Greek Logic Arabicized
and the Copula Transformed

The *DI* is the only text of the *Organon* for which we have Fārābī's commentary in its entirety—and additionally his *Mukhtaṣar* (Epitome).[1] Fārābī's overall approach to the text has rightly been described as novel: he thinks that the *DI* is first and foremost concerned with the *formal composition* of utterances insofar as they signify meanings, that is, especially with the predicative relation signified by the copula.[2] The interpretation of the linguistic section evinces the influence of a number of ideas that Fārābī had formed, at least partly, elsewhere. Some of them have been introduced in the preceding chapter: the tripartite classification of linguistic items, his idea of paronymy as rooted in the development of language, his mistrust in linguistic surface structure, his notion of second-order concepts, the idea of logic as a universal grammar of thought, and his stance on which words co-signify tense.

Fārābī thinks there are three types of linguistic signs: nouns, verbs, and particles. Equating Aristotle's notion of paronymy from *Cat* 1 with the theory of morphological derivation (*ishtiqāq*) of the Arabic grammarians, Fārābī roots his fundamental distinction between utterances that signify attributes and utterances that signify substances in his theory of the development of language. No verb can signify a substance, nor can it function as an essential predicate, and it always co-signifies time.

Hence, Fārābī thinks, he needs to institute a new technical term with which to express that a predicate is said to hold of a subject absolutely and regardless of time. For these are the kinds of statements needed to express the timeless truths of philosophy. The word he uses as a timeless copula is the derived name "*mawjūd*," signifying in one of its senses the secondary intelligible of a predicative relation. That "*mawjūd*" is a derived name is a prime example of linguistic usage that is

misleading with regard to logical form. In a logically perfect language, the predicative relation should be expressed by a particle—which is why Fārābī spends much of the *KḤ* disambiguating the different senses of "*mawjūd*."

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FĀRĀBĪ AND ISḤĀQ B. ḤUNAYN'S TRANSLATION
OF THE *DE INTERPRETATIONE*

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As much as Fārābī's immediate historical context sketched in the preceding chapter may have led him to make a theory of translation integral to his philosophical project, he lacked the expertise in both Greek and Syriac to prepare his own translations. In any case, with enough professional translators around, there was no need. While Fārābī in some cases undoubtedly played a role in establishing the Arabic text and especially its technical terminology, his own initial access to the *DI* was dependent on what he understood from the Arabic translation in which he first read it.[3] Hence we must afford a brief look at some of the particularities of the Arabic translation that may have influenced Fārābī's novel way to conceptualize the copula.

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The Arabic Translation: Sources and Methods

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The translation, apparently the first to be made into Arabic, was prepared by Isḥāq b. Ḥunayn (d. 289/911), probably from an intermediary Syriac version made by his father, Ḥunayn b. Isḥāq (d. 260/873).[4] The text was edited (with an extensive glossary) from the MS Paris: Bibliothèque nationale, Arabe 2346 (*P*) by Pollak in 1913.[5] The manuscript represents a type of Baghdād school-canon of the Arabic *Organon*. Sometimes it contains several translations of the same text and running annotations in the margins, many of which were already accessible to Fārābī. Thus, *P* bears witness that the creation of a unified Arabic text for Aristotle's logical writings, with a coherent technical terminology that was both accurate and understandable, was an ongoing and collaborative effort of both translators and philosophers.[6]

   The fact that the Arabic text itself appears to be full of "barbarisms" need not indicate an inferior quality of the translation. Rather, at least in the case of the *DI*, this fact reflects a theory of translation underpinning a highly professionalized praxis that carefully negotiated between intelligibility and faithfulness to the original text.[7] We know of Ḥunayn b. Isḥāq—who reportedly had learned Greek in Alexandria and was able to recite Homer[8]—that he applied rigorous philological methods, including the collation of several manuscripts in different languages, in order to establish a given text before translating it. He employed the *sententia pro sententia* method of translation (instead of *verbum pro verbo*), which he is said to have perfected.[9] It stands to reason that Fārābī's theory of translation was influenced by the hands-on experience of translators.

Ḥunayn's son Isḥāq, who (in contrast to Abū Bishr, for example) had a reputation for being even more accomplished in the Arabic language (*faṣīḥ*) than his father, would apply the same critical methods. It is not unlikely that he—as did Ibn Suwār, for example—compared Greek manuscripts with the Syriac text in the process of translating the *DI*.[10] As opposed to his father, who had specialized in the Galenic corpus, Isḥāq's focus was on Greek philosophical works. Hence, he must have been even more versed in the different terminological choices other scholars had made in translating Aristotelian logical works into Arabic.

By Isḥāq's time, several key terms seem to have had one, or sometimes several, counterparts in Arabic that were already established as technical terms. The problematic title of the *DI*, for example, was either transliterated or unanimously translated as *al-ʿIbāra* (perhaps literally from the Greek [diction, interpretation]; but it regularly also means expression).[11]

The Translation of DI *2–4: Terminology and the Term* "Kalima"

Concerning the translation of *DI* 2–4, the terms for name, statement-word, and declarative phrase are rendered as "*ism*," "*kalima*," and "*qawl jāzim*," respectively. "*Ism*" and "*qawl jāzim*" are straightforward translations by means of the technical vocabulary of Arabic grammar. However, "*kalima*" is precisely not the technical term of Arabic grammar for "verb" (*fiʿl*), but a more general term, perhaps modeled on the Greek *rhēma*, signifying "word." Translators may have followed the same inclination as I have in instituting a new technical term ("statement-word") to designate the type of word Aristotle defines (whether or not that may include words that are not grammatical verbs).

