

# Avicenna

## *Radical Reshaping in the East*

Avicenna's œuvre represents the cusp between the most thorough engagement with the Aristotelian system yet (in his early works) and the beginning of a truly Arabic tradition of philosophy and logic (in his late work) that in many respects provided a radically different point of departure for the later tradition. As we are gradually getting a better picture of the post-Avicennan tradition, it might emerge that Avicenna is better understood as a transformer of the tradition rather than its culmination.

Concerning the problem of predication, Avicenna's role is doubly interesting, both for his contributions and for the role he played in its transmission. While he responded to and developed the Fārābīan theory in his early works, he is largely silent on the issue in his later and more influential works. I deal elsewhere in more detail with Avicenna's views on the analysis of APs across his *summae*.<sup>1</sup> Here I want to bring out the differences between his early and late work regarding the problem of the copula. The point of reference for the later tradition was his late work, and later philosophers tended to turn to his early work, where he engages with Fārābī, only for clarification. It is in the tensions between Avicenna's remarks about the copula and derived nouns that a critical question arises: What is the relation between linguistic expressions and the logical structure of what they signify?

I argue that we must acknowledge that a host of fundamental philosophical problems—even though they were perceived as peripheral to the central metaphysical or cosmological questions that were hotly debated between *falāsifa* and *mutakallimūn*—nevertheless made their way past Avicenna and, due to the specific dynamics of transmission in the 5th/11th and 6th/12th centuries, were able to develop a life of their own. The problem of predication is a case in point and

should stand as a *pars pro toto* for a general feature of the post-Avicennan tradition up to the end of the 9th/15th century. Once this fact is acknowledged, it becomes hard to square with Gutas's assessment that a general development in this period was a tendency toward "paraphilosophy."<sup>2</sup>

#### AGAINST THE WESTERNERS

Avicenna begins, in the *Shifā'*, by redefining the subject-matter of logic, notably in opposition to Fārābī and the Baghdād Peripatetics. In that work he further developed the notion of *ishtiqāq* as a syntactic constraint on propositions dictated by Arabic grammar, further explored the relationship between logical syntax and the structure of the Arabic language, and rejected—for metaphysical reasons—Fārābī's claim that "*mawjūd*" signified a second-order concept. Yet nothing of that seems of importance in his own synthesis of philosophy presented in *al-Hikma al-mashriqiyya* (Eastern Philosophy, henceforth *Easterners*) and the far more influential *Ishārāt*. The restructured logic of the *Ishārāt* had finally broken the spell of the supposed textual unity of the *Organon*.

There can be no doubt that Avicenna knew Fārābī's commentary on the *DI* and that he was influenced by it. However, Avicenna rejected a crucial aspect of Fārābī's work on logic, with wide-ranging repercussions. In the introductory part (*Madkhal*) of the *Shifā'* that corresponds to Porphyry's *Isag* Avicenna might well have had Fārābī in mind when he launched an invective against "the one who says that the subject-matter of logic is the inquiry into utterances insofar as they signify meanings."<sup>3</sup> To Avicenna this position was stupid and confused. While Fārābī had held that the subject-matter of logic was primary intelligibles and the utterances signifying secondary intelligibles its vocabulary, Avicenna turns this conception of logic on its head, arguing that the subject-matter of logic is in fact secondary intelligibles.<sup>4</sup> Secondary intelligibles are concepts that are true only of primary intelligibles, not of things in the extramental world, whereas primary intelligibles are concepts that are true of things in the extramental world.

Logic as a science is concerned exclusively with the accidents or properties that accrue to secondary intelligibles. But not generally—for then the subject-matter of logic would be no different from the subject-matter of grammar. Rather, logic considers the properties of secondary intelligibles insofar as they allow proceeding from the known to the unknown. There are two kinds of compounding operations that lead from the known to the unknown. The first is conception (*taṣawwur*) through restriction (*taqyīd*) by compounding genus and species terms. The second is assent (*taṣdīq*) through predication (*ḥaml*) and syllogisms (i.e., compounding subject and predicate to form a proposition, compounding propositions to reach a conclusion).

Examples of secondary intelligibles the logician is concerned with are "universal," "predicate," "genus," "proposition," and the like.<sup>5</sup> Those secondary

intelligibles form a distinct subset of all things. This is the subject matter of logic and the proper domain of the logician.<sup>6</sup>

Thus, there is a sharp contrast between Avicenna's and Fārābī's conception of the relation between logic and language. While for Fārābī the logician studies utterances insofar as they signify meanings, Avicenna would have preferred to dispense with utterances altogether:

TEXT 32 (AVIC. PORPH. EISAGOGE): IBN SĪNĀ, *KITĀB AL-SHIFĀ'*, *AL-MANṬIḤ*, *AL-MADKHAL* (MADKÜR ET AL.), I.4, 22.13–23.4

As for the inquiry into utterances, this is something prompted by necessity; utterances are not the logician's primary occupation—inasmuch as he is a logician—if it were not for talk and conversation.

If it were possible to learn logic by pure thought, expressing in it the meanings alone, then this would be enough; and if it were possible for an interlocutor to read by other means what is in another's mind, utterances could be entirely dispensed with. But since necessity requires the use of utterances, and especially since it is inconceivable for reason to arrange meanings without imagining their utterances alongside them, reasoning being almost a dialogue between a man's mind and imagined utterances, it follows that utterances have various features on account of which the features of the meanings corresponding to them in the mind vary, to the effect that the latter acquire qualifications which, were it not for utterances, they would not have. It is for this reason that the art of logic must—at least part of it—inquire into the features of utterances; if it were not for that we would not have said that it needs to also have this part. This necessity notwithstanding, talking about utterances corresponding to their meanings is like talking about their meanings, except that imposing utterances is just more practical.

The logician deals with utterances only because a medium is necessary to communicate meanings. Utterances just happen to be used for this purpose. What the logician is really concerned with are meanings and how the mind can perform operations on them to proceed from the known to the unknown. From this passage it also appears, however, that Avicenna acknowledged some substantial influence of linguistic practices on thought itself, for he clearly states that meanings have qualifications (*aḥkām*) that they would not have if it were not for utterances.

