oblique cases, not only to genitival constructs, but also to accusatives functioning as objects of verbs, and to genitives functioning as objects of prepositions: "[A noun] only becomes oblique whenever, given two related things, it is [the one which is] made a name for the thing which is the object of the relation essentially, whether it signifies it insofar as it is a correlate, or insofar as it belongs to some other [of the ten] categories."[103] In his further explication of this definition, Fārābī shows considerable interest in the interplay of logical and grammatical relations. For example, he tells us that in his definition he has stipulated "the thing which is the object of the relation *essentially*" for grammatical reasons, in order to indicate that the noun immediately governed by the construct may not denominate the subject of the relation directly, such as when the grammatically relative term is a relative pronoun referring back to a previous clause. For example, in Arabic one can correctly say, "Zayd: his is the money" (*Zaydun la-hu mālun*). Here one might consider "Zayd" to be the object to which the relation is made from a logical perspective, but grammatically, "Zayd" is an "object of relation" only mediately, and thus remains in the nominative case.[104] Along much the same lines, Fārābī observes that in general the terms of grammatical constructs (*alfāẓ al-iḍāfāt*) need not themselves be the logical relata (*al-muḍāfāt*). The former are merely

whatever two terms happen to be combined with one another in the nominative and genitive cases; the latter, however, are "the things which come to be correlated because of these [grammatical relations]." Thus, if we say "ʿAmr is the father of Zayd," it is logically "ʿAmr" and "Zayd" who are correlated, but grammatically, only "father" and "Zayd" are parts of a relational construct.[105]

Fārābī's attempt here to make Arabic grammar more logically perspicuous, and more reflective of the basic Aristotelian dichotomy between upright and oblique cases, initially seems more akin to the Latin commentators" persistent distinction between the logician's and grammarian's definitions of linguistic phenomena than it does to Avicenna's general interpretation of Aristotle's remarks about language as allusions to common Greek usage. In collapsing both the accusative and genitive cases under a single notion of relation, Fārābī seems to be arguing that what counts as a grammatical distinction between cases need not be the basis for a corresponding logical distinction. But even after Fārābī has substituted the general notion of linguistic relata for the indigenous Arabic distinction between cases, he continues to differentiate between logical and grammatical relative terms. So he is not simply taking the upright-oblique distinction, construed in terms of relation, as a logical property of nouns that is absent from Arabic simply in virtue of its being a logical, rather than a grammatical, property. Rather, Fārābī's attempt to streamline Arabic grammar here reflects the same stance towards the logic-grammar relation that was manifested in his remarks regarding the grammatical form of indefinite nouns in languages other than Arabic. In both cases, Fārābī assumes that the grammatical form of a language can be assessed according to its capacity to fulfill more or less adequately the logician's needs, and in cases where the grammar of a particular language falls short of logical perspicacity, it can be modified accordingly. But even while modifying them, the logician remains dependent upon grammatical structures for that part of his art which pertains to the linguistic expression of meaning. He has no access to linguistic topics that is entirely his own, or entirely free from determination by its underlying grammatical foundations.

III. CONCLUDING REMARKS: A COMPARISON OF LATIN AND ARABIC ATTITUDES TOWARDS THE PROBLEM OF LOGIC AND LANGUAGE

Despite their acceptance of essentially the same theoretical view of the character of a logical study of language (and here we should not forget that the Latins did know both Fārābī's *Catalogue of the Sciences* and Avicenna's *Isagoge*), there seems to be a notable and fundamental difference between the Arabic and Latin exegetical approaches to the linguistic content of the *Peri hermeneias.* Nor is that difference simply attributable to diverse interpretations of the finer points of Aristotle's text, as in the case of infinite or indefinite nouns. Rather, the principal

point of contrast seems to rest in two distinct construals of the nature of the logician's attention, or lack thereof, to the technicalities of grammar.

In the Latin tradition, the existence of a philosophically oriented theory of grammar, with its own set of definitions and its own proper method, tends to promote the view that philosophical grammar and philosophical logic are two autonomous sciences, each of which must establish its own unique approach to common linguistic phenomena. Thus, the grammarian does not "lend" his definition of the noun or verb to the logician, since his definition attends to grammatically relevant properties, not logically relevant ones. And what may be a noun for the grammarian—such as the infinite noun or the oblique cases—need not be a noun for the logician.

In the Arabic tradition, however, this is not the case. Grammar and logic *are* autonomous, as we have seen, but *not* in the sense that the grammarian and the logician are free to determine their definitions of linguistic phenomena independently of one another. Rather, in the Islamic tradition, the logician is viewed as *borrowing* whatever he needs in the way of linguistic theory from the grammarian. Indeed, this point is made explicitly by Fārābī in his general treatment of the relation between logic and grammar:

> And in the case of what logic provides of the rules of expressions, it only provides those rules in which the expressions of [all] nations share, and it takes them insofar as they are common, and does not consider anything of that which is specific to any given nation, but rather decrees that what it needs of these things will be taken from the grammarians of this language.[106]

The point is repeated by Fārābī at the end of his *Reminder of the Way to Happiness,* and indeed provides the rationale underlying the opening grammatical discussions of the *Utterances Employed in Logic,* to which the *Reminder* serves as an introduction:

> And since it is the art of grammar which comprises the variety of significant expressions, the art of grammar must be indispensable for making known, and alerting us to, the principles of this art. So for this reason it is necessary for us to borrow from the art of grammar, to the extent that is sufficient for alerting us to the first principles of this art [of logic], or to undertake a fitting enumeration of the varieties of expressions which, in the custom of the users of this language, are the things by which what this art comprises are signified, if it should happen that the users of this language do not have an art in which the varieties of expressions which are in their language are enumerated. So for this reason, that which those of the past did in the way of including in logic things which belong to the art of language, borrowing from it

to the extent that was sufficient, is explained. Or rather, the truth is that what was necessary for facilitating [logical] instruction was used. And whoever follows a path other than this path has neglected or overlooked the artistic order.[107]

Similarly, if one attends carefully to the remarks of both Fārābī and Avicenna on the differences between the linguistic terminology of the Arabic Aristotle and the normal usage of Arabic grammar, one notices that both assume that Aristotle's remarks on language in the *Peri hermeneias* are based upon the conventions of Greek *grammar;* neither of them entertains the possibility that the terms and definitions used in the text embody a purely logical perspective on language. The most obvious illustration of this approach occurs in the Arabic philosophers" discussions of the names for the parts of speech. For example, in the *Catalogue of the Sciences,* Fārābī remarks that what the Arabic grammarians call *ism, fiʿl,* and *ḥarf,* the Greek *grammarians* call *ism, kalimah,* and *adāh,* that is, noun, verb, and particle.[108] And in his *Utterances Employed in Logic,* as a preface to a long consideration of the different types of particles, Fārābī openly proclaims that he will rely, not on Greek logic, but on Greek grammar: "And these particles (*ḥurūf*) are also of many kinds; however, it has not been the custom among the Arabic grammarians, up to our time, to isolate for each type of them a name that is proper to it. So it is necessary for us to use the names which have come down to us from the Greek grammarians in our enumeration of their varieties. For they singled out each variety of them with a proper name."[109]

None of this means, of course, that the logician cannot supplement the grammar he finds to suit his own needs, as Fārābī himself does in his theory of particles, or as we have seen him do when he collapses both oblique cases under the notion of relation proper in Arabic grammar to the genitive case alone. But none of the Arabic philosophers seems to have entertained the notion of beginning from scratch, from a philosophical perspective, in the field of universal grammar. For them, grammar and language mean fundamentally *particular* grammar, the language of this or that nation or people. The possibility of an independent study of universal grammar is a contradiction from the Islamic philosophers" perspective, not because the study of language cannot be universalized in some way, but simply because grammar is by definition not a truly universal science. That is, once one begins to do universal grammar, according to the Arabic tradition, one takes off the grammarian's hat, and dons that of the logician. I do not think the Arabic philosophers, and certainly not Fārābī, would reject the project of the Latin speculative grammarians *per se*, for they admit its fundamental tenet that there are universal features of linguistic expression shared by all nations. What they would do, however, is draw the boundary line somewhat differently.

