STUDIES IN
ARABIC PHILOSOPHY

by

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7 البحث | ما نظن انا علمنا الشىء كما لو سأل سايل لم جاء فلان فقيل

8 ليأخذ مالا فقال لم يأخذ قيل | ليقضى دين غريمه قيل ولم يقضى قيل لكى

9 لا يكون ظالما فاذا وقف البحث عن اللم عند هذا | وامثاله فقد سكنت

10 النفس الى معلومها ولا محاله ان بحث اللم فى امثال هذا ينتهى الى | امر لا

يتجاوز عنه ويكون هو الامر الاعم الاعلى الذى يلزمه الحكم لنفسه ولغيره

11 سببه | وهو العله المطلوبه وكذلك ان سئلنا عن الجزئيات ان هذا المثلث لم

12 زواياه الخارجه | مساويه لاربع زوايا قوايم واجبنا بشىء جزئى فقلنا لانه من ذهب

13 و لانه مخطوط | فى ثوب او لانه هذا المثلث لم يكن شىء من هذا جوابا عن

14 العله الذاتيه التى تطلب الان | نقول لانه شكل يحيط به ثلث خطوط مستقيمه

15 كل واحد اذا اخرج ارتسم حوله مساويتان | لقايمتين فيكون جميعها ست زوايا

16 قايمه اثنتان منها داخلتان فبقى الخارج اربعا فنحن | اذا فى اعطاء العله

نضطر الى البرهان على الكلى وليس ممكنا ان نبرهن على هذا الحكم فى

17 المتساوى الساقين برهانا كليا الا ان نقول انه مثلث حال اضلاعه كذا

18 وكذا. | وقال ايضا فى كتابه فى الاوسط الجرجانى فى المقاله الاولى من كتاب

19 البرهان فى | الفصل الذى عنوانه فى ان البرهان الكلى افضل من الجزئى هذا

20 الكلام ايضا وهو | ولان قياس العله انها تكون للكلى لان الحمل له اولى

21 وبذاته تم الكلى علته فى اعطاء الحمل وعلته | الجزئى وهناك يقف اخر السؤال

22 عن اللم مثلا. اذا قيل لم جاء فلان فقيل ليأخذ مالا | فان قيل لم ليقضى

23 دين غريمه فإن قيل لم قيل لكى لا يكون ظالما فيكون وقوف اللم هنا | وهو

الحكم الكلى والعله الاخيره. وان قيل لم كان المثلث زواياه الخارجه معاداه ( )[34]

[34] Illegible word of 3-4 letters.

VI

THE CONCEPT OF EXISTENCE IN ARABIC LOGIC AND PHILOSOPHY

1. INTRODUCTION

The concept of existence has received a great deal of attention from philosophers and logicians in recent years. These studies proceeded in complete unawareness that some of the distinctions drawn and ideas adduced were anticipated in discussions by Arabic philosophers of the 9th and 13th centuries which resulted from an extensive preoccupation with the concept of existence. The purpose of the present chapter is to call attention to—and to describe certain interesting features of—these older treatments of currently relevant themes. The reader can be assured of surprises if he thinks that the idea of " intentional inexistence " was born in the school of F. Brentano, that the denial that *existence* is a predicate was an invention of Kant's, or that B. Russell originated the teaching that the truth of a singular subject-predicate statement required the existence of its subject.

2. THE MUʿTAZILITE SCHOOLS OF BAGHDAD AND BASRA (9TH CENTURY)

In the 9th century, the Muʿtazilites (Muslim scholastic theologians) separated into two schools, one centered at Baghdad and the other at Basra.[1] Both of these schools occupied themselves extensively with the question: What is a thing (shay')? Certain scholars

[1] The ensuing account is taken primarily from: H. S. Nyberg, art. " al-Muʿtazila " in *Handwörterbuch des Islam* (ed. A. J. Wensinck and J. H. Kramers [Leiden, 1941]), pp. 556–562; English version in *Shorter Encyclopedia of Islam*

defined this—following the Stoics, as we shall see—as *anything whose concept can be known and of which something could be said.*[2] Existence (*wujūd*) does not matter: it is only an attribute or quality which, like other qualities, a thing may or may not possess. With it, the thing becomes an entity or existent (*mawjūd*); without it a nonentity or nonexistent (*ma'dūm*). Nonexistents have a mode of subsistence (*thubūt*) of their own, and come with the full equipment of substance and accident, genus and species: the realism of the Mu'tazilite realm of nonexistence is reminiscent of Plato's realm of the Ideas.[3]

In their concern with the question: *What is a thing?* the Mu'tazilites divided into sub-schools. One influential group taught that there are four kinds of things: existents (entities), nonexistents (nonentities), states, and relationships.[4] States and relationships—and the qualities of things generally—were thought to correspond to a status intermediate between that of an existent and of a nonexistent.[5]