Sabra took the qualifications that the features of utterances bring about in the meanings corresponding to them as referring to the “secondary properties which concepts acquire when they constitute definitions and arguments.”<sup>7</sup> They may also be understood as referring to the secondary intelligibles accruing to the meanings of utterances when they are expressed by specific grammatical forms, like derived names, different types of verbal nouns (*maṣādir*), or verbs. Avicenna nowhere states this explicitly, but I think we can read *al-'Ibāra* as giving substance to this claim, because there Avicenna discusses formal patterns that Arabic grammar foists upon utterances in a way that appears to be logically significant.

It is worth pointing out that Avicenna's conception of the subject-matter of logic is entirely non-psychologicistic, even though it consists of secondary intelligibles without extramental referents. Neither do the rules for compounding operations depend on psychological facts, nor do particular linguistic structures or conventions impinge on these rules. Avicenna's remark on the influence of linguistic practice on thought itself must be understood not as an expression of linguistic relativism, but as a claim to the effect that, broadly, language may exhibit a certain structure, however minimally construed, that reflects some deeper structure of thought. This structure is reflected by what the notions discussed in the *DI* signify. Besides the notions of naming-word and statement-word, in the *Shifā'* Avicenna discusses particles, hyparctic statement-words, and the verbal noun (*maṣḍar*).

#### THE ANALYSIS OF PROPOSITIONS IN THE *SHIFĀ'*

Even though Avicenna comments on most points raised by Aristotle in the linguistic section of the *DI*, he includes his own reflections and changes the relative emphasis between the issues he treats. It is revealing that Avicenna here adds an entire chapter on the Arabic verbal noun (*maṣḍar*), even though he otherwise strictly follows the structure of Aristotle's text. This addition serves to elaborate more fully Fārābī's theory of derived names, relating the notion of predicability to the semantics of statement-words, verbal nouns, and derived names.

##### *Avicenna on the Statement-Word*

Avicenna begins the chapter on the statement-word by reproducing Aristotle's definition: A statement-word "signifies time along with what it otherwise signifies, and no part of it signifies in isolation; and it is always a sign of something being said of something else."<sup>8</sup> He notes that for the statement-word—which he says the Arabic grammarians call "verb" (*fi 'l*)—in contrast to the Greek language, Arabic does not customarily use a distinct inflection to express the present tense (17.10–18.2). However, in Arabic you may express "(he's) walking" (*māshin*) by a derived name, but then it is no longer a statement-word (18.5). According to Avicenna, there are in fact three utterance types that can occur in simple categorical statements, for

here we have the subject naming-word, the derived naming-word, and the statement-word. The subject naming-word signifies that which is talked about, but it does not signify a subject at all. The derived naming-word signifies an indeterminate subject which has the derived quality that the name signifies, so that it signifies a meaning and a quality and an indeterminate subject for it, and a nexus between the two [i.e., the quality meant and the indeterminate subject]. (18.6–8)

While the derived naming-word is not tensed, the statement-word signifies the same as the derived naming-word, plus the time when its meaning is said to be

connected to the subject (18.10–12). Avicenna points out that not everything that is a verb for the Arabic grammarians is also a statement-word for the logicians. For a statement-word is by definition semantically simple, as no part of it signifies in isolation, but Arabic grammarians consider for example “(I) walk” (*ʾamshī*) and “(you) walk” (*tamshī*) to be verbs (18.12–14).

However, these cannot, *per definitionem*, be statement-words for the logician, because they both contain a determinate subject and a predicate said of it, and thus must have a truth-value. In fact, these one-word expressions signify exactly the same as the two-word expressions “I walk” (*ana ʾamshī*) and “you walk” (*anta tamshī*) (18.14–16).

This is no different from Greek or Persian, but Avicenna takes this as a point of departure for some critical remarks on the semantic simplicity criterion for statement-words. For Avicenna, “this is in fact an issue to investigate. For these utterances are not exclusively either simple or compound” (18.16). Whether a given meaning is simple or compound was an issue of paramount importance for the logician to clarify. Hence, Avicenna dedicates almost the entire remainder of the chapter to this investigation.

Avicenna reasons as follows. If we take these utterances to be simple, then they cannot have a truth-value. If we take them to be compound, then we are committed to the following. If the augments *hamza* (ʾa-) or *tā* (ta-) signify a determinate subject (i.e., “I” or “you”), then the remaining letters *-mshī* would signify some meaning (and begin with a silent letter [*sukūn*], which in Arabic is generally not possible) (19.1–7). This raises four issues:

1. In what sense are we then to consider utterances of the type “(I) walk” (*ʾamshī*) to be compound?
2. If those utterances are compound, do we have to say that all verbs are compound?
3. If yes, would then not “(he) walks” (*yamshī*) also have to be considered a compound utterance with a truth-value?
4. Are then derived names not also compound in a certain sense?

Avicenna’s answer to (1) is that we should consider first- and second-person inflected verbs to be compound utterances for two reasons.

First, these types of utterances violate the definition of the statement-word. Not, in fact, simply because they consist of two significant parts, but because one of the parts (ʾa-) signifies a determinate subject on which judgment is passed. This would violate the definition even if “*-mshī*” had no separate signification (23.10–15). These types of utterances simply are not statement-words for the logician.

Second, these types of utterances may not be different from other compound utterances. Just like compound names, their parts do not signify anything in isolation. They only jointly signify what they signify as a compound (23.15–24.1). I take this to mean that, just as, once “-ketch” is removed from “cutter-ketch,” it does not

signify anything, no more does “-*mshī*.” However, in the compound, both elements contribute to the overall meaning of the utterance, only with “(I) walk (‘*a-mshī*)” one part signifies a determinate subject and the other a predicate said of it. It thus may be an utterance without proper significant parts, yet it may still be a compound in the same way as “cutter-ketch” and thus violate the definition of the statement-word by the fact that “*a-*” and “-*mshī*,” even though not significant in isolation, contribute two meanings that however in this case are a subject and a predicate.