The school notes in the margins of *P* show that translators and philosophers were indeed troubled by this: "Among the Greeks, 'verb' (*kalima*) corresponds to what is called 'verb' (*fiʿl*) by Arabic grammarians. A *kalima* signifies acting, like 'beat,' or being acted upon, like 'was beaten,' or mere existence, like 'was' (*kāna*) or 'will be' (*yakūn*)."[12] This does not, however, square with Aristotle's use of examples.[13] Another school note reads: "Aristotle can call *yūjad*, which is a verb (*fiʿl*), a name (*ism*) because the Greek grammarians call, in a general way, every word a name."[14]

There was confusion about the relation between Arabic grammatical terminology and the terminology of the *DI*. The particular choice of translating "*rhēma*" by "*kalima*" provided a steppingstone for Fārābī's new understanding of the copula. For it allowed him to construe Aristotle's "*kalima*" as an ambiguous term that, in its strict sense, only designated any sign signifying the copulative force.

The Translation of "Einai" in the DI

Apart from the particularities of Isḥāq's translation of *DI* 2–4, it is in the ways that the Greek word "*einai*" itself is translated in the passages discussed in chapter 1 that we find some hints to better understand Fārābī's new conception of the copula and his interpretation of what he thought Aristotle must have understood by "*kalima*." Throughout the *DI* the word "*einai*" is—when it is not omitted—usually

translated by locutions involving either the root KWN (to be) or a passive form of the root WJD (to find).[15] Both strategies were of course applied in other translations of Aristotle (especially of the *Cat*) and were already established by Isḥāq's time.

The problem in translating "*einai*" into Arabic (or Syriac) does not lie in the task of translating Greek sentences in which a conjugated form of the word is used. For inflected forms of the roots KWN and WJD, like "*kāna*" (was) and "*yakūnu*" (is/will be) or "*yūjadu*" (is-found-as) and "*mawjūd*" (passive participle: [is-]found-as), even though they are semantically superfluous and grammatically improper in present-tense statements, are perfectly understandable in Arabic and convey pretty much the same sense as the Greek when used in a *verbum pro verbo* translation. And, of course, on the *sententia pro sententia* method, the sense of a Greek present-tense sentence containing "*einai*" can be rendered perfectly accurately in impeccable Arabic without mentioning a copula. (Another way to translate such sentences into Arabic is to use the partitive pronoun "*huwa*" [he] between subject and predicate term. This was done and is mentioned by Fārābī, but it does not appear in Isḥāq's translation of the *DI*.[16] It was more frequently used after Fārābī and became the standard example for the Arabic copula in the later tradition.)

Rather, the problem arises in one of two cases: (a) when it appears that the use of "*einai*" in a present-tense declarative statement matters for the logical analysis of a sentence, or (b) when in the Greek text the word "*einai*" is mentioned rather than used. Both (a) and (b) arise in the notorious *tertium adiacens* passage:

TEXT 19 (ḤUNAYN *DI* 10): *DI* 19B19–22 = ARISṬŪṬĀLĪS, *KITĀB AL-ʿIBĀRĀ* (POLLAK), 18.11–15

But when "is" is additionally predicated as a third item, there are already two [pairs] of contradictory statements. I mean, for example, [statements of the form] "[A] man is just." I take "is" as a third item to be compounded with a naming-word, or [rather?] a statement-word, in an affirmation.

As for when the statement-word signifying hyparxis is a third [component], predicated [in addition] to what is predicated, then contradiction is said in this case of two contradictories.[17] An example of this is "A man is-found-as just." "Is-found-as" is a third thing connected to [the statement-word "just"] in this affirmation, being either a name, or a statement-word [or, reading *bimā* instead of *bihā*, as in Fārābī's lemma: "is-found-as" is a third thing connected to what is affirmed].

To deal with (b), Isḥāq here uses the circumlocution "the statement-word signifying hyparxis" (*al-kalimatu l-dāllatu ʿalā l-wujūdi*) to render the Greek mention of "*esti*" (marked by the definite article *to*). The locution "*al-kalimatu l-dāllatu ʿalā l-wujūdi*" as a description of "*esti*" is a reflection of how far the interpretive history of the *DI* had come: "*al-kalima*" is a technical term, distinct from the

term for "verb" used by Arabic grammarians; the notion of copulae as hyparctic statement-words—nowhere explicit in Aristotle—had found its way, likely via Stephanus's *hyparktikon rhēma*, to the Arabic translators.

With "*to esti*" so understood, the point of this passage is precisely (a), i.e., that the role played by "*esti*" in a categorical statement does matter for its logical analysis. Given the main point made in the passage, namely that in statements of the form "[A] man is just" there are two possible contradictory statement pairs (and not one, as with, e.g., "[A] man runs") precisely because "is" can be negated, it was impossible to omit the copula in the Arabic translation of the examples. The Arabic word to translate "*esti*" as used in the example is "*yūjad*," strangely placed at the beginning of the sentence. For the mention of "*esti*" immediately following its use, the translator choses "*yūjad*" again. But he marks it out by "*qawlunā*" (our saying), a way to express in Arabic what we commonly express by quotation marks.

As for the question that the Greek text had raised, i.e., relative to what "*esti*" was to be considered a third item, Isḥāq's Arabic was perhaps aiming at preserving the ambiguity (*bihā*), but Fārābī "corrected" the text so that its sense could now be taken to be that the hyparctic statement-word was a third item in an affirmative proposition and could be either a name or a statement-word. Nonsensical as this may at first sound, I think this is what Fārābī understood from the Arabic here, and he bent the definition of "*kalima*" to accommodate his understanding of this passage.

Another passage shows the same strategy for rendering a mention of "*esti*," and helps to see how one could think that what "*kalima*" really means for Aristotle is the copulative force:

TEXT 20 (ḤUNAYN *DI* 10): *DI* 20A3–5 = ARISṬŪṬĀLĪS, *KITĀB AL-ʿIBĀRĀ* (POLLAK), 19.10–13

But concerning those [statement-words] with which "is" does not fit together, like with "recover" or "walk," since they take the same place that "is" would take [in the sentence], they play the same role [as it].	And that for which it is not correct that there be a hyparctic statement-word in it, as is the case with "recovers" or "walks," this type of statement-word plays the role—since the position of that verb is the same—which the particle "*yūjad*" or its likes play, if it is connected to them.