But drawing the boundary line differently is not simply a matter of superficial taxonomy. For once logic is forced to assume both the role of providing a universal linguistic theory, and that of providing the rules for correct reasoning, sharp distinctions between these two spheres of investigation are no longer so easily made. And this, it would appear, accounts in large measure for the disparities between the Arabic and Latin philosophers" understanding of the linguistic content of the *Peri hermeneias.* The consequences, moreover, are paradoxical: for it is the Arabic philosophers, for whom grammar is an inferior, non-philosophical science, who are forced by their position to make the logician directly dependent upon the grammarian for the basic linguistic underpinnings of his discipline.

As a whole, it is difficult to assess which approach to this Aristotelian text is preferable. As we have seen in our consideration of the Latin commentators, although there is not universal agreement over specific points of interpretation, there is a remarkable unity of approach in terms of identifying which general principles are pertinent to the interpretation of the linguistic sections of the *Peri hermeneias.* Questions about the appropriateness of Aristotle's treatments of linguistic topics almost invariably take their inspiration from Priscian; and the apparent conflicts between logic and grammar can always be settled by some appeal to the twin criteria of truth and falsity on the one hand, congruity and incongruity on the other. Yet such a systematic approach has its own pitfalls: there is a tendency to use formulas drawn from Priscian and Aristotle unreflectively, with little attention to overall context. But the Aristotelian text often remains intransigent, and efforts to show how Aristotle's views mirror the medieval division of labour between logic and speculative grammar often clash with Aristotle's obvious intent. This is evident, for example, in the treatment of the infinite noun, where the assumption that it is not a logically relevant item of study conflicts glaringly with the obvious fact that Aristotle considers it to be of interest because of its role in the theory of opposition.

In this respect, the Arabic approach to the specific teachings in the *Peri hermeneias,* though considerably less systematic, has a certain advantage. For the lack of a predefined notion of what is logically relevant and what is not gives the Arabic authors considerably more freedom in dealing with specific points of doctrine in the Aristotelian text. It also allows them to take Aristotle's remarks at their face value, and to accept that they may, at times, be grammatical rather than logical in character. In the case of the indefinite noun, this freedom from external constraint seems felicitous, for it allows both Fārābī and Avicenna to take into account the importance of Aristotle's discussion of indefinite terms for his views on the opposition of statements.

Yet despite these differences, fundamental as many of them are, what is in the end most striking about this sampling of discussions on logic, language, and

grammar, in both the Arabic and Latin *Peri hermeneias* commentaries, is the overall similarity between the Latin and Arabic philosophers" *theoretical* positions on the character of logic as a linguistic science. Even Avicenna is not averse to the traditional metaphor of "inner speech" as the subject-matter of logic, despite his polemic against the identification of logic as a linguistic science.[110] While Aquinas seems deliberately to avoid the label of *scientia sermocinalis* for logic, he seems to have few qualms about the appropriateness of Aristotle's discussion of linguistic topics in a logical text such as the *Peri hermeneias.* And in general, even given the existence of speculative grammar in the Latin tradition, which provided a convenient niche for the study of language in the philosophical canon, the ties between logic and language remained an underlying assumption of the Latin exegesis on the Aristotelian text. By the same token, all the philosophers whose commentaries we have considered avoid the opposite extreme of viewing the linguistic and rational characteristics of logic as essentially the same. Language and thought are kept distinct; the metaphor of "inner speech" remains a metaphor; and logic never becomes identified as simply a grammar of thought.

There are probably many factors that explain the medieval commentators" ability to preserve this balanced perspective on the rational and linguistic aspects of logic. The most obvious derives from the *Peri hermeneias* itself. For Aristotle's notion of *phōnē sēmantikē* precludes any pure separation between *artes sermocinales* and *artes rationales,* between the ʿilm al-lisān and the ʿilm al-manṭiq. To the extent that all significant speech is, for Aristotle and his commentators, essentially a sign of the *pathēmata tēs psychēs,* every linguistic art within the Aristotelian tradition must be grounded in a corresponding link to a signifying mind, and thus be, either explicitly or implicitly, a rational art as well. As to the other extreme of viewing logic as a purely linguistic science, the tendency amongst medieval philosophers in both traditions to associate language with the spoken, physically uttered word no doubt contributed to the reluctance to take the notion of "inner speech" literally, and opt for the assimilation of the rational side of logic to its linguistic side. Conversely, the fact that logic in both the Latin West and the Islamic world was held to encompass the arts of dialectic, and even rhetoric and poetics, ensured that the concerns of oral discussion and communication remained prominent, though ancillary, and no doubt served to enhance the importance of language as an oral phenomenon for the practice of logic.

But perhaps the most deeply rooted explanation for the inseparability of the linguistic and rational aspects of logic derives, not from the medieval conception of logic itself, but rather, from the epistemological aims that logic, as an instrumental science, was meant to serve. For the assumption that logic must attend to the embodiment of concepts in language parallels the assumption, generally shared by these commentators and deriving from Aristotle's *De anima,*

that all intellectual cognition must be accompanied by a corresponding act of imagination.[111] From this perspective, it is no accident that the one philosopher who comes closest to repudiating the linguistic conception of logic is Avicenna, who likewise repudiates the traditional Aristotelian assumption of the essential link between images and intelligibles.[112] And just as he admits the *practical* necessity for logic to concern itself with language, so too in his epistemology does Avicenna admit the *practical* dependence of most human knowledge upon images, as preparations, and even substitutes, for purely intellectual conception.

The attempts of the commentators on the *Peri hermeneias* to preserve both the rational and linguistic perspectives within logic can thus be seen in part as reflecting the same attitude embodied in their acceptance of the interplay between concrete images and abstract intelligibles in human cognition. To the extent that the logical commentators repudiated the notion of pure, disembodied intellection as a possible human mode of cognition, to that same extent they repudiated the possibility of a process of pure reasoning abstracted from all linguistic embodiment, and subject to rules that are wholly other than the rules governing vocal expressions.