As for (2), Avicenna responds by saying that this question is not really the logician’s business to answer. Languages generally differ as to whether or not they employ compound utterances for certain meanings (19.16–20.3). For example, Arabic has a simple utterance signifying the meaning of “ignorant” (*jāhil*), whereas Persian has a compound one (*nādān*; literally, not-knowing, like i-ignorant) (20.4–8). As for statement-words, Arabic verbs in the past tense (like *sahḥa*) have no part that signifies an indeterminate subject (as opposed to the imperfect tense, where the *yā* in *ya-mshī* signifies an indeterminate subject). In that respect they are just like Persian verbs in the future tense (*bo-konad*; literally, “will-be”) (20.8–11).

However, in Persian simple statement-words are much rarer. For example, a translation of *sahḥa* would be *dorost shod* (literally, became healthy) (20.11–16). Since the matter of whether a given meaning is expressed by a simple or by a compound utterance is arbitrary between specific languages, it is not the logician’s task to make general claims about that. Rather she “must know that [a given] meaning is signified by a simple utterance” (20.7–8). For generally, Avicenna says,

TEXT 33 (AVIC. DI 3): IBN SĪNĀ, *KITĀB AL-SHIFĀʾ, AL-MANṬIQ, AL-ʾIBĀRA*  
(EL-KHODEIRI ET AL.), I.3, 20.17–21.6

Since logical inquiry is not concerned with a language *qua* language, so that if in a given language there is no statement-word signifying the present tense, logicians [just] stipulate the signification of the three [temporal] divisions of statement-words, therefore likewise logicians do not require that [Arabic] philologists acknowledge that there is no statement-word, but instead of the statement-word a naming-word connected to another expression that signifies what [otherwise] the statement-word would signify.

Rather, the logician must consider what the definition [of the statement-word] demands, and this can occur in [any] language. For it is without doubt possible that there be an expression univocally signifying a meaning and the time of its occurrence and that [this expression] be simple—that will then be the statement-word. But if there is no such [expression] in the Arabic language, that is not an objection.

In keeping with his conception of the subject-matter of logic, Avicenna emphasizes that the logician must examine the meaning of an utterance and then figure out whether that meaning is compound, no matter how it may be expressed on the level of language. If one language or other does not conspicuously express the structure of a given meaning, that of the statement-word for example, *tant pis*. The logician is content with the possibility of paraphrase.

That still leaves us with (3). While as logicians we might not be interested in the fact that the Arabic for “(he) walks” (*yamshī*) is a single word, we still must ascertain whether or not its meaning is simple or compound. That is, we must be able to say whether it has, by dint of its structure analogous to utterances like “(I) walk” (*ʾamshī*), a truth-value (19.7–12). If we take these two utterances to be in fact similarly structured, then we would have to say that, just like the *hamza* in “(I) walk” (*ʾa-mshī*), the *yāʾ* in “(he) walks” (*ya-mshī*) signifies a determinate subject. If this were so, we would have to construe this statement, in the same way as we may refer to a determinate subject by saying “man” (*insān*) without designating a specific object, as actually meaning “there is something in the world that walks.” Then it would be an existential statement, like  $\exists(x)M(x)$  where *M* stands for *mashī* (walking), and as such have a truth-value.

However, Avicenna contends, this is wrong (21.10–11). It is wrong because what the “*yā-*” in “(he) walks” (*ya-mshī*) really signifies is an indeterminate subject. Only by actually mentioning that object does it become fully determinate (21.12–23.5). Third-person inflected verbs are hence not compound, have no truth-value (yet), and thus count as statement-words.

If this is so, what about derived names (4)? For they too signify an indeterminate subject—should we then consider them to have compound meanings? Avicenna had earlier raised this specific possible line of argument. Derived names consist of two parts: their matter, i.e., the root letters, and a form (presumably their morphology). The matter *m-sh-y* signifies the basic meaning *walk*. Once molded into the form of *māshī* or *māshin*, the form signifies an indeterminate subject in which the basic meaning inheres (19.12–15). Avicenna dismisses this line of argument on the grounds that it presupposes a notion of “part” that is not at all relevant to the issue under consideration.

The hylomorphic notion of part required by this line of argument has nothing to do with the notion of ordered parts in utterances, i.e., the sequence of their syllables and letters, sounded or unsounded (21.7–10). This does not strike me as a satisfying response, because it seems that the morphology does contribute precisely that meaning. However, Avicenna could have said, as he did in the earlier quotation, that derived names have the same semantic structure as third-person statement-words, minus the co-signification of time, as he has shown that the meanings of third-person statement-words are not compound (18.10–12). So neither are the meanings of derived names.

What the logician must discern, then, is which accidents accrue to the meanings used in logical reasoning. One type of meaning the logician must be able to recognize is that of the statement-word, and she must know that a statement-word signifies a certain meaning, an indeterminate subject, and that the meaning is connected to the indeterminate subject at a particular time. Avicenna had mentioned that derived names have similar features. Both include the signification of an indeterminate subject in their morphology.

Regarding the question whether the definitional phrase that a statement-word is “always a sign of something being said of something else” is a necessary part of the definition, Avicenna insists that, while not required to uniquely mark out statement-words, it is an important part of the definition (24.6–12). Urging that definition be conceived in the broader sense as aiming at staking out the real nature of the *definiendum*, instead of simply demarcating its extension, then,

when seen that way, it is adequate that this addition [is understood as] signifying one of the conditions by which the statement-word is constituted, namely the nexus to an indeterminate subject needed for it and for the mode of the signification of time to be completed. The need of the statement-word for [such] a nexus is no smaller than its need for a tense. How could [the nexus] not be primary, given that if there were no nexus, there could be no time for that nexus! (24.13–16)

*Avicenna on the Verbal Noun (al-maṣḍar), Auxiliaries (al-adawāt),  
and Hyparctic Verbs (al-kalimāt al-wujūdiyya)*

The signification of a nexus to an indeterminate subject is for Avicenna a feature common to statement-words, verbal nouns (*maṣādir*), and derived names—all utterance types that can go into the predicate position. In an additional and separate chapter, Avicenna sets out to explain how these three are related to the notion of “being said of something else.” In fact, “the meaning which the verb indicates as existing for the subject (‘*alā wujūdihi li-l-mawḍū‘i*’) is something that is signified by a name: either an absolute name, or a name which is a *maṣḍar*” (25.5–6). The name is thus semantically basic so that, syntactically, the above three types of word formation turn the meaning that the name merely brings up into a meaning that is connected to another meaning. In this chapter, Avicenna picks up where Fārābī had left off, giving a systematic account of the semantic role of Arabic verbal nouns of which the derived names that Fārābī had discussed are a subclass. For Avicenna distinguishes between two types of verbal nouns (*maṣādir*).