Further, in the translation of the second occurrence of the mention of "*esti*" in this passage, "*yūjad*" is called a particle—even though clearly, in grammatical terminology, it is a verb (*fiʿl*). Fārābī, I am going to suggest, ultimately conceived of the copula as a particle, and he might have been pushed to this position by such translations.

But that position was difficult to reconcile with other passages in the *DI*:

TEXT 21 (ḤUNAYN *DI* 10): *DI* 19B12–14 = ARISṬŪṬĀLĪS, *KITĀB AL-ʿIBĀRĀ* (POLLAK), 18.4–6

Without a statement-word there is no affirmation or negation; for "is" or "will be" or "was," or "becomes" or other such more, are, according to what was laid down, statement-words; for they co-signify time.	There is no affirmation and no negation in the absence of a statement-word. For "was" or "is" or "will be," or "becomes" and others like this, they are—from what has been laid down—statement-words. That is because they signify, along with what they signify [to begin with], a time.

In both Greek and Arabic, it would appear that copulative words are statement-words, or in fact real *verbs*, because they co-signify time. A way to circumnavigate this problem was to interpret "*kalima*" as only signifying the copulative force.

It is noteworthy that in the passage in which Aristotle stated that "*esti*" need not have existential import in *tertium adiacens* propositions, Isḥāq uses not "*yūjad*," but "*mawjūd*" for "*esti*":[18]

TEXT 22 (ḤUNAYN *DI* 11): *DI* 21A25–28 = ARISṬŪṬĀLĪS, *KITĀB AL-ʿIBĀRĀ* (POLLAK), 23.21–25

Homer, for example, *is something*, let us say a poet. Does it then follow that he *is* (i.e., exists), or not? [Of course not.] For "is" is predicated accidentally of Homer—since he *is a poet*; but "is" is [here] not *per se* predicated of Homer.	An example of this is "Homer is-found-as something" (*mawjūd*), like when you say "a poet." Is he then existent or not? [In this case,] we predicated "is-found-as" of Homer only accidentally, meaning that we only said that he is-found-as-a-poet, and "is-found" is not predicated of Homer himself [essentially].

We shall see that it was Fārābī's contention that "*mawjūd*" was to be used in logic to signify the copulative force, without existential import and regardless of time.

FĀRĀBĪ'S COMMENTARY: THE AMPLIFYING VARIANT, PARONYMY (*ishtiqāq*), AND TENSE

Another textual particularity, not so much due to translation, but more due to the textual transmission, was crucial in shaping Fārābī's reading of the *DI*. In his commentary, Fārābī explains the ascriptive force of the statement-word in terms of the semantic properties of derived nouns. The latter notion was more familiar from Arabic grammar and more fundamental, given Fārābī's theory of language, than

that of the copula. It ultimately is the notion of derivation (*ishtiqāq*) that provided the basis for Fārābī's logical syntax:

TEXT 23 (FARAB. *DI* 3): AL-FĀRĀBĪ, *SHARḤ AL-ʿIBĀRĀ* (KUTSCH & MARROW), 33.13–26 (Z 22)

It [i.e., the statement-word] is always a sign of being said of something else:[19] We must take it to mean that statement-words are like derived expressions. For like a derived noun, a statement-word signifies an indeterminate subject. It also signifies its connection with the subject of which it is predicated, without requiring a hyparctic verb as a copula. Furthermore, it signifies something whose proper function is never to be a subject by itself but always a predicate.

    Always a statement-word is a sign of being said of something else, such as what is said of a subject or what is in a subject: we must understand that a statement-word *qua* predicate is always a sign of being predicated of something else, that is, a sign of the predicate's connection with the subject. For a predicate is inevitably either a statement-word or a name. If it is a statement-word, it combines two things: the notion predicated and the predicate's connection with the subject. If it is a name—and a name does not become a predicate of a name unless it is connected by a hyparctic verb—then it is either the predicate which defines a subject's essence, or the kind that is in a subject. In either case, it is the statement-word that signifies that the predicate *qua* predicate is connected with the subject. It signifies a predicate as such, no matter whether it is predicated of a subject or in a subject.

The Amplifying Variant

The translation Fārābī is reading includes the amplifying variant that was already present in Ammonius, as we saw, and transmitted by Ibn al-Muqaffaʿ. It glosses the definition of the statement-word as always being a sign of what is said of something else with "*such as what is said of a subject or what is said in a subject.*"[20] Like Ibn al-Muqaffaʿ and earlier Ammonius and Stephanus, Fārābī understood this amplifying variant with reference to *Cat* 1–2 and 5.[21]

According to Fārābī's claims in this passage, a statement-word is always a predicate by dint of its semantic structure (and, conversely, no subject can be a statement-word). This claim applies to finite verbs only, and as such would be trivial, were it not for some peculiarities of the Greek and Arabic languages. Following Ammonius and the amplifying variant, Stephanus had explained the lemma in question: "And that [verbs] are always said of something else, either of a subject, when they are predicated synonymously, as in 'walking is moving,' or 'philosophizing is eudaimonizing,' or as being in a subject, as in 'Socrates recovers.'"[22] For Stephanus it was possible for verbs to predicate synonymously, and thus essentially. And it was not a problem for verbs to take the subject position in a sentence, as his examples show. In Greek, infinitives are tensed just like finite verbs, and thus do not violate the definition of a verb.

Arabic, however, does not have tensed infinitives. The only grammatical form comparable to a Greek infinitive is the *maṣdar* (verbal noun). We have seen the

discussions between the Kūfan and Baṣrian grammarians concerning the temporality of the *maṣdar* and participial forms. Ibn al-Muqaffaʿ, in line with the grammarians of Kūfa, had grouped the participial forms under *ḥarf* and taken them to signify an extended time (*fiʿl al-ḥāl/fiʿl dāʾim* in the grammarians' terminology).[23] For Fārābī, they do not co-signify time and hence are not verbs. Reading the amplifying variant in Isḥāq's text, Fārābī had no doubt that this was a reference to *Cat* 1–5, where Aristotle explains the notion of paronymous predication. But what does paronymous predication have to do with verbs?