NOTES

¹ With the exception of Averroes's brief *Middle Commentary,* which was translated by William of Luna sometime during the thirteenth century, none of the Arabic commentaries on the *Peri hermeneias* was translated into Latin, and even Averroes's work did not have a wide circulation. On the transmission, see R.-A. Gauthier, Introduction to the new Leonine edition of Thomas's commentary, *Expositio libri Peryermenias,* vol. 1*.1 of *Opera Omnia* (Rome: Commissio Leonina; Paris: Vrin 1989), 75*-81*. Perhaps this lacuna in the transmission of Arabic philosophy to the West is attributable to the long history of Latin philosophical commentary on the *logica vetus,* which made the aid of the Arabic commentators superfluous. The situation was far different from that pertaining to the assimilation of Aristotle's unfamiliar metaphysical and physical works, in which the help of Arabic authors was indispensable.

² For an overview of the *Peri hermeneias* commentaries prior to the time of Aquinas, see Gauthier, Introduction to the new Leonine edition of Aquinas's commentary, 64*-75*. On the general subject of the *Peri hermeneias* in the West see J. Isaac, *Le "Peri hermeneias" en occident de Boèce a saint Thomas* (Paris: Vrin 1953).

   For the most part, I have confined my remarks on the Latin authors to direct commentaries on the *Peri hermeneias,* and refrained from comparisons with more general logical texts, both by these commentators and by other thirteenth-century authors. I suspect, however, that there are some tensions between the approach to language and logic that is found in the commentary tradition, and that found in independent logical treatises and in works on speculative grammar. But a full investigation of this topic is beyond the scope of the present discussion.

³ I have omitted Averroes's *Middle Commentary,* even though it is the only Arabic text on the subject that was available in the West, since it is less concerned with the issues under consideration here than are the commentaries of Avicenna and Fārābī.

⁴ *Martinus de Dacia Quaestiones super librum Perihermeneias,* ed. H. Roos, in *Martini de Dacia Opera,* Corpus Philosophorum Danicorum Medii Aevi, vol. 2 (Copenhagen: Gad 1961), q. 1, 236.1-3; see also 235.26-236.12.

⁵ For Boethius's discussion of the term *interpretatio,* see *Commentarii in librum Aristotelis Peri hermeneias,* ed. Karl Meiser, 2 vols. (Leipzig: Teubner 1877; reprint New York and London: Garland 1987), prima editio (hereafter 1a), 32.8-34.28; secunda editio (hereafter 2a), 4.15-13.24. The passage cited by Martin is 1a:32.11-12: "Interpretatio est vox significativa per se ipsam aliquid significans."

⁶ Martin of Dacia, q. 1, 236.3-9.

⁷ Unlike Martin, Aquinas does not add the difference "in which there is truth or falsity" to the Boethian definition of *interpretatio.* But he does argue that only "he who explains something to be true or false seems to interpret," and thereby ultimately accepts that "only enunciative speech, in which truth or falsity is found, is called interpretation" (1.1, 6.48-52).

   Regarding the interpretation of Boethius, Isaac and Gauthier have both argued that Aquinas only shows awareness of the the *secunda editio* of his commentary. See Isaac, *Le "Peri hermeneias" en occident,* 100 n. 1, and Gauthier, Introduction to the Leonine edition, 49*. Thus, Gauthier cites the *secunda editio*'s definition of *interpretatio* as a *vox articulata per se ipsam significans* (2a:6.4-5) as Thomas's source for the definition of *interpretatio* as *uox significatiua que per se aliquid significat,* at 1.1, 6.35-37. However, Thomas's citation seems closer to the *prima editio*'s definition of *interpretatio* as a *vox*

significativa per se ipsam aliquid significans (32.11-12). This calls into question Isaac's claim regarding the *prima editio* that Thomas "n"y a fait aucune allusion."

[8] Aquinas, 1.1, 5.15-16: "Cum autem logica dicatur rationalis sciencia, necesse est quod eius consideratio uersetur circa ea que pertinent ad tres predictas operationes rationis." Aquinas is referring to the differences among the understanding of indivisibles, composition and division, and discursive reasoning; the *Peri hermeneias* is assigned to the second operation, composition and division.

[9] Ibid., 1.1, 6, 59-61; see also 6.46-61.

[10] In the prooemia to both his *Peri hermeneias* and *Posterior Analytics* commentaries, Aquinas limits his characterization of logic to that of a rational science, although he does not explicitly deny logic the status of a linguistic science. See *Expositio in libros Posteriorum analyticorum,* ed. R.-A. Gauthier, vol. 1*.2 of the new Leonine edition of *Opera omnia* (Rome: Commissio Leonina; Paris: Vrin 1989), Bk. 1, chap. 1 (Proemium), 3.1-5.50, for a more detailed version of the themes treated in the prooemium to the *Peri hermeneias* commmentary.

[11] Robert Kilwardby, *Notule super Periarmenias Aristotilis,* ed. P. Osmund Lewry, in "Robert Kilwardby's Writings on the *Logica Vetus* Studied With Regard to Their Teaching and Method" (Ph.D. diss., Oxford 1978), 379.11-13. All citations of the introduction and first *lectio* of Kilwardby's commentary refer to the edition appended to Fr. Lewry's dissertation. Before his untimely death in 1987, Fr. Lewry was preparing an edition of the entire commentary, and had provided a draft version of the text to members of his graduate seminar at the Pontifical Institute of Mediaeval Studies in Toronto in the spring of 1983. This draft translation forms the basis for my remarks on the remainder of Kilwardby's commentary, but references are also provided to one of the three manuscripts of the commentary, Venezia, Biblioteca Marciana lat. L.VI.66 [2528], fols. 1r-18v.

For the reference to Boethius, see 2a:4.27-28, where the phrase *sonum . . . cum quaedam imaginatione significandi* is used as a definition of *vox.* At 5.22-6.3, it is used to distinguish *interpretatio* from *vox* and *locutio.*

[12] Kilwardby, 379.11-22.

[13] None of the medieval commentators seems bothered by Boethius's explication of signification by reference to imagination rather than intellect. In her translation of Aquinas's commentary, Jean Oesterle suggests that the roots of this phrase are in Aristotle's distinction between mere physical sound (*psophos*) and voice (*phAnE*) at *De anima* $2.8.420^b27-421^a1$, the latter requiring the presence of a soul capable of having *phantasia* of some sort. See *Aristotle: "On Interpretation," Commentary by St. Thomas and Cajetan (Peri Hermeneias)* (Milwaukee: Marquette University Press 1962), 17 n. 2.

[14] Kilwardby, fol. 7v, lines 4-11:

> Sed dicendum quod logicus considerans ueritatem et falsitatem circa orationem, cum ueritas et falsitas causantur in oratione a rebus significatis, diffinit orationem per res significatas, dicens, *Oratio est uox significatiua,* etc.; set grammaticus, circa orationem considerans congruitatem et incongruitatem, cum congruitas et incongruitas causentur ab ipsis consignificatis, hec autem consequuntur res in quantum eis debetur constructio et ordinatio, quia sunt media construendi siue ordinandi dictionem cum dictione, diffinit orationem per ordinationem, dicens, *Oratio est congrua dictionum ordinatio.* Et sic diuersa intentio auctorum fecit diuersitatem diffinitionum.

For the citation from Priscian, see *Prisciani Institutionum grammaticarum libri XVIII,* ed. Martin Hertz, 2 vols., *Grammatici Latini,* vols. 2-3 (Leipzig 1855; reprinted Hildesheim: George Olms 1961), Bk. 2, §15, 1:53.28.