The first type of *maṣḍar* is formed from the first and basic verbal pattern (*wazn*). In this case it functions as an absolute name, like “hitting” (*al-ḍarb*) (25.6–7). It is called an “absolute” name, because it merely brings up whatever its meaning is, without signifying that that meaning is in any way connected to another meaning. While “hitter” (*ḍārib*) signifies hitting *and* someone who does the hitting, “hitting” by itself just brings up the idea of hitting. In other words, absolute names do not—in contrast to derived names, verbs, and *maṣādir* of the second type—signify a nexus to an indeterminate subject (26.3–5).

The second type of *maṣḍar* is formed from any of the remaining verb patterns (*awzān*). For example, *al-taḥarruk*, from Form V (*tafa‘āla*), signifying intransitive “moving”; *al-ibyiḍād* from Form IX (*if‘alla*), signifying intransitive “whitening,” that is, “paling”; or, *al-taḥrīk* and *al-tabyiḍ*, from Form II (*fa‘āla*), signifying transitive “moving” and “whitening,” respectively. In contrast to the

first type of *maṣḍar*, expressions of this type signify that the meaning of the basic *maṣḍar* (“motion” [*al-ḥaraka*] and “whiteness” [*al-bayāḍ*]) is connected by a nexus (*mansūb*) to a subject to or in which that meaning occurs (25.8–10).

Even if the terminology may in practice not always be accurate, because sometimes a *maṣḍar* of the second type may also act like an absolute name, for example, when the basic verb pattern is not generally used, like with “splitting (*al-iftirāq*)”, Avicenna thinks the distinction is generally apt (25.10–26.2). It helps us to distinguish, on the level of utterances, those that are a sign of something being said of something else and those that are not. The notion of the second-type *maṣḍar* as the semantic structure of utterances that are predicable is thus basic for Avicenna.

In fact, he continues,

mostly, in Arabic, it is the case that when there is a specific expression for the *maṣḍar*, then the statement-word signifies the presence of the meaning of that *maṣḍar* expression for some subject, and at a known time. That may include the meaning of the absolute name as well, as when one says [intransitively] “he whitened” (*ibyāḍda*), “he whitens” (*yabyāḍdu*), from “whitening” (*al-ibyīḍād*), for what signifies whitening (*al-ibyīḍād*) also signifies whiteness (*al-bayāḍ*). (26.5–8)

In Arabic, the distinction between utterance types that include the signification of a nexus to an indeterminate subject is neat. The meanings that both statement-words and derived names signify are based on the meanings signified by *maṣḍar* expressions. Meanings of second-type *maṣḍar* expressions are hence always accidents accruing to a substance, and, conversely, no second-type *maṣḍar* can, in principle, signify a substance (26.8–12).

That is also why statement-words in Arabic cannot be used to signify a substance. Avicenna here takes up a discussion we have seen in Fārābī and agrees that statement-words, in Arabic and by their primary signification, never signify substances.<sup>9</sup> In Arabic, if we want to use a statement-word to express that Zayd is a substance, e.g., the intransitive verb “substance-ing” (*tajawhara*; this is a neologism also in Arabic), we have the trouble that by the very force of the *maṣḍar* laid out above, we would always be saying, paradoxically, that Zayd’s being a substance somehow is an accident occurring to or in him. But Avicenna is open to the idea that other languages might not be so constrained (*muḍā’iq*) and actually have a way of making tensed substance predications by means of statement-words (26.13–27.9).

After cursorily treating indefinite and temporally inflected statement-words, Avicenna gets to another point that is not in Aristotle, but that he thought was crucially missing. In his words, “it is shameful of the First Teacher [Aristotle] that he mentions among the simple utterances the name and the statement-word but leaves aside the auxiliaries (*adawāt*) and what resembles them” (29.15–16).

The reason for Avicenna’s complaint may well be that he was aware of the tradition of Arabic grammatical theory and of Fārābī’s incorporation thereof in his

logical vocabulary. In Arabic grammar, there are three fundamental word-classes, nouns, verbs, and particles. In Fārābī's logical vocabulary there were names, statement-words, and particles (which he sometimes calls auxiliaries).<sup>10</sup> And, the copula "*mawjūd*" was likely a particle for Fārābī.

Avicenna here distinguishes between auxiliaries proper, like "from" (*min*) and "on" ('*alā*), and hyparctic verbs (*al-kalimāt al-wujūdiyya*), like "become" (*ṣāra, yaṣīru*) and "be" (*kāna, yakūnu*) (28.14–15). Both types of expression are semantically incomplete. But their semantic incompleteness is different from that of statement-words, derived nouns, or *maṣḍar* nouns of the second type. For those, when uttered in isolation, do signify a meaning and a nexus. They are semantically incomplete, because they do not signify the subject to which their meaning is connected. Auxiliaries and hyparctic verbs, when uttered in isolation, do not signify anything except a nexus (29.5–8). For example, if you ask "Where is Zayd?" and someone answers "in," your mind does not settle on anything. The same goes for the question "What is Zayd doing?" being answered by "becomes" (29.3–12).

According to Avicenna, "the relation of auxiliaries to nouns is the same as the relation of hyparctic verbs to [grammatical] verbs" (29.5–6). Auxiliaries and hyparctic verbs can grammatically become predicates (*khābar*) of a subject (*mubtada'*), only if that deficiency is met by supplying a value for *x* in "is *x*"/"became *x*" and "from *x*"/"on *x*" expressions. This, Avicenna urges, is how "you ought to understand this issue [ . . . ], and not pay attention to what they say" (29.14–15).