*Paronymy and Morphological Derivation (*ishtiqāq*):*
Signifying Substance vs. Attributes

In the beginning of the *Cat* Aristotle had distinguished between homonymous, synonymous and paronymous names: a homonym is a name applied to multiple referents under different definitions in each case ("animal" to a real man and a man in a painting); a synonym is a name applied to multiple referents with the same definition in each case ("animal" to a man and an ox); and a paronym is a name derived from the name of a quality by inflection ("courageous," as derived from "courage"). Next, he had distinguished between something being said *of* a subject and something being *in* a subject.

As it was commonly understood in the Greek tradition, Aristotle in *Cat* 2 had proposed a fourfold division of beings into (1) universal substances (being said of a subject, but not inhering in a subject = "secondary substance"), (2) particular substances (neither said of nor inhering in a subject = "primary substance"), (3) universal accidents (both said of a subject and inhering in a subject), and (4) particular accidents (inhering in a subject, but not said of a subject). (1) and (3) are essentially predicated, whereas (4) is accidentally predicated.[24] Concerning this distinction, as we have seen, the commentary tradition Fārābī had at his disposal had distinguished two main senses of "is" in predication. Universals are said *of* their particulars "homonymously," whereas accidents are said to be *in* their substances "paronymously."

The first fundamental distinction is thus that between word-classes that signify substances and those that signify attributes. Equating Aristotle's notion of paronymy with the notion of morphological derivation of the Arabic grammarians, Fārābī came to think that verbs are always predicates. Following Ammonius, he takes them to be always analyzable into [cop+NW] (e.g., "is Φing"), except that for Fārābī, a NW is then a derived name (*ism mushtaqq*: IM for short). But any IM, being a word derived from a basic trilateral root in Arabic in order to signify not a substance as the original word, but a property of a substance, implies that there is some substance in which that property inheres. It is this fact that explains why any statement-word co-signifies an indeterminate subject in which the notion it primarily signifies inheres (just as any IM does). Thus, the first fundamental distinction Fārābī makes is that between prototypal expressions signifying a substance, and derivative expressions signifying accidents, where verbs are derivative.

On this basis, Fārābī thinks that the semantic structure of a verb itself is four-fold. By virtue of its form (analyzable as [cop+IM]) it signifies

1.   an indeterminate subject (as any IM does),
2.   the notion it signifies,
3.   a circumscribed time,
4.   that the notion it signifies is in a subject at the circumscribed time.

This last signification is the copulative function. Hence, verbs can only paronymously be predicated of a subject, and only in relation to a circumscribed time. Thus, verbs only predicate accidentally, not essentially, an attribute of a subject. However, for Fārābī, it is still always a verb that signifies that the predicate is connected to the subject. If the predicate is a regular verb, it co-signifies that *qua* predicate it is connected to the subject. If it is a name, then a hyparctic verb (*kalima wujūdiyya*) is needed to signify that the predicate is connected to the subject.[25]

Fārābī here claims against Ammonius and Stephanus that a verb—defined as co-signifying time, an indeterminate subject, and the copulative function—can only occur in the predicate-place, and hence no subject-place can be filled by a verb. Against Ibn al-Muqaffaʿ, he claims that participial forms do *not* co-signify time, as every verb can be analyzed into [cop+IM], where IM stands for a derived name, and tense is co-signified by the copula. He follows Ammonius's argument about the analysis of verbs into [cop+NW].[26]

In general, if the predicate is a name, it either is a prototypal noun and synonymously predicates an essential attribute of the subject; or it is a derived noun and paronymously predicates an accidental attribute in a subject. Fārābī merges the notion of *ishtiqāq* from Arabic grammar with Aristotle's notion of paronymy. As a result, verbs can only be paronymously predicated.

Traps of Linguistic Form: An Exemplary Semantic Analysis of a Misleading Derived Name

On that account, although Arabic is far more systematic than other languages in this regard, there may be traps of linguistic form. Derived names may be used for non-derived meanings, and it is not always clear how to take a given noun. An exemplary case of tracking down the misleading structure of natural language is the semantic analysis of the derived name "*ḥayy*" (alive) that Fārābī carries out next:[27]

TEXT 24 (FARAB. *DI* 3): AL-FĀRĀBĪ, *SHARḤ AL-ʿIBĀRĀ* (KUTSCH & MARROW), 34.23–35.5 (Z 22)

Names of secondary substances are clearly not to be verbalized at all since they are not used derivatively or signify any subject whatever.

Someone might ask about *ḥayy* [alive], a name used to signify the same as *ḥayawān* [animal], namely, a secondary substance, despite being a derived noun. Moreover, *yaḥyā* [lives] is a verb. How has "animal" come to be the substance of something named by a derived noun? And how has it come to be signified by a verb?

If this is so, then here is a substance that has a subject since a derived noun signifies a subject. Similarly, if *yaḥyā* is a verb, it too signifies a subject: it always signifies being predicated of something else.

The answer is that *ḥayy* is [indeed] of derivative shape, and that this derivative shape can be shared by notions with a derived name and such with an underived name. For one of the stipulations as to what a notion with a derived name is is that it should signify a subject.

In such cases, there is ambiguity, and we have to ask what we mean when we use a word like "*ḥayy*." Sometimes, Fārābī continues, we mean by "*ḥayy*" that something has breath (*dhū nafas*), in which case the derivative noun "*ḥayy*" is used in its derivative meaning to predicate a differentia, signifying a subject that has breath.[28] There seems to be no problem here, but:

TEXT 25 (FARAB. *DI* 3): AL-FĀRĀBĪ, *SHARḤ AL-ʿIBĀRĀ* (KUTSCH & MARROW), 35.17–21 (Z 24)

Sometimes, when we say something is *ḥayy*, we mean to say that it is a union of a body and a sensitive soul, that is, of matter and form. In this case, it signifies, not a differentia or an accident in an animal, but the same as "animal." When so used, "*ḥayy*" is the name of a secondary substance, does not signify a subject, is not derived albeit of derivative shape, and is not to be verbalized.[29]

The logician can thus make conspicuous the logical structure of a statement by analyzing the semantics of a derived name.