[15] In the *De ortu scientiarum,* ed. A. G. Judy (Oxford: The British Academy; Toronto: Pontifical Institute of Mediaeval Studies 1976), chap. 49, §468, 160.19-161.2, Kilwardby treats signification as a property common to all the *sermocinales scientiae* included in the trivium, i.e. logic, grammar, and rhetoric. Arguing that every *sermo* is a *signum,* he claims that all the linguistic sciences must be concerned with *sermo significativus.* The difference between the three arts derives from the fact that grammar confines its consideration of language to the representation of what is already *nota,* whereas logic and rhetoric are *inquisitivus* of what is *ignota.* Cf. §474, 162.22-23, where grammar is said to be *[d]e sermone . . . significativo per se,* rhetoric and logic *de [sermone] ratiocinativo per se*; and chap. 53, §493, where Kilwardby insists that logic is both rational and linguistic. This picture accords broadly with the suggestion in the *Peri hermeneias* commentary that both grammar and logic are rational as well as linguistic (for grammar's objects are *nota*), although it obviously suggests that the significative-consignificative distinction is rather arbitrary. But cf. §484, 165.12-15, where grammar is associated with both *modi significandi* and mental concepts: 'subiectum enim sermo significativus est secundum quod huiusmodi; finis, congruus, et aptus modus significandi omnem mentis conceptionem; definitio, scientia de sermone docens omnem animi conceptionem significare."

The overall impression one gleans is that Kilwardby has a generally consistent approach to the question of the relations between logic and grammar, but is rather fluid in the terminology he uses to define their formal differences as distinct sciences.

[16] Albertus Magnus, *Libri 2 Perihermeneias,* in *Opera omnia,* vol. 1, ed. Auguste Borgnet (Paris: Vivès 1890), Bk. 1, tract. 1, chap. 1, 373b16-18.

[17] Ibid., 1.1.1, 374a3-27.

[18] Ibid., 1.1.1, 375b10-18; the text cited is lines 15-18. For the Avicennian background, to which Aquinas also alludes, see below, n. 68.

[19] Albertus Magnus, 1.1.1, 375b18-22.

[20] Ibid., 1.1.1, 375b23-25. The Borgnet edition attributes this position to Andronicus, although Boethius mentions Alexander and Aspasius, as do other thirteenth-century commentators. It is not clear whether the mistake is Albert's or the editor's; it is obviously due to Boethius's discussion of Andronicus's misgivings about the authenticity of the text, which follows immediately after the discussion of the views of Alexander and Aspasius on *oratio.* For the controversy over *oratio,* see Boethius, 2a:10.4-11.11.

[21] Albertus Magnus, 1.1.1, 375b25-38. Martin of Dacia also uses the couplets of truth-falsehood and congruity-incongruity to contrast the logical and grammatical approaches to speech. See q.14, 248.14-249.30, "utrum pertineat ad logicum considerare veritatem et falsitatem."

[22] It is interesting to compare the Latin commentators with the Arabic philosophers on this point, for the latter always include particles in their discussions of the parts of speech in *Peri hermeneias* commentaries.

[23] Martin of Dacia, q. 17, 253.14-17.

[24] Ibid., q. 20, 254.20-27. (Question 20 contains the replies to questions 17-20.)

[25] Ibid., q. 20, 254.28-255.3.

[26] One reason for this reluctance to import the unmistakably logical terms of subject and predicate may come from the need to distinguish the approach of the *Peri hermeneias*

from that of the *Prior Analytics.* Aquinas, for example, argues that the designations of "noun" and "verb" apply to the signs of simple intelligibles insofar as they are considered as parts of enunciations; when treated as parts of a syllogism, these same signs are considered not as nouns and verbs, but as "terms," and they are treated under this formality in the *Prior Analytics* (1.1, 6.80-7.97). Cf. Kilwardby, 386.26-30. Albertus Magnus argues more generally that since the notions of subject and predicate depend upon the notion of enunciation, they cannot be determined until after Aristotle has determined the nature of the enunciation. See 1.3.1, 400b34-401a14.

[27] Kilwardby, 386.9-26.

[28] Ibid., 386.36-40.

[29] Ibid., fol. 4v, line 3: "Primum dubitabile est propter quid diffinitur hic aliter nomen quam a Prisciano, cum essentia uniuscuisque sit semel."

Priscian offers more than one definition of the noun, but the medieval commentators take as canonical that of signifying substance with quality. See *Institutiones grammaticae,* 2.18, (Hertz, 1:55.6): "Proprium est nominis substantiam et qualitatem significare"; and 2.22 (Hertz, 1:56.29-57.4): "Nomen est pars orationis, quae unicuique subiectorum corporum seu rerum communem vel propriam qualitatem distribuit. dicitur autem nomen . . . quasi notamen, quod hoc notamus uniuscuiusque substantiae qualitatem."

[30] Kilwardby, fol. 4v, lines 4-7: 'set dicendum quod diuersa auctorum intentio fecit diuersitatem diffinitionum. Diffinitur ergo in grammaticis per partes sui essentie in quantum est constructibile, quia per substantiam et qualitatem; hic autem per partes sue essentie in quantum est subicibile. Et est ista diffinitio magis formalis; illa autem magis materialis, cum fiat per partes essentiales."

The claim that the logical definition is more formal, the grammatical more material, reflects the view that the vocal sound, which is more central to grammar, functions as the matter of an utterance.

[31] Albertus Magnus, 1.1.3, 379a19-b8.

[32] Albertus Magnus, 1.2.1, 381a27-39.

[33] Cf. above at nn. 14-15.

[34] These remarks in fact apply to the infinite verb, but the Latin commentators generally consider the logical status of infinite nouns and verbs to be equivalent. Ackrill translates the passage in question as follows: "Let us call them indefinite verbs, because they hold indifferently of anything whether existent or non-existent"; see *The Complete Works of Aristotle: The Revised Oxford Translation,* ed. Jonathan Barnes, 2 vols. (Princeton: Princeton University Press, 1984), 1:25-38.

For the Boethius text in question, see 1a:52.11-53.4; 2a:62.3-63.14. See also Ammonius, *In Aristotelis De interpretatione commentarius,* ed. A. Busse, Commentaria in Aristotelem Graeca, vol. 4, pt. 5 (Berlin: Reimer 1897), 41.16-42.8; medieval Latin translation, *Commentaire sur le "Peri hermeneias" d"Aristote: Traduction de Guillaume de Moerbeke,* ed. G. Verbeke, Corpus Latinum Commentariorum in Aristotelem Graecorum, vol. 2 (Paris: Béatrice-Nauwelaerts; Louvain: Publications Universitaires de Louvain 1961), 79.62-80.88. It should be noted that I am using "negation" very loosely here. The medieval commentators all deny that infinite nouns and verbs constitute negations in the sense of complex, negative, complete enunciations.

[35] See for example Aquinas, 1.4, 23.223-27: 'si autem imponeretur a priuatione, requireret subiectum ad minus existens; set quia imponitur a negatione, potest dici de ente et de non ente, ut Boetius et Ammonius dicunt."

³⁶ Martin of Dacia, q. 22, 260.19-26.