#### *Avicenna on the Copula*

Based on the foregoing theory of verbal nouns, Avicenna has no need for a copula. The copulative element is included in the signification of all predicative forms (except absolute names—but any absolute name can easily be turned into any *maṣḍar* of the second type). Nevertheless, in *al-'Ibārā* I.6 Avicenna says a good deal about the copula and under what circumstances it is needed. He begins the chapter on the simple declarative statement (corresponding to *DI* 5) by discussing the differences between Greek and Arabic when it comes to the use of the copula.

TEXT 34 (AVIC. *DI* 5): IBN SĪNĀ, *KITĀB AL-SHIFĀ'*, *AL-MANṬIḤ*, *AL-'IBĀRA*  
(EL-KHODEIRI ET AL.), I.6, 37.6–38.11

Every declarative phrase, be it categorical or hypothetical, requires, in the language of the Greeks, the use of hyparctic statement-words; these are the statement-words which signify a nexus and a time, without however the meaning connected to the indeterminate subject actually obtaining in them, if the root in itself is not a statement-word. [ . . . ]

As for predicative statements, in the language of the Greeks, the judgment about them is thus, so they are forced to say "Zayd was such, or is such"; however, this is not necessary in the language of the Arabs.

What is however necessary with regard to the matter itself, is that the predicative proposition be completed by three things. These are: the meaning of the subject, the meaning of the predicate, and a nexus between the two. It is not the case that the joint

presence of meanings in the mind makes [these meanings] subjects or predicates in the mind, but rather there is a need for the mind to believe that there is, along with that, a nexus—affirmative or negative—between the two meanings.

The utterance too, if I want it to capture what is in the mind, needs to consist of three significations: the signification of the meaning which the subject has, another of the meaning which the predicate has, and a third of the relation and the bond that is between them. It is not necessary from assembling “man” and “animal” in the mind and from considering these two, in how far this is a man and that an animal, that from that it results that one of them is a predicate or a subject, or in general connected to anything. If the utterance signifying this relation is left out, you only leave out a reminder for the mind or a dependency on one of the features of utterances which attaches to one or both of them [i.e., “man” and “animal”] for the encompassing of this meaning. In that case it may signify this meaning by a spoken signification, even if it is not by a simple utterance specified for this.

While Greek grammar, as Avicenna (wrongly) thinks, always requires that in simple categorical statements a copula is used to signify the nexus between subject and predicate, Arabic grammar does not. This does not, however, mean that on the level of meanings that the logician is concerned with we can neglect the meaning of the copula in the logical analysis of such statements. For it is possible to entertain two meanings together in one’s mind without them being so connected as to be correctly expressed by a simple categorical statement.

Avicenna does not, as Fārābī did, insist that technical terminology be invented to express this meaning on the level of the Arabic language. Rather, he says that, even though leaving the copula implicit may not cause any harm, if one aims at conspicuity on the level of language, there are different ways of achieving this. As he will explain, one way is to use auxiliaries or hyparctic verbs in Arabic to signify that meaning, or as seems to be suggested here, it might just be enough to pay attention to the overall morphology of a statement, by which that nexus may also be signified, without the use of a specific word.

But first, this reflection of the force of the copula for Avicenna raises the problem of the unity of the proposition. Formulated in terms entirely different from Fārābī’s worries about Bradley’s regress, the following passage seems to suggest a deflationary solution that is however very different from that of Fārābī, who as we saw maintained that the copula signified the secondary intelligible of a predicative function. Avicenna says:

TEXT 35 (AVIC. DI 5): IBN SĪNĀ, *KITĀB AL-SHIFĀ’*, *AL-MANṬIḤ*, *AL-‘IBĀRA* (EL-KHODEIRI ET AL.), I.6, 38.11–39.3

As for the succession itself of one utterance to another in a short time, it is not by means of signifying the feature of one of them for the other that it is a signification obtaining by [their] assemblage. Likewise with the composition present in definitions. If it were not for an additional thing connected to it, it would not be necessary for the succession itself of one of its parts to another to be a sign of the assemblage and

its unity. Rather, our saying “living walking having two legs” would come to signify a single meaning by its mere assemblage, because you mean by it “the living [thing], which is walking and has two legs.” This would be signified by the form of the composition, so that the phrase becomes one [unity], because you consider the descriptions to be of one [thing], and mark out some of them from others. And if it were not for this reason additional to the succession itself, the succession would not be a unity. Likewise, if someone said “the sky the earth the griffon the circle.” But there is a need to connect to the succession something else signifying the bond of the elements to one another by connecting predication and subjection, or connecting the restrictions [in definitions] to one another. The matter ought to be understood in this way. Do not waste time with the improbable exertions [at explanation] that they are attempting.

It is unclear whether Avicenna has Fārābī in mind in this last sentence. For Fārābī, the unity of the proposition is guaranteed by one of the two senses of the artificial copulative term “*mawjūd*,” i.e., the sense of *being-as-truth*. In this sense, the meaning of “*mawjūd*” is that of a second-order concept, a function taking the concept of the predicative relation between the meaning of the predicate and the meaning of the subject to its instantiation.<sup>11</sup> For Avicenna, the distinct nature of meanings loosely assembled in the mind and of meanings assembled in the mind forming a larger unity of definition or of predication must then somehow be expressed in language, too. Avicenna extends the problem to definitions and descriptions, fitting the problem into the framework of compounds the logician is concerned with. That is, that of descriptive restriction which aims at conception, and that of predicative statement, which aims at assent.

Avicenna’s solution is that in predication there is a meaning additional to the meaning of the subject and the meaning of the predicate, which is called the nexus (*nisba*), and it is the nexus that provides the bond that unifies these two meanings to become a proposition. The nexus may be implicit in Arabic, or else may be signified by verbal or nominal copulae:

TEXT 36 (AVIC. DI 5): IBN SĪNĀ, *KITĀB AL-SHIFĀʿ*, *AL-MANṬIḤ*, *AL-ʿIBĀRA* (EL-KHODEIRI ET AL.), I.6, 39.4–40.4

It has become clear from this that there is a meaning which is not the meaning of the subjected thing, and not the meaning of the predicated thing, and of which it is only right that it should be signified—and this [meaning] is the nexus. The utterance signifying the nexus is called copula, and the account of it is the same as the account of auxiliaries. As for the language of the Arabs, the copula may be omitted relying on the mind’s discernment of its meaning, or it may be mentioned.