The Problem with Signifying Untensed Statements in Arabic

The second fundamental distinction is that between word formations that by their very grammatical form co-signify time or not. What can go into the predicate-place always contains a verb, either a proper verb or a hyparctic one, and if time is co-signified, predication will be accidental. Fārābī's account so far makes it impossible to make well-formed untensed statements in Arabic.

But he needs such statements to account for synonymous and essential predication. He alludes to the discussions of Arabic grammarians concerning the question whether the present time can be signified at all.[30] Discussing whether uninflected verbs (present tense verbs for Aristotle, *maṣādir* for Fārābī) signify time, he writes:

TEXT 26 (FARAB. *DI* 3): AL-FĀRĀBĪ, *SHARḤ AL-ʿIBĀRĀ* (KUTSCH & MARROW), 41.19–28 (Z 32)

Others believe that derived nouns are uninflected verbs, and that it is derived nouns that signify that something is taking place in the present time. But this is not the case, because formation and shape of a derived noun do not signify any time whatever, except perhaps in an accidental way in which some nouns that are prototypes signify time.

This is the proof: if derived nouns were verbs by essence and formation, they would also have the signification of hyparctic verbs. There would be no need for them to be connected, when predicated, by a hyparctic verb being expressly articulated or

tacitly understood. But we find that they are not connected with a subject unless a hyparctic verb is manifestly expressed or tacitly supplied in the soul. Examples are "Zayd is just" and "Zayd is walking." If we articulated the hyparctic verb in addition to the predicate, it would be nonsensical and redundant, as in "Zayd is walks," "Zayd will be walks," "Zayd was walks," or " . . . is will walk."

On Fārābī's account, the analysis of APs can always be formalized as

[name [(hyparctic verb) (prototype/derived name)]]

and there is always a tense co-signified. Whenever a tense is co-signified, the predication might express that something is said of something else synonymously, but not essentially, for it is only said to be holding for the time signified. Fārābī's idiosyncratic interpretation of Aristotle's claim that every well-formed statement needs a verb provides the conceptual framework to account for essential predication. The timeless truths sought in the sciences can be expressed by redefining the copula as a syntactical marker.

THE COPULA AND SCIENTIFIC PROPOSITIONS

Fārābī thinks that in Arabic an expression for the timeless copula is crucially missing. He uses the technical term "*mawjūd*" to make up for this deficiency, because the copula "is necessary in the theoretical sciences and in the art of logic."[31]

The Copula and Its Signification

Fārābī presumably gets the cue for his theory of the copula from the notorious passage in *DI* 3 (16b22–25).[32] He begins by relating how "the commentators" interpreted the passage. We can identify "the commentators" here with the Iamblichean-Ammonian tradition, and almost certainly with Ammonius himself, for Fārābī rehearses Ammonius's argument.[33] Fārābī voices his discontent with this reading but admits that in his opinion the question whether or not any verb in isolation, hyparctic or not, signifies affirmation or negation is a very obscure matter (*fa-amruhā aghmaḍ*; 44.12f., Z 35). Especially so when it is used as a copula.

He suggests to read this passage not as an *a fortiori* argument in the way Ammonius had done, but as an explanation of the force of the hyparctic verb as such (44.14–15, Z 35). Fārābī admits that hyparctic verbs can be used existentially— but then signify in the way all other verbs do. In the copulative use of hyparctic verbs, however, there is no referent or meaning that is signified by the hyparctic verb. All that is signified is the composition, i.e., that subject and predicate are so combined. This is why Fārābī can take the following clause that had so troubled commentators in an idiosyncratic way. He comments on the lemma "for in itself it [i.e., "being": *un/to on*] is nothing," reverting to the Aphrodisian-Porphyrean position that the copula is a mere *Formwort*:

The words *un* [i.e., *to on*], *mawjūd* [found], *yūjad* [is-found], and *wujida* [was-found] by themselves do not signify a thing, but they signify a composition. Composition is a relation; and this composition, being a relation, cannot be understood without the components, namely, the predicate noun and the subject noun, in accordance with the fact that a relation cannot be understood unless the things related are taken into account.

After having given an answer to the question of what the components of a statement are, i.e., noun and verb, Fārābī here spells out how the components of a statement are put together, and what it is that connects them: it is a relation (*iḍāfa*) that is expressed by the copula. Relations are, as we shall see in the next section, primarily expressed by particles. The discussion of relations occupies an important part in the *KḤ*.[34] There Fārābī says that "*mawjūd*"

serves to connect the predicate with the subject in affirmative statements [. . .] as an expression in which is implied a subject of a predicate or a predicate of a subject—in a word: two things so combined. [. . .]

    In the force of this expression are two quiddities thus related. [. . .] It comprises not the two things themselves, but a subject of a predicate or a predicate of a subject. Thus, it makes no difference whether we state from the subject to the predicate or from the predicate to the subject by saying "A is B" or "B holds of A."[35]

The copula "*mawjūd*" expresses a relation between subject and predicate. It does not signify anything besides this relation. For Fārābī it is a syntactical marker of a predicative function with two argument places (__*mawjūdun*__). But what can go into each argument place is not arbitrary, for if we switch the arguments, we have to account for that switch by also converting "is" (*alifun mawjūdun bāʾan*) into "holds of" (*bāʾun mawjūdun li-alifin*), so that we should rather write (. . . *mawjūdun*__). That Fārābī conceived of the relation between subject and predicate term as inherently asymmetrical is shown by the definition of relation (*iḍāfa*) in a passage from the *KḤ*.[36] Presenting the copula as a syntactical marker in these terms is novel in the tradition.