³⁷ Ibid., q. 22, 260.28-261.3.

³⁸ Simon of Faversham, *Quaestiones super libro Perihermeneias,* in *Magistri Simonis Anglici sive de Faverisham Opera omnia,* vol. 1, *Opera logica,* ed. Pasquale Mazzarella (Padua: C.E.D.A.M. 1957), q. 4, 152.27-153.3.

³⁹ Ibid., 165.11-12.

⁴⁰ Ibid., 165.31.

⁴¹ Ibid., 165.34-166.1.

⁴² Cf. Albertus Magnus's justification, discussed below at nn. 44-48.

⁴³ See above at n. 38.

⁴⁴ Albertus Magnus, 1.2.5.391a21-35.

⁴⁵ On Kilwardby see above at n. 12.

⁴⁶ Albertus Magnus, 1.2.5.391a41-45. Albert goes on to argue that the infinite noun is not a negation simply, since a negation leaves nothing: *Non enim simpliciter negatio est, quia negatio nihil relinquit* (391b1-2). Perhaps this is a practical acknowledgement of the fact that infinite nouns are employed in Aristotelian logic.

⁴⁷ Albertus Magnus, 2.1.1, 426b17-35:

> In praecedentibus autem antecedentis libri dictum est quid est nomen, et quid innominabile est: non homo enim secundum logici intentionem non dico nomen: nec tamen in aliam cadit partem orationis: sed dicitur nomen infinitum, quod est nomen secundum aliquid, quia significat substantiam cum qualitate: sed non habet nominis perfectionem, scilicet quod significet et interpretetur quae sit illa qualitas qua substantia nominis habet determinari: et quia finitam tollit qualitatem quae in homine est humanitas, et nullam ponit, ideo non interpretatur et significat substantiam nisi infinitam, cujus qualitas ipsa est infinitas: sed talis qualitas sufficit ad hoc quod sit nomen secundum intentionem grammatici, quae modos plusquam res attendit.

Note that the last clause of this passage identifies the grammarian's concern to be with modes, presumably of signification, rather than with things. Yet earlier, we saw Albert identifying grammar as concerned *principally* with the direct signification of things, in contrast with logic's concern with things as signified in the mind (see above at n. 32).

⁴⁸ As to Albert's position on the problem of the inclusion of infinite terms in the theory of opposition, the passage cited in the preceding note actually occurs in Albert's discussion of the theory of opposition. Albert has just distinguished (at 2.1.1, 426a39-b16) affirmative enunciations with finite subjects from those with infinite nouns as their subjects. Although Albert reiterates that the infinite noun is *innominabile* because it is said of both being and non-being, he goes on to accept its inclusion as the subject of an enunciation, on the grounds that the infinite noun does signify something that is in some way one; he ends by declaring, *et talis unitas sufficit ad unitatem subjecti in propositione sive in enuntiatione una* (2.1.1, 426b37-39). In contrast to Simon, Albert argues the infinite verb cannot enter into an enunciation and retain its infinite status, since only the *radix* of the verb, the copula, remains in the infinite verb, while its predicative force is removed (2.1.1, 426b39-427b20).

Despite this difference, Albert seems to share with Simon a common desire to defend the use of infinite terms in enunciations, and thereby to defend Aristotle's practice in the later parts of the text. Yet despite this, both commentators are reluctant to reject the accepted interpretation of the alogical status of infinite terms. The result is that the *ex professo* discussions of questions regarding what makes a linguistic object logically

interesting become almost irrelevant to determining specific points of logical doctrine and logical practice.

[49] Aquinas, 1.4, 23.227-29, and in general, 23.207-39.

[50] Apart from his actual commentaries on the *Organon,* Fārābī's works dedicated to logic and language include the *Kitāb al-ḥurūf* (Book of Letters [or Particles]), *Kitāb al-alfāẓ al-mustaʿmalah fī al-manṭiq* (Utterances Employed in Logic), and portions of the *Iḥṣāʾ al-ʿUlūm* (Catalogue of the Sciences) and *Kitāb al-tanbīh ʿalā sabīl al-saʿādah* (Reminder of the Way to Happiness).

[51] Arabic texts will be cited initially by their Arabic titles, with an English translation of the title in parentheses. In subsequent citations, a shortened version of the English translation will be used. Where medieval Latin versions of the Arabic texts are available, I have in most cases provided references to these as well as to the Arabic original.

[52] The term usually rendered as "grammar," *naḥw,* is, strictly speaking, narrower in range than its English counterpart, being closer to 'syntax." See for example Fārābī, *Iḥṣāʾ al-ʿulūm* (Catalogue of the Sciences), ed. Utman Amin, 3d ed. (Cairo: Librairie Anglo-Égyptienne 1968), 62.1, where grammar is said to concern itself with a particular part of the science of composite expressions, namely, the study of the proper endings to be used when forming complex expressions. For the medieval Latin translation of this work by Gerard of Cremona, see *Catálogo de las ciencias,* ed. A. G. Palencia, 2d ed. (Madrid: Consego Superior de Investigaciones Cientificas 1953), 124.19-20. The subject-matter of grammar, then, is not language in general, but *ʿirāb,* inflection (62.5; Palencia, 124.24-125.1). On this point, cf. A. Elamrani-Jamal, *Logique aristotélicienne et grammaire arabe* (Paris: Vrin 1983), 98-101; G. Bohas, J.-P. Guillaume, and D. E. Kouloughli, *The Arabic Linguistic Tradition* (New York and London: Routledge 1990), 49-72.

[53] *Catalogue of the Sciences,* 68.4-7; Palencia, 128.25-129.4. Fārābī also extends the analogy to include prosody at lines 8-10, Palencia lines 4-9. The Latin translator apparently did not know the Arabic term for prosody, *al-ʿarū:,* for he simply transliterates the Arabic. According to Palencia's apparatus, there is, however, a marginal gloss indicating that the Arabic term means *de ponderibus uersuum.*

[54] *Catalogue of the Sciences,* 74.10-15; Palencia, 133.23-134.1. Cf. *Al-Tawṭiʿah* (Introduction [to Logic]), ed. Rafiq al-Ajam, vol. 1 of *Al-Manṭiq ʿinda al-Fārābī* (The Logic of al-Fārābī) (Beirut: Dar el-Mashreq 1985), 55.9-56.2; there is an English translation of this text, along with an earlier edition, in "Al-Fārābī's Introductory "Ris.lah" on Logic," ed. and trans. D. M. Dunlop, *Islamic Quarterly* 3 (1956-57) 224-35. The passage in question is translated in §1, p. 230.

[55] *Catalogue of the Sciences,* 76.2-77.15; Palencia, 134.23-136.4. See esp. 77.5-7; Palencia, 135.24-28: 'so the science of grammar in every language considers only what is specific to the language of that nation; and [it considers] what is common to [their language] and to other [languages], not insofar as it is common, but insofar as it is found in their language in particular."