When it is mentioned, it may be in the form of a name, as in “Zayd, he (is) alive.” The utterance “*huwa*” comes in not to signify by itself, but to signify that Zayd is something that is not mentioned afterwards. Its signification is not understood as long as only “*huwa*” is said—until [what it refers to] is made explicit. Thus, it fails to signify by itself a complete meaning and belongs to the auxiliaries, even though they are similar to names. Or in the form of a verb as in “Zayd was such or is such (*Zayd*

*kāna kadhā aw yakūnu kadhā*),” when they are hyparctic verbs. In Arabic it is common to use [the temporal copula] for something that is not temporal, like the words of Him Exalted: “And Allah is (*kāna*) forgiving and compassionate.” And [also] for what is not temporally specified, like when they say: “Every three is (*yakūnu*) is odd.”

As for the Persian language, they do not use propositions in which [the copula] is only imagined. Either [it is indicated] with a simple expression, when they say “Someone is (*hast*) such and such,” or by the vocalization, when they say “[Someone] is such and such ([*fulān*] *chinīn-e*),” with a *fatha* on the *nūn*. And the *fatha* signifies that *chinīn* is the predicate of *fulān*. Hence, the copula, be it expressed or implicit, is what makes unity out of a plurality, and since the declarative statement is one, in predication, the copula, whether explicit or implicit, signifies a single bond, and the bond in a predicative statement is that you say that the subject is the predicate.

This assessment allows Avicenna to reconceptualize Aristotle’s distinction in *DI* 10 between what the Latin tradition has called *secundum adiacens* and *tertium adiacens* propositions:

TEXT 37 (AVIC. *DI* 10): IBN SĪNĀ, *KITĀB AL-SHIFĀ’*, *AL-MANṬIQ*, *AL-’IBĀRA* (EL-KHODEIRI ET AL.), II.1, 76.8–78.1

Either in the proposition there is stated explicitly a copula as mentioned, be it temporal or non-temporal, or there is not. If it is stated explicitly, it is called ternary; if not, it is called binary. The binary ones may be abbreviations [of ternary ones] unless their predicates are verbs. For it is not unlikely that verbs are copulated through themselves since they signify the subject in virtue of their morphology. Moreover, there is a need for a copula to signify the nexus of the predicate to the subject when there is a name that is by itself separate. When a signification of the subject is found to occur in the verbs, their need for the copula is different from that of underived names. Derived names are analogous to the verbs here. Accordingly, this is also not a general judgment about verbs. For even though verbs signify a subject, they do not signify a determinate one. There must be something that copulates it to a determinate [subject].

Arabic does have a nominal particle to express this copulation [to a determinate subject]. But it lacks a verbal particle for this purpose. So when they say: “Zayd (he) is alive [*Zayd huwa ḥayyun*],” “he” refers to Zayd and contains an indication of him alone. Moreover, when it is said “Zayd was alive [*Zayd kāna ḥayyan*]” there is no indication of the determination of Zayd in “was” [*kāna*]. On account of that, what learned men say about their language is that here there is an ellipsis, and its sense is “He is alive.” Other languages differ in that respect.

Therefore, there are three classes of propositions: (i) the class in which the determination of the nexus is signified [*Zayd huwa ḥayyun*], (ii) the class in which an indeterminate nexus is signified [*Zayd kāna ḥayyan*], (iii) and the class in which no nexus is signified at all [*Zayd ḥayyun*].

This last division is perfectly binary, while the other two are ternary. However, the first of them is perfectly ternary, while the second is ternary but does not have a perfectly ternary structure.

In general, the ternary structure is that in which the copulation is made clear, as when we say, “man exists-as-just” [*al-insānu yujadu ‘adilan*] or “man (he) is just” [*inna al-insanu huwa ‘adilun*]. So the expression “exists” [*yūjadu*] and “he” [*huwa*] are not included in virtue of being predicates in themselves, but rather so as to signify that the predicate is present to the subject.

The utterance “he’ll-be” [*yūjad*] signifies the existence of the predicate in the future. The utterance “he” [*huwa*] signifies the existence of the predicate for the subject absolutely. The copula signifies the nexus of the predicate, and the quantifier signifies the quantity of the subject. That is why the copula is counted as belonging to the predicate, and the quantifier as belonging to the subject.

Ranging the copula with the predicate and the quantifier with the subject is reminiscent of Alexander. Otherwise, all this—except the division of categorical statements in complete and incomplete ternary and binary propositions—is close enough to Fārābī’s account. Verbs and derived names co-signify an indeterminate subject, while non-derived names do not.

It is important to note, however, that Avicenna makes a distinction Fārābī did not make. Besides the signification of an indeterminate subject that is included in the meaning of verbs and derived names, a copula may signify the linking to a *determinate* subject. In Arabic, this can be explicitly expressed only by “*huwa*,” even though it may be understood implicitly by other formulations.

Hence, Avicenna’s version of the *secundum/tertium adiacens* distinction is nothing like Aristotle’s, or that of any of the Greek commentators. Aristotle arguably had distinguished, as we have seen, existential from predicative statements (“Socrates is [i.e., exists]” = *secundum adiacens* vs. “Socrates is pale” = *tertium adiacens*), or at least that is how the Latin commentators came to understand him.<sup>12</sup> Avicenna’s distinction is solely based on whether a copula is mentioned and what kind of copula is mentioned—the structure of the propositions expressed seems to be the same. This doctrine was later criticized by several logicians, including Fakhr al-Dīn al-Rāzī and Quṭb al-Dīn al-Taḥṭānī.