The Copula as Signifying a Secondary Intelligible

Following the comment on the lemma quoted earlier, Fārābī anticipates a number of objections someone could raise against the idea that the copula "*mawjūd*" signifies a relation. The first objection is this. If the copula (*yūjad, wujida, mawjūd*) signifies the relation of the predicate to the subject, then in the sentence "Zayd is existent" (*Zaydun yūjadu mawjūdan*) we would have to say that the predicate is related to the subject twice. Fārābī responds that here only "*yūjad*" is the

copula that behaves like a hyparctic verb, whereas "*mawjūd*" in this case is the predicate, i.e., a derived noun that does not signify the relation. It here only signifies "existent."[37]

The second objection is a version of the unity of the proposition problem. If there is a relation connecting subject and predicate that is expressed by the copula, how then is that relation connected to the subject? There would have to be a relation between the relation expressed by the copula and the subject, and between that relation and the subject, and so *ad infinitum*. Fārābī responds that that is true, but does no harm, because the notion of the copula expressing a relation is a secondary intelligible (*maʿqul thānī*) and the regress is not vicious.[38]

Having established that the copula signifies a relation and as such is a secondary intelligible, Fārābī tries to reconcile the Aristotelian text with his own grammatico-logical framework. Anticipating two further objections, he establishes how "*mawjūd*," even though grammatically a derived name, can function as a copula for tenseless scientific statements.[39]

"Mawjūd" as a Tenseless Copula for Scientific Statements

Aristotle says that "no statement is proper without a verb" (19b12). But according to what Fārābī has laid out so far, the sentence "*Zaydun mawjūdun ʿādilan*" is well formed, even though it contains no verb. His exegetical argument is based on observations in comparative grammar:

TEXT 29 (FARAB. *DI* 3): AL-FĀRĀBĪ, *SHARḤ AL-ʿIBĀRĀ* (KUTSCH & MARROW), 46.13–20 (Z 38)

We find the same situation in all languages. We find that there are hyparctic verbs that signify the present, future, and past times. We find that a noun which derives from the verbal noun (*maṣdar*) of the hyparctic verb and which, like other derived nouns, does not signify a time is employed, like the hyparctic verbs, as a copula in statements whose predicates are nouns. This noun is represented by the word *mawjūd* in Arabic, in Greek by *astin* and *ūn*, in Persian by *ast* and *hast*, and by corresponding expressions in other languages. These expressions are employed as copulae when a circumscribed time is not to be signified. They serve to signify that the predicate-noun is to be connected with the subject-noun without qualification, either without [considering] time, or in time absolutely [i.e. eternally].

Even though Fārābī is mistaken about the details of Greek grammar, his observations are illuminating as to his own logico-linguistic thinking. It seems likely that Fārābī's conviction that both *ast/hast* (is/there is) and *astin* (a transliteration of *estin*, which is also third-person singular, meaning "is," or sometimes existentially "there is") are nouns stems from an oral source who knew Syriac, but not Greek or Persian (perhaps Abū Bishr). In Syriac *īth* means "existence" and is grammatically a noun and hence does not have any reference to time.[40]

Since, according to Fārābī's conception, "in Arabic, from the very outset of its formation, there was no expression to take the place of *hast* in Persian or of *astin*

in Greek," the (Peripatetic) philosophers, once they started to do logic and philosophy in Arabic, saw the need to forge a new term and began using "*huwa*" (he) instead.[41] But "*huwa*" was presumably a less elegant solution, as it could not be inflected to serve as tensed and untensed copulae or as a 1-place predicate, so that later it was replaced by "*mawjūd*."[42] We have seen that the question whether participial forms co-signified time or not was a heated discussion among Arabic grammarians. That Fārābī had to maintain that participial forms precisely do not co-signify time may well have been determined by the need he saw for "*mawjūd*" to play the role of a timeless copula in the otherwise deficient Arabic language.

Having argued that essential predication is possible by way of the timeless copula "*mawjūd*"—if taken to play the same role as Farābī thought the copulae did in Persian, Greek, or Syriac—Fārābī still has to explain why a statement of the form

Zaydun mawjūdun ʿādilan (Zayd [is]-found-as just)

can be well formed, even though it does not contain a verb. He suggests, referring to *DI* 10 (19b19–26), that what Aristotle means by "statement-word" (*kalima*) is not always the same:

TEXT 30 (FARAB. *DI* 3): AL-FĀRĀBĪ, *SHARḤ AL-ʿIBĀRĀ* (KUTSCH & MARROW), 47.16–18 (Z 39)

In this case *kalima* would be a term usable in a wider or narrower sense. First of all, *kalima* [in the non-technical sense of "word"] means any significant expression. This meaning is familiar in the language of every nation. Secondly, *kalima* means an expression "which signifies hyparxis" and which is employed as a "third component" connecting the predicate to the subject. And the third meaning is the one he [Aristotle] defined after [defining] the noun.[43]

This reading would have appeared much less plausible from the Greek text, but since the ordinary use of *kalima* in Arabic is much broader than the way in which Aristotle used *rhēma*, it is easy to see how Fārābī was led to it.[44] As a result, Fārābī awards the copula a special place in his logical theory.