[56] On Yaḥyā see Nicholas Rescher, *The Development of Arabic Logic* (Pittsburgh: Pittsburgh University Press 1964), 130-34. The text I will be discussing is "Yaḥyā ibn ʿAdī's 'Treatise on the Difference between the Arts of Philosophical Logic and of Arabic Grammar' (*Maqālah fī tabyīn al-faṣl bayna ṣināʿatay al-manṭiq al-falsafī wa-al-naḥw al-ʿarab*)," ed. Gerhard Endress, *Journal of the History of Arabic Science* 2 (1978) Arabic pagination 38-50/English pagination 192-81 (note that the English pagination is in inverse numerical order). There is a French translation in Elamrani-Jamal, *Logique aristotélicienne et grammaire arabe,* 187-97; a German translation is found in Gerhard

Endress, "Arabische Philologie und griechische Philosophie im Widerstreit," in Burkhard Mojsisch, ed., *Sprachphilosophie in Antike und Mittelalter,* (Amsterdam: Verlag B. R. Grüner 1986), 163-299.

[57] *Philosophical Logic and Arabic Grammar,* §3, E191/A40.1-4.

[58] Ibid., §§6-9, E190-89/A41-42. Elamrani-Jamal has an excellent discussion of the implications of Yaḥyā's emphasis upon correct *ʿirāb* or vocalization. See the reference in n. 52 above.

[59] *Philosophical Logic and Arabic Grammar,* §10, E188/A43.1. Yaḥyā notes in this passage that the grammarians claim that it is their intention to consider expressions as significant of meanings, a claim which Yaḥyā contends is misleading. See §10, E188/A43.1-5.

[60] *Philosophical Logic and Arabic Grammar,* §§11-12, E188-E187/A43-44.

[61] On this point in Latin speculative grammar, see Michael A. Covington, *Syntactic Theory in the High Middle Ages: Modistic Models of Sentence Structure* (Cambridge: Cambridge University Press 1984), 33-35; and Irène Rosier, *La grammaire spéculative de Modistes* (Lille: Presses Universitaires de Lille 1983), 45, 56-57, 212 n. 97. On this sense of meaning, *currens* and *currere* mean the same thing in Latin, just as do *Zaydun* and *Zaydan* in Arabic. An example of this view can be found in Boethius of Dacia, *Modi significandi sive Quaestiones super Priscianem maiorem,* vol. 1 of *Boetiii Daci Opera,* ed. J. Pinborg, H. Roos, and S. S. Jensen, Corpus Philosophorum Danicorum Medii Aevi, vol. 4 (Copenhagen: Gad 1969), 55.60-56.71.

[62] As I note below at nn. 100-2, there is an analogue to the notion of *modi significandi* in Avicenna's *Peri hermeneias* commentary, but it is not used to provide the basis for a universal science of *grammar.* Avicenna's remarks in this context do suggest, however, that he is willing to construe meaning more broadly than is Yaḥyā.

[63] This view as it applies to Fārābī is upheld by F. W. Zimmermann, in his Introduction to *Al-Farabi's Commentary and Short Treatise on Aristotle's "De interpretatione"* (Oxford: Oxford University Press and the British Academy 1981), esp. xli-lvii; cxviii-xxii; cxxxi, cxxxviii-ix. It is challenged by Elamrani-Jamal, *Logique aristotélicienne et grammaire arabe,* 77, 88.

[64] Avicenna, *Al-Shifāʾ* (Healing), vol. 1, *Al-Manṭiq* (Logic), part 1, *Al-Madkhal* (Isagoge), ed. G. Anawati, M. El-Khodeiri, F. Al-Ahwani, and I. Madkour (Cairo: Al-Matba1ah al-Amiriyah 1952), Bk. 1, chap. 4, 23.5-6, 24.3-4. For the medieval Latin translation of this portion of Avicenna's logic, see *Opera philosophica,* 2 vols. (Venice 1508), 1:3rb19-21, 41-42. Avicenna's rather derisive description of the Fārābīan view is considerably toned down in the Latin, which simply reads *ideo deliquerunt.*

[65] Avicenna does qualify this with respect to those logical arts whose function is essentially communicative, i.e. where discussion and debate are involved, as in dialectic, rhetoric, and poetics. See my *Logic and Aristotle's "Rhetoric" and "Poetics" in Medieval Arabic Philosophy* (Leiden: Brill 1990), 60-61.

[66] *Isagoge,* 1.2, 15.1-8; Latin 1:2rb29-42.

[67] Ibid., 1.4, 22.14-17; Latin 1:3ra64-3rb4.

[68] Though one would presume that under these ideal conditions, the art of logic itself would be dispensable, since the circumstances rendering error possible would be entirely eliminated. For in this case, no process would be needed to progress from the known to the unknown, whereas facilitating the acquisition of knowledge of the unknown is the purpose of logic according to Avicenna. On this last point see, for example, *Isagoge,* 1.3, 16.15-17.5.

For Avicenna's departure from the Aristotelian theory of the dependence of thought upon imagination, the canonical text is Bk. 5, chap. 5 of the *De anima* part of the *Shifāʾ*. There Avicenna rejects the theory of abstraction from images for a theory of the direct emanation of intelligibles from the Agent Intellect; the images are thereby assigned a purely preparatory, rather than a specifying, function in intellection. See *Avicenna's "De anima," Being the Psychological Part of Kitāb al-Shifāʾ,* ed. F. Rahman (London: Oxford University Press 1959), 234.12-236.2; medieval Latin translation in *Avicenna Latinus: Liber de anima, seu sextus de naturalibus,* ed. S. Van Riet, 2 vols. (Louvain: Peeters; Leiden: Brill 1968-72), 2:126.27-128.63.

[69] *Isagoge,* 1.4, 23.1-4; Latin 1:3rb12-19. Despite the obvious critique of Fārābī in this passage, Avicenna may well have adapted this notion of the primacy of thought over expression from Fārābī himself, who draws upon it in his *Sharḥ* (Long Commentary) on the *Peri hermeneias* and in the *Utterances Employed in Logic.* See below at n. 75; cf. also Zimmermann, Introduction to *Farabi's Commentary and Short Treatise,* xlii.

[70] *Sharḥ al-Fārābī li-kitāb Arisṭūṭālīs fī al-ʿibārah* (Long Commentary on "Interpretation"), ed. W. Kutsch and S. Marrow (Beirut: Imprimerie Catholique 1960), 19.16-18, 23.11-14; Zimmermann trans., 3, 8-9. I have used Zimmermann's translation throughout, with some modifications where indicated. On the construal of the title, see Zimmermann, 3-4 n. 5. It should be noted that Zimmermann discerns two different versions of Fārābī's prooemium to the commentary (Introduction, cxliv, and 4 n. 3); my remarks are based on both versions.

[71] *Introduction to Logic,* 59.14-15; Dunlop trans., 233. Cf. *Catalogue of the Sciences,* 78.3-4; Palencia, 134.15-16, where the same phrase is used in the same context.

[72] Since grammar is not viewed as a truly universal, and hence truly philosophical, science by Fārābī, the philosophical study of language cannot be carried out by the grammarian.