#### AVICENNA’S LATER WORK AND THE BREAKING OF THE ORGANON

Like that of the *Ishārāt*, the logic part of the *Easterners* is structured very differently from Avicenna’s earlier logical works, which were modeled on the structure of the *Organon*. One organizing principle seems to be the different kinds of subject-predicate relations.<sup>13</sup> The work was partly lost already in 425/1034 and thus had a lesser influence on the ensuing Avicennan logical tradition.<sup>14</sup> The structure of the logic part may however be taken to reflect the centrality of the subject-predicate relation for Avicenna’s “true” conception of the discipline.

In the short chapter on the naming-word, statement-word, and auxiliary of a proposition, Avicenna again describes certain utterances, when used as a copula, as semantically incomplete.

TEXT 38 (AVIC. DI 10?): IBN SĪNĀ, *AL-ḤIKMA AL-MASHRIQIYYA* (AL-KHAṬĪB & AL-QATLĀN), 58.18–59.4 (= MS CAIRO: DĀR AL-KUTUB ḤIKMA 6 M [UṢṬAFĀ FĀḌĪL], FOLS. 116V–138R)

There are also utterances that are sometimes used with a simple and complete signification, and sometimes with a simple and incomplete signification. For example, when you say “he (*huwa*)” or “is-found (*mawjūd*),” they may only signify the name [previously mentioned]. Then you say “Zayd, he [is] a writer” and “Zayd is-found-as-a writer” and you use them as attachments and copulae, so that if you were to stop [upon pronouncing them] the statement would not be complete in terms of the statement’s signification, when you do not intend “he (*huwa*)” or “found[-thing] (*mawjūd*)” as that which you intend by a name.

Rather, you intended by it something following another utterance that needs to be expressed, like when you say “Zayd on or in.” Likewise you sometimes say “Zayd was” and you mean “his existence in itself,” and then the statement is complete. And sometimes you say “Zayd was a writer,” and then “was” functions as an attachment and a copula.

It is thus obvious that some nouns and verbs signify incomplete significations. If you say “was a writer,” by that alone you do not signify “being” of a meaning, but rather just “writing.” For you signified a time for a thing that is not mentioned afterwards. Those are called temporal statement-words.

But a little later, he states: “There are two parts in a predicative statement. One of them is the bearer of predication commonly known as ‘subject,’ like ‘Zayd’ in our example, and the second is the predicate, like ‘writer’ [*kātib*] in our example.”<sup>15</sup> Here the nexus that is supposed to be signified by the copula is left out of the picture. Fakhr al-Dīn al-Rāzī later accused Avicenna of contradicting himself, for in the *Ishārāt* he insisted that the copula “*huwa*” must be mentioned to properly express a determinate nexus, even in cases where the predicate is a derived name:

TEXT 39 (AVIC. DI 3?/APR 1?): IBN SĪNĀ, *AL-ISHĀRĀT WA L-TANBĪHĀT* (AL-ZĀR‘Ī), 78.14–79.3

You must know that the true account of the predicative proposition is that together with the meaning of the subject and the meaning of the predicate, there is the meaning of the composition between the two. This is a third meaning in addition to these two. As one should seek to have utterances and meanings correspond in number, this third meaning deserves a third utterance signifying it. It may be omitted in some languages, as it occasionally is entirely omitted in Arabic, like when we say “Zayd [is] a writer,” where it really should be said “Zayd, he [is] a writer.” But in some languages its omission is not possible, as is the case in proper Persian, for example with “is [*ast*]” in “Zayd is a writer [*Zayd dabīr ast*].”

Here, Avicenna insists that the copula “*huwa*” must—or should—be used even when the predicate is a derived name. This appears to contradict what he said in the *Easterners*. Taking the cue from these two passages, Rāzī argued that the nexus is already co-signified by derived names, and thus need not be mentioned again: “*Zayd kātib*” is perfectly fine.

It seems that Avicenna in his late period had no need for Fārābī's theory of derived names to accommodate the different types of predication set out in *Cat* 1–5. His overall reconceptualization of Aristotelian logic rejects the *Cat* in its entirety and avoids several problems arising from it, like that of singular predication, multiple predication, or quantified predicates.<sup>16</sup> It also incorporated the reconceptualization of the notorious distinction between *said of* and *said in* predication that Fārābī, following Ammonius, had made a central notion for the Arabic *DI* and the pivot of his theory of derived names.

As Kalbarczyk has pointed out, the fourfold predicative scheme not only was an invention of the commentators, but actually was at odds with Aristotle's doctrine of hylomorphism laid out in *Met Z–H*.<sup>17</sup> Avicenna was troubled by this tension already in *al-Mukhtaṣar al-awsaṭ*: in order not to confuse essence and existence claims he suggests beginning by distinguishing the two different kinds of nexus (*nisba*) with which a given subject (*mawḍūʿ*) may be described (*yuṣāfu*) by a predicate (*maḥmūl*), namely, either (1) as being it (*bi-annahu huwa*), or (2) as having it (*bi-annahu dhū huwa*).<sup>18</sup> In *al-Maqūlāt* of the *Shifāʾ* Avicenna criticizes an anonymous “logician” as well as Fārābī for having equated “being said of a subject” with “being a universal.” More blatantly, Avicenna accuses Fārābī of having equated it with “being predicated essentially” (as Fārābī did in the context of his theory of prototypes/derived nouns, as we have seen).<sup>19</sup> An anonymous predecessor, likely Porphyry, or the Neo-Platonic tradition in general,<sup>20</sup> had equated the notion of “being said of a subject” with both.

One problem Avicenna points out is that by equating “being in a subject” with non-essential predication *tout court* they both confuse the ontological account of what it means to be an accident (*ʿaraḍ*) subsisting in a substrate (*mawḍūʿ*) and the predicative relation between logical subject (*mawḍūʿ*) and predicate (*maḥmūl*) applying to the former accidentally (*ʿaraḍī*).<sup>21</sup> In *al-Maqūlāt* I.3 Avicenna then proposes an entirely new system based on the basic distinction between “being it” and “having it” types of attributes put forward in *al-Mukhtaṣar al-awsaṭ*.