To reconcile this with the Aristotelian text, he attributes to Aristotle a view according to which what Aristotle most generally meant by the word *kalima* was no more than a sign signifying the relation between subject and predicate. In other words, what Aristotle really understood by *kalima* is whatever it is that carries the signification of the copulative force, without which no statement is complete. Fārābī says:

TEXT 31 (FARAB. *DI* 3): AL-FĀRĀBĪ, *SHARḤ AL-ʿIBĀRĀ* (KUTSCH & MARROW), 47.19–48.8 (Z 39–40)

Aristotle uses the term *kalima* in each context in the appropriate sense. In saying that a statement "is not without a *kalima*," he means: [it is not] without an expression to signify the notion of hyparxis connecting the predicate when it is either [a verb] like "walks" or [a derived noun] like "walking" (*māshin*) [*scil.*: where "walks" signifies

this notion by itself]. "Walking" is connected to the subject either by "is" (*yūjadu*) or by "exists-as" (*mawjūd*): by "is" (*yūjadu*) if we wish to signify that the predicate holds in a present or a future time; and by "exists-as" (*mawjūd*) if we wish to signify that it is connected with the subject timelessly. Hence if we say "Zayd is just" (*Zaydun yūjadu ʿādilan*) and "Zayd exists as just" (*Zaydun mawjūdun ʿādilan*), the copula (*al-rābiṭ*) is a *kalima* in both cases, albeit not in the sense defined above. Without our explanation, [the stipulation that every statement needs a verb] would be in conflict with Aristotle's own usage in the sciences, when he discusses necessary matters. For he employs the notion of hyparxis in statements without reference to time, as is appropriate in scientific discourse. Hyparctic verbs signifying circumscribed times are properly employed only in rhetorical and poetical statements. The same applies to statements about particulars (*shakhṣiyyāt*).

In defining the parts of speech, Aristotle confines himself to just these two, the noun and the verb. For at this stage, he needs only them, not the particles (*al-adawāt*). With the particles (*al-adawāt*) he deals in the *Poetics* and the *Rhetoric*.[45]

For philosophers, then, the only relevant copula is "*mawjūd*" and, according to Fārābī, it is a *kalima* in the general sense that it signifies the copulative force. It is curious that Fārābī refers to the *Poet* and *Rhet* for a more in-depth treatment of particles, for in those works Aristotle is not at all concerned with logic, but mainly with style. It is however clear from Fārābī's extant works that particles played an important role in his own logical thinking, and it is tempting to understand "*mawjūd*" as a particle. Given the above argument, it seems clear that for Fārābī the copula "*mawjūd*" is not a verb (*fiʿl*) in the grammatical sense, nor can it be a name, because it does not signify anything but a relation. How to understand that relation we learn in the *Book on Particles* (*KḤ*).

THE PHILOSOPHICAL SIGNIFICANCE OF PARTICLES

Fārābī found precedents for the comprehensive tripartite classification of the parts of speech into noun, verb, and particle both in the Aristotelian logical and Greek grammatical traditions on the one hand, and in the Arabic grammatical tradition on the other. As with other grammatical phenomena, like the notion of derivation, Fārābī must have thought that particles were a feature common to all languages and somehow gave us a clue about the underlying universal logical structure it was an expression of.[46] In his writings on the *DI*, Fārābī does not offer any detailed discussion of the particle.[47] But Fārābī thought that it was an important task to describe and classify them, not only to better understand their use in logic, but also for the metaphysical implications of their use.[48] He does that in *al-Alfāẓ al-mustaʿmala fī l-manṭiq* (Utterances Employed in Logic, henceforth *AM*) and the *KḤ*.

In the *AM*, as Eskenasy has pointed out, Fārābī takes his departure from the Greek grammatical tradition. He probably knew its Syriac intermediaries like Sergius of Reshʿaynā, who adhered to the Dionysian octopartite division of speech.[49] Fārābī considered this division superior to the Arabic one, for he used it to classify

and elucidate the use of particles in logic in the *AM*. In contrast to contemporary grammarians like al-Rummānī, who had organized his *Kitāb maʿānī al-ḥurūf* (Book on The Meanings of Particles) according to the number of letters of a particle and laid out their grammatical use in terms of governance etc., Fārābī in the *AM* divides, again comprehensively, all meaningful utterances into noun, verb, and particle, and their simple categorical combinations.[50]

Then, he (roughly) groups what in the Dionysian tradition had been the remaining five parts of speech under the different types of particles.[51] He distinguishes *khawālif* (pronouns: *antonomata*), *wāṣilāt* (joints/relatives: *arthra*), *wāsiṭāt* (media/ prepositions: *~protheseis*), *ḥawāshī* (glosses/adverbs: *epirrhēmata*), *rawābiṭ* (connectors/conjunctions: *sundesmoi*). Each of these types of particle qualifies the expressions—i.e., nouns, verbs, or combinations thereof—to which they are syntactically attached, in a logically significant way.[52] We may say that *khawālif* function like indexicals in that they are context-dependent, *wāṣilāt* like quantifiers, and *rawābiṭ* like logical connectors. The *wāsitāt* (*min, ʿan, ilā, ʿalā*/of, from, to, on, etc.) may be seen as logically important in that they signify relations (*nisab*).

By far the most differentiated group of particles is however that of the *ḥawāshī,* which can be characterized as including the logical constants very broadly construed. We find anything from the notion of assertion (*inna, naʿam*) or negation (*laysa, lā*) to the particles expressing the categories, or the interrogative particles with which we ask about things in the categories, plus the particle with which we ask about the existence of a thing (*hal*).

The purpose of the *AM* is descriptive. It aims at comprehensively laying out its subject-matter, the eponymous *Utterances Employed in Logic*, as a pedagogical introduction for the student of logic. For Fārābī this is an important task, since the way utterances are employed in logic often deviates from the way common people employ them. Explicating the latter is the task of grammar, explicating the former the task of logic.[53] Particles play an important role especially in logic and metaphysics, because we use them to signify meanings that neither nouns nor verbs can indicate, that is, syncategorematic or transcendental notions like the logical constants, or being, unity, cause, and God. Nothing of that is explained in the *AM*; the theory underpinning the descriptive effort in the *AM* is to be found in the *KḤ*.

The *KḤ* is, in contrast to *AM*, not primarily a logical work. Part of it deals with the *Cat* and parts of it are structured somewhat like *Metaphysics* Δ. Yet its general thrust is clearly metaphysical. Along the lines of Menn's reading,[54] I think the *KḤ* is a project similar to Aristotle's in *Metaphysics* Δ, where the latter explains the supposedly equivocal notions central to this science. But Fārābī faces a more formidable task since confusion is bound to arise to a much greater extent along the way of translating Aristotle from Greek to Syriac and to Arabic. Moreover, for Fārābī, the notions central to metaphysics are—or at least were initially—expressed not by nouns or verbs, but by particles. That he must have thought this is supported by the overall theory of the simple categoric statement so far laid out.