[73] *Long Commentary,* 24.2-7; Zimmermann trans., 10 (modified). The Arabic commentators all refer explicitly to sensibles when discussing what is outside the soul. This seems to stem from Aristotle's reference at 16^a3-4 to "passions" (*pathēmata*) in the soul, the phrase that reputedly caused Andronicus to dispute the authenticity of the text. The Arabic translation renders this as *āthār* "traces," the term commonly used for the forms found in the common sense and imagination insofar as they are remnants of sense perception. Thus, the Arabic translation has led the commentators to assume Aristotle is implicitly invoking the causal account of perception in the *De anima,* and through it alluding to the ultimate origin of intellectual thought in the senses. For the Arabic version of the text, see *Die Hermeneutik des Aristoteles in der arabischen Übersetzung des Isḥāk Ibn Ḥonain,* ed. Isidor Pollak (Leipzig 1913; reprinted Nendeln, Liechtenstein: Kraus 1966), 1.4.

[74] *Long Commentary,* 25.22; Zimmermann trans., 13 (modified).

[75] Ibid., 25.23-26.1; Zimmermann trans., 13-14 (modified). In his Introduction, xlii, Zimmermann draws attention to a parallel passage in the *Kitāb al-alfāẓ al-mustaʿmalah fī al-manṭiq* (Utterances Employed in Logic), ed. M. Mahdi (Beirut: Dar el-Mashreq 1968), 102.7-15, on the method of instruction known as the 'substitution of words" (scil. for thoughts), where the same theme of facilitating conceptual understanding through language is evoked, with somewhat perjorative overtones.

[76] *Long Commentary,* 26.24-25; Zimmermann trans., 14-15.

[77] Avicenna, *Al-Shifā'*, vol. 1, *Al-Manṭiq* (Logic), pt. 3, *Al-ʿIbārah* (Interpretation), ed. M. El-Khodeiri and I. Madkour (Cairo: Dar el-Katib al-1Arabi 1970), Bk. 1, chap. 1, 5.14-17.

[78] Ibid., 1.1, 6.1-6.

[79] The term *bāṭil,* for example, is used by Avicenna to describe fictional concepts like the phoenix. See, for example, "«L"Épître sur la disparition des formes vaines» d"Avicenne," ed. and trans. (French) J. R. Michot, *Bulletin de philosophie médiévale* 29 (1987) 152-70, esp. 155.8; English translation in "Avicenna's 1Letter on the Disappearance of the Vain Intelligible Forms After Death,5 " trans. J. R. Michot in *Bulletin de philosophie médiévale* 26-27 (1984-85) 94-103, esp. 98.

[80] On the use of this term—which does not mean "indefinite" except in logical contexts—see Zimmermann, Introduction to *Farabi's Commentary and Short Treatise,* cxx and n. 2.

[81] The Latin commentators" discussions of the inflections of the noun were not included in the first part of this study in the interest of brevity, although this topic was also a common occasion for the Latin authors" presentation of their views on the relations between logic and grammar.

[82] A proper name in Arabic, literally meaning "the king's servant."

[83] *Long Commentary,* 32.5, my translation (cf. Zimmermann trans., 20).

[84] Ibid., 38.4; Zimmermann trans., 28. The topic here is not the indefinite noun, but the indefinite verb, and Aristotle's claim that it is said of both existent and non-existent things. Fārābī extends his comments here to cover all words of the form "non-X," be they nouns or verbs.

[85] *Long Commentary,* 38.23-39.2; Zimmermann trans., 29. Cf. Fārābī's ʿIb.rah ([Short Treatise] on Interpretation) in vol. 1 of *Al-Manṭiq ʿinda al-Fārābī,* 147.12-17; Zimmermann trans., 234. (Note that the page numbers in the margins of Zimmermann's translation refer to an earlier edition of Fārābī's *Short Treatise.*)

[86] *Long Commentary,* 39.6-18; Zimmermann trans., 30.

Fārābī's discussion of propositions with indefinite terms is complex and extended, and a full consideration of his views on the topic is beyond the scope of this paper. Zimmermann offers a brief discussion in his Introduction to *Farabi's Commentary and Short Treatise,* lxiii-lxvii. An extended consideration of indefinite terms in a variety of commentators is found in M. Soreth, "Zum infiniten Prädikat im zehnten Kapitel der aristotelischen Hermeneutik," in S. M. Stern et al., eds., *Islamic Philosophy and the Classical Tradition,* (Columbia, S.C.: University of South Carolina Press 1972), 389-424. Averroes's views on indefinite terms have been discussed in two articles by H. A. Wolfson, "Infinite and Privative Judgments in Aristotle, Averroes, and Kant," *Philosophy and Phenomenological Research* 8 (1947) 173-87; and "The Twice-Revealed Averroes," in J. F. Ross, ed., *Inquiries into Medieval Philosophy: A Collection in Honor of Francis P. Clarke,* (Westport, CT: Greenwood 1971), 211-41; both articles have been reprinted in Wolfson's *Studies in the History of Philosophy and Religion,* ed. I. Twersky and G. H. Williams, 2 vols. (Cambridge, MA: Harvard University Press 1973), 2:542-55 and 1:371-401, esp. 387-97. All subsequent citations refer to the reprinted versions of these two articles.

It ought to be noted that in the *Short Treatise,* Fārābī does allow that indefinite nouns can be extended from their proper signification of privation in two ways. First, they can be extended to allow their predication of all subjects which share a common genus or species with the subjects to which the privation properly applies, e.g., "non-rational" as

applied to horse, or "non-bearded" to women. Secondly, they can be used in a still wider sense of all existent things, even those outside the genus to which their corresponding possession properly applies. Fārābī's example is the use of negative predications of God. But Fārābī insists that even in these extended uses, the subject of predication must be something existent. See *Short Treatise,* 153.10-155.6; Zimmermann trans., 238-40. On this extended and looser reading of indefinite terms, Fārābī's theory appears closest to that of Aquinas, who argued that the mind must presuppose some *suppositum* in order to use infinite terms. See above at n. 49.

[87] See, for example, *Short Treatise,* 135.17-136.1; Zimmermann trans., 222.

[88] Ibid., 136.3-5; Zimmermann trans., 222. Cf. 138.6-9; Zimmermann trans., 225, on the indefinite verb.

Fārābī's reference, in the parallel passage of the *Long Commentary* (39.11-13; Zimmermann trans., 30), to the discussion of privation in *Metaphysics* 5.22.1022^{b}32-33, may explain his claim that indefinite terms in other languages than Arabic actually inflect like single terms. For Fārābī seems to think that Aristotle is talking about terms with a privative *alpha* in both the *Peri hermeneias* and the *Metaphysics,* and is unaware that the former text in fact discusses terms with the negative particle *ou* preceding them. This conflation of privative terms with indefinite ones may have been reinforced by the Arabic versions of the *Metaphysics:* the lemmata in Averroes's *Long Commentary* indicate that the privative *alpha* was rendered into Arabic by *lā,* the same term used to translate *ou* in Aristotle's discussion of indefinite nouns and verbs in the *Peri hermeneias.* See Averroes, *Tafsīr mā baʿd al-ṭabīʿah* (Great Commentary on the *Metaphysics*), ed. M. Bouyges, 2d ed., 4 vols. (Beirut: Dar el-Machreq [Imprimerie Catholique] 1967, 1973), 2:647.5-6; and see the Arabic version of the *Peri hermeneias,* ed. Pollak (cited in n. 73 above), 3.30 and 4.12. Averroes himself, it should be noted, also glosses Aristotle's remarks in the *Metaphysics* as referring to "metathetic nouns" (*al-asmāʾ al-maʿdūlah*) (*Great Commentary,* 2:647.6-7).