According to Kalbarczyk, Avicenna was concerned that “under the fourfold classification scheme we might be forced to swallow the attributive identity between two ontologically very distinct types of beings, namely a substantial form inhering in matter and an accident inhering in a subject which is ontologically prior.”<sup>22</sup> The new fivefold scheme repairs what Avicenna saw as a broader failure of the *Cat*, which has likewise troubled modern readers of Aristotle, namely, a confounding of linguistic, logical, and ontological notions. While the fourfold scheme of the commentators was “a division of *things* by means of *predicative* relations,” the new fivefold scheme gives an exhaustive account of the types of relation (*nisba*) in which a predicate may stand to a subject.<sup>23</sup>

The new scheme is much clearer in keeping apart not only the logical and the ontological level, but also the notions of substance, essence, and accident. It gives clear criteria for checking whether a given predication is essential or accidental—

which the fourfold scheme had not. Avicenna might just not have needed Fārābī's theory any longer.

If we take the linguistic section of the *DI* as conceived by Avicenna in the *Shifā'* as providing substance to the claim that linguistic practice influences thought, we may be led to think that Avicenna in his mature thought abandoned that idea together with the old fourfold scheme of predicative relations. One might say that when Avicenna writes in the *Ishārāt*, "Because there is a certain relation between the utterance and the meaning, and [because] some features of utterances often affect some features of meanings, the logician must also pay attention to the aspects of the utterance taken by itself insofar as that is not specific to one language or another,"<sup>24</sup> he does not mean the same thing as in the passage from the *Shifā'*.

Or, alternatively, if we take it to mean the same thing, we might say that Avicenna simply thought that the Fārābīan-inspired theory of utterance types in *al-'Ibāra* was still right, but not pertinent to his restructured presentation of logic as it naturally is. Be that as it may: in the ensuing tradition, which accorded the *Ishārāt* the bulk of the attention, there is no clear answer to this, and often commentators turned back to the text of the *Shifā'*.

#### A WORD ON THE ANDALUSIAN TRADITION AND A PRELIMINARY CONCLUSION

Of those Ibn Khaldūn (d. 808/1406) considered the four greatest Muslim philosophers,<sup>25</sup> we have seen that the first, Fārābī, played a crucial role in the Graeco-Arabic transformation process of Aristotelian logic in the face of the "war of signification" fought out between the different scientific disciplines that were coming of age around the 4th/10th century.<sup>26</sup> The second, Avicenna, radically changed the philosophical tradition inherited from the Baghdād Peripatetics.

It must at least be mentioned that the project of the Baghdād Peripatetics had a more or less direct continuation in the textual Aristotelianism of Ibn Bājja (Averpace) and Averroes, the third and fourth of Ibn Khaldūn's greatest philosophers, in Muslim Spain. However, while Averroes was to become an important source for Latin Aristotelianism in 13th-century Paris and Padua, his influence in the Islamic East was eclipsed by Avicenna.<sup>27</sup>

The work of the Andalusian philosophers on the analysis of APs and the role of the copula in predication is characterized by an increasing readiness to closely engage with the text of Fārābī and Aristotle himself. Some of the central doctrines shaped by Fārābī were accepted by Ibn Bājja, Averroes, and Ibn Ṭumlūs.<sup>28</sup> For example, they all subscribe to Fārābī's general outlook on the subject-matter of logic, the role of the *Cat*, the distinction between primary and secondary intelligibles, and likely the theory of the copula (*mawjūd*) as a second-order concept. Especially Ibn Bājja and Averroes further developed Fārābī's logical theories: Ibn Bājja in his development of a theory of relations,<sup>29</sup> and Averroes with his criticism

of Fārābī's conception of the semantics of statement-words and derived names.<sup>30</sup> Despite Averroes's self-proclaimed Aristotelian purism, his presentations are indebted to a significant extent to Fārābī's reading of Aristotle, and to a considerable extent to the *Notes* by Ibn Bājja.

In stark contrast to the continuity of the Fārābian tradition in the West, we see a radical re-conception of the Aristotelian *Organon* already in Avicenna's *Shifā'*. By breaking with the Fārābian tradition and proclaiming the subject-matter of logic to be secondary intelligibles, the inquiry into the analysis of atomic propositions, the question of the relationship between language and logic, and the role of the copula took on a new shape.

With Avicenna, propositions became firmly rooted in the realm of meanings of sentences. In the part corresponding to the *DI* Avicenna examines at length issues like the criteria for semantic simplicity, and the relation between Arabic word formation and logical properties accruing to secondary intelligibles. Overall, his theory of the Arabic verbal noun is a development of Fārābī's theory of derived names that provides clear criteria based on features of Arabic grammar for distinguishing names from predicables. Avicenna followed Fārābī in distinguishing three classes of utterances, not two as Aristotle had, and in characterizing the copula as belonging to one of two types of auxiliaries, the third class of utterances whose meanings are incomplete. However, Avicenna does not think, as did Fārābī, that "*mawjūd*" in the sense of *being-as-truth* signifies a secondary intelligible and thus nothing in extramental reality.

I suggested that Avicenna's elaborations in *al-'Ibāra* give substance to his claim that some features of utterances determine some properties of the meanings they signify. For there, Avicenna deals with cases in which the grammatical form of an utterance determines some logical properties of the meanings they signify, for example, when an utterance in a second-type *maṣḍar* form determines that the meaning it signifies is an attribute, not a substance, and implies a nexus to an indeterminate subject. Yet it seems that in his late period all of the Fārābian-inspired theory was lost. Avicenna did—*malgré lui*—change his mind about some central issues.

In the logic part of the *Easterners* Avicenna presents philosophy, as he says in the introduction, not according to any partisan account, but in the way it naturally is. We may see the first part of the Logic of the *Easterners* as fleshing out the subject-predicate relation by introducing and clarifying the properties that the notions of secondary intelligibles used to describe them have.

Avicenna's work left the Eastern philosophers who were working in his wake with the curious situation of two quite dissimilar approaches to the analysis of atomic propositions and the role of the copula. Adding to the curiosity of the situation is the fact that much of the *Easterners* was lost already before Avicenna's death, and never widely received. Rather, later generations focused their attention almost entirely on the *Ishārāt*, turning to the *Shifā'* mainly for clarification of this terse and often cryptic text.