Verbs and derived names always co-signify an indeterminate subject, and non-derived nouns (*maṣādir*) are prototypes signifying a substance. None of them, by dint of their semantic structure, can signify what Fārābī takes to be the central notions of metaphysics, e.g., existence, unity, or God, which do not fall under the categories. Notably, Fārābī thought that the Greek neuter and masculine participles *un/on* and *ūn/ōn* were particles in Greek.

But in any case, if a heading in *Metaphysics* Δ was clearly a noun, or one of the headings in the *KḤ* is not grammatically a particle, Fārābī would have thought that each of these notions that are syncategorematic should, in a proto-language, or an ideal language for that matter, be expressed by particles, precisely because they do not refer to anything extramentally. Such syncategorematic notions include, in addition to the notions of the categories, existence and other transcendent notions, especially those that we would call logical constants.[55]

Now from the *KḤ* it would appear that Fārābī conceived of the term "*mawjūd*" as being a particle, regardless of its grammatical form as a derived noun—or at least as a term that should have been a particle in an ideal language for the sense that we are concerned with. He thinks that it was a particle in Greek, and he clearly thinks in the *Sharḥ* that it is not a verb. And from what he says about "*mawjūd*," i.e., that it signifies nothing but a syntactic relation, it seems that it cannot be a noun either. The only remaining possibility is for it to be a particle, and that would explain why he treats it at length in the *KḤ*. As such, it plays an important role not only in logic, but in metaphysics as well, because more than any other particle, it has invited gross misconceptions based on its misleading grammatical form.

Menn has presented a salient point of Fārābī's treatment of "*mawjūd*" in the *KḤ* that is worth repeating in this context.[56] On the model of *Met* Δ7 and *APo* B 1–2, Fārābī distinguishes two fundamental senses of "*mawjūd*": *being-as-circumscribed-by-the-categories* and *being-as-truth*. Fārābī's main worry here is that one might be led to think that since "*mawjūd*" is (grammatically) a derived noun, there must be an indeterminate subject through whose *wujūd* something is said to be "*mawjūd*." But this is not generally the case, and even when it is, then that *wujūd* is nothing other than the essence of the subject. But often it is not the case, because when "*mawjūd*" is used to signify a secondary intelligible, there is nothing extramental that could be the indeterminate subject co-signified by derived names.

The position that Fārābī thinks is a result of the confusion caused by the grammatical form of "*mawjūd*" and that he wants to guard against is the misconception that there is a univocal notion of "existence" (*wujūd*) that is a first-order concept and a real attribute extrinsic to the essences of things, and that is thus truly predicated of all things. That is why he distinguishes these two senses of "*mawjūd*" and insists that in one of them "*mawjūd*" signifies a secondary intelligible.

In the sense of "*mawjūd*" as *being-as-circumscribed-by-the-categories* a concept is represented in the mind as it is circumscribed by the categories. The *wujūd*

through which that concept is "*mawjūd*" is that it has a quiddity outside the soul. In that sense, "*mawjūd*," as a derived name, does co-signify an indeterminate subject, namely, the extramental instance of the concept. Existence is here a primary intelligible, because it is predicated directly of that extramental instance, not of a concept in the mind. Yet it is nothing other than the thing's quiddity.

By contrast, in the much broader sense of *being-as-truth*, "the *wujūd* of what is true is a relation of the intelligibles to what is outside the soul."[57] What that means is that when I say that something is "*mawjūd*" in the sense of its being true, I predicate existence not of any extramental thing, but of something in the mind, be it a concept or a predication (Fārābī does not systematically distinguish between 1-place and 2-place being here), saying that there is something of which that concept holds. In that sense 1-place "*mawjūd*" signifies, basically, what is expressed by the existential quantifier. As Menn suggests, for 2-place being we may write a Fregean function with two arguments, an object and a concept, whose value is the True, iff the object falls under the concept: $f(F(x))$.[58]

CONCLUSIONS: LANGUAGE AND LOGIC

Fārābī's conception of his philosophical project as Linguistic Constructivism granted him the poetic license, so to speak, to invent or postulate a new vocabulary in Arabic with which to do Aristotelian logic as he understood it. The way he understood Aristotle, however, was equally influenced by his engagement with Arabic grammar, and the texts cited in this chapter betray Fārābī's willingness to bend Aristotle's text to fit what he presupposed were universal features of thought reflected in the structure of all languages.

The most remarkable innovations in his account of predication in the commentary on the *DI* are (i) the distinction of word-classes signifying substances and those signifying attributes based on the grammatical notion of *ishtiqāq*, (ii) the institution of the technical term "*mawjūd*" as a copula to express untensed statements, (iii) the idea that the copula is a syntactical marker or mere *Formwort*, (iv) the importance of particles as expressing central metaphysical notions and logical constants, and, finally, (v) the notion of "*mawjūd*" as a particle expressing a secondary intelligible.

All these innovations were highly influential and, in some way or other, conditioned the standard position in the subsequent tradition. But only (i) proved to be intuitive enough to become fully integrated within Arabic logical theory. Both (ii) and (iii) were controversially discussed, (iv) does not seem to have been a position that, except by Avempace, garnered much interest, and (v) was rejected by Avicenna. Fārābī's account of predication is remarkable for the formalist approach to language, arguably showing awareness of what today is called the principle of compositionality. The relation the copula signifies is presented in terms of a predicative

function that is however not simply that of taking two terms to make a statement, thus presupposing homogeneity, but clearly conceived of as an asymmetric relation that presupposes heterogeneity, that is, the type of heterogeneity reflected in derived names, giving the following general form of the sentence: [name [(cop) (prototype/IM)]].