[89] *Al-Ishārāt wa-al-tanbīhāt,* ed. J. Forget, as *Le livre des théorèmes et des avertissements* (Leiden: Brill 1892), 27.9-11; 28.10-29.2; English translation, *Remarks and Admonitions, Part One: Logic,* trans. S. C. Inati (Toronto: Pontifical Institute of Mediaeval Studies 1984), 83, 85-86.

Like Fārābī (see n. 86 above), Avicenna allows for a "more general" use of indefinite terms, in which their meaning is taken to be broader than that of a privation. He is also insistent that, whether indefinite terms are taken in a broader or a narrower sense, their predication implies an existent subject. Avicenna admits in his *Interpretation,* 1.4, 27.9-28.6, that Aristotle's remarks on the indefinite verb could be taken to imply that they can be said of non-existent subjects, but he adds that Aristotle is wrong if this is what he meant. In the *Najāh* (Deliverance), ed. M. Fakhry (Beirut: Dar al-Afaq al-Jadidah 1985), 54.19-26, Avicenna similarly allows the use of indefinite terms in broader and narrower senses, but prohibits their application to fictional entities like the phoenix. Thus, while it is proper to say, "The phoenix is not sighted" (simple negation, "Not [S is P]"), it is not proper to say, "The phoenix is non-sighted" ('s is not-P"). In the *Remarks and Admonitions,* this same rule is applied to all affirmative statements. Only negative statements can be made about non-existent beings (28.16-29.1; Inati trans., 86). On this cf. Fārābī, *Short Treatise,* 155.2-4; Zimmermann trans., 240.

[90] In the *Interpretation,* Avicenna presents indefinite nouns as compounds with the particle *lā,* reflecting the Arabic versions of the *Peri hermeneias.* In other works, he often reverts to the more natural Arabic construction with *ghayr* (literally, "other than"). On the

artificiality of the *lā* compounds with reference to Fārābī, cf. Zimmermann, Introduction to *Farabi's Comentary and Short Treatise,* cxxxiii-iv.

[91] *Interpretation,* 1.2, 12.13.

[92] Ibid., 1.5, 32.18-33.3.

[93] For a discussion of this distinction in Arabic logic, see my *Logic and Aristotle's "Rhetoric" and "Poetics,"* 71-78.

[94] The term "judgement" (*ḥukm*) is used in a very broad sense in the Arabic commentary tradition on the *Peri hermeneias*, where it is roughly equivalent to "meaning" or "idea." Its use does not imply composition, assent, or truth-value.

[95] *Interpretation,* 1.2, 12.16-13.7.

[96] *Remarks and Admonitions,* 28.13-29.2; Inati trans., 85-86.

[97] The long discussion in Fārābī's *Short Treatise* of opposition in the metathetic proposition (*al-maʿdūl,* i.e. one containing an indefinite predicate) displays a similar concern with the applicability of the theory to syllogistic. Thus, Fārābī closes his discussion with a consideration of the logical equivalence of negations said of existent subjects and the corresponding metathetic affirmations, in which he focuses upon the problem of including negative predications as the minor premise of a first figure syllogism (154.16-155.4; Zimmermann trans., 239-40). Fārābī concludes by declaring that the extension of indefinite nouns to this wider meaning (i.e. as simply requiring an existent subject) is "of enormous benefit to the sciences" (155.4-5; Zimmermann trans., 240).

For discussions of the use of *al-maʿdūl* as a technical term for statements containing indefinite terms, see Zimmermann's Introduction to *Farabi's Commentary and Short Treatise,* lxiii n. 1; and Wolfson, "Twice-Revealed," 394; "Infinite and Privative Judgments," 545. Zimmermann and Wolson argue convincingly that the use of *maʿdūl* and *ʿudūl* represents a translation of Theophrastus's Greek term *metathesis,* and thus reflects the secondary meaning of *ʿadala* "to deviate," not its meaning "to be equal," as Inati suggests (*Remarks and Admonitions,* 85 n. 28).

[98] *Peri hermeneias,* chap. 2, 16ᵃ32-ᵇ5.

[99] *Interpretation,* 1.2, 13.8-12.

[100] On grammar and vocalization, cf. n. 52 above.

[101] *Interpretation,* 1.2, 13.16-14.14.

[102] Ibid., 1.2, 14.14-16. As with the indefinite noun, it is again unclear whether Avicenna's remarks are fully compatible with the attitude expressed by Yaḥyā ibn 1AdM (above at nn. 56-60), in which all grammatical operations are said to be irrelevant to meaning. Since Avicenna accepts the confinement of grammar to what is idiomatic to a particular language, he would appear to accept the general outlines of Yaḥyā's argument. But he does seem to be more flexible than Yaḥyā in allowing that grammatical operations do affect meaning in some way, by contracting or restricting its extension. Thus, it is difficult to see how, given the passage under consideration, Avicenna could accept Yaḥyā's claim that the cases of the noun in no way affect its meaning. However, Avicenna's analogy with the addition of an accidental property to a definition may offer a means of reconciling his view with that of his predecessor. For Yaḥyā's basic point is that grammatical operations do not affect the word's signification of one *essence* rather than another, a point which seems akin to Avicenna's claim that the word is altered by its cases only in the way that "human being" is altered by the addition to it of the accident "white." The modification in both cases is an accidental, not an essential, one.

[103] *Short Treatise,* 136.10-11, my translation (cf. Zimmermann trans., 222).

[104] Ibid., 136.11-15. The translations of the technical terms coined by Fārābī are my own here; compare Zimmermann's translation, 222-23. For further remarks on Fārābī's deliberate conflation of all the oblique cases with the genitive, cf. Zimmermann, 222-23 n. 13, 224 nn. 1, 7.

[105] *Short Treatise,* 137.3-7; Zimmermann trans., 223-24.

[106] *Catalogue of the Sciences,* 77.12-15; Palencia, 135.28-136.4.

[107] *Kitāb al-tanbīh ʿalā sabīl al-saʿādah* (Reminder of the Way to Happiness), ed. J. A. Yasin (Beirut: Dar al-Manahel 1987), §19, 83.7-84.4; medieval Latin translation, "Le «Liber exercitationis ad viam felicitatis» d"Alfarabi," ed. H. Salman, *Récherches de théologie ancienne et médiévale* 12 (1940) 33-48 (the translated passage is found at §40, 47.45-48.7).

[108] *Catalogue of the Sciences,* 76.8-77.4; Palencia, 135.1-17.

[109] *Utterances Employed in Logic,* §2, 42.8-12.

[110] See *Isagoge,* 1.3, 20.14-15: "And the relation of this art to the internal reflection which is called "inner speech" (*al-nuṭq al-dākhilī*) is like the relation of grammar to the external interpretation which is called "external speech" (*al-nuṭq al-khārijī*)."

[111] *De anima* 3.7.431^{a}16-17; 431^{b}2; 3.8.432^{a}3-10. Cf. *De memoria* 1.449^{b}3-450^{a}1.

[112] For Avicenna's repudiation of the dependence of thought upon images even as an efficient cause of thought, cf. n. 68 above.