(ed. H. A. R. Gibb and J. H. Kramers [Leiden, 1953]), pp. 421-427. D. B. MacDonald, *The Development of Muslim Theology, Jurisprudence, and Constitutional Theory* (London, 1903; reprinted, Lahore, 1960), pp. 159-160 of the reprint. (MacDonald's presentation closely follows that of Heinrich Steiner, *Die Mu'taziliten* [Leipzig, 1865], pp. 80-85.) A. N. Nader, *Le système philosophique des Mu'tazila* (Beirut, 1956) [see especially ch. I of pt. II]. The principal primary source is al-Shahrastānī's *Kitāb al-milal wa-'l-niḥal* ("Book of Religious and Philosophical Sects"), ed. W. Cureton (2 vols., London, 1842, 1846) and tr. into German by T. Haarbrücker (2 vols., Halle, 1850, 1851); see pp. 79-88 of vol. I of Haarbrücker's translation. Cf. also A. Biram (ed.): Al-Naisābūrī, *Die atomistische Substanzlehre aus dem Buch der Streitfragen zwischen Basrensern und Baghdadensern* (Leiden, 1902). The single most comprehensive treatment of the relevant issues is Otto Pretzl, "Die frühislamische Attributenlehre," published in the *Sitzungsberichte der Bayerischen Akademie der Wissenschaften*, Philosophisch-historische Abteilung (München, 1940); 63 pp.

[2] This definition of *shay'* was not, strictly speaking, original with the theologians in Islam, but was taken by them from the Arab grammarians and lexicographers to support their views. Cf. H. Ritter (ed.), *Die dogmatischen Lehren der Anhänger des Islam von Abu l-Hasan 'Alī ibn Ismā'īl al-Ash'arī* (Istanbul, 1929; *Bibliotheca Islamica* I; 2d edition, Wiesbaden, 1963), pp. 36 ff., 42, 44-45, 55, 70, 158-162. See also al-Jurjānī, *Kitāb al-ta'rīfāt*, s.v.; *Taj al-'arūs*, s.v.; and E. W. Lane, *Arabic and English Lexicon*, pt. 4, p. 1626a.

[3] See Nader, *op. cit.*, pp. 140-141.

[4] The views presented here are in the main those of one of the later Mu'tazilites, Abū Hāshim (d. 933), who attempted to reconcile the theories of his father, al-Jubbā'ī (d. 915), with Islamic orthodoxy by declaring God's attributes to be "states" (*ḥāl*; pl., *aḥwāl*). It is not here our aim to examine the various teachings of different sects of Mu'tazilites on these matters. The reader can find some information on the matter in H. S. Nyberg's article cited in footnote 1 above.

[5] Abū Hāshim ibn al-Jubbā'ī of Basra (d. 933)—and other Mu'tazilites—held that states and relationships are purely subjective to the mind of the perceiver,

This Mu'tazilite theory of nonexistence (*al-'adam*) and of modes of being intermediate between existence and nonexistence had a special bearing upon the doctrine of creation. God added but the single quality of existence and things which but for this would have remained nonentities became realized as actual. Here, then, we have a version of a doctrine of preexistent substances. The Muslim theologians used the concept of nonentities to explain God's knowledge of the nonexistent possible world before its actual existence.[6] The awkward theological consequence of setting up a realm of nonexistents which has quasi-being but is uncreated and co-eternal with the deity was got over by putting this realm into the mind of God—an anticipation of Leibniz' solution to the same problem.

3. AL-FĀRĀBĪ (CA. 873-950) [7]

In al-Fārābī we find a denial that existence is a quality. He wrote (evidently in opposition to the Mu'tazilite teaching that existence is an attribute):

Question: Does the proposition "Man exists" have a predicate or not?

Answer: This is a problem on which both the ancients and the moderns disagree; some say that this sentence has no predicate, and some say that it has a predicate. To my mind, both of these judgments are in a way correct, each in its own way. This is so because when a *natural scientist* who investigates perishable things considers this sentence

existing or rather subsisting—in the manner of nonexistents—mentally but not objectively. On the basis of such a qualified realism, states and relationships were put into an ontological category intermediate between that of existents and nonexistents. See T. J. de Boer, *The History of Philosophy in Islam* (tr. E. R. Jones; London, 1903; reprinted 1961), p. 55. Mu'ammar (fl. ca. 900) became widely noted in Islam because he not only accepted relations, but taught that there were infinitely many of them. (See S. van den Bergh, *Averroes' Tahāfut al-Tahāfut*, vol. II [Notes; London, 1954], p. 60 [n. 81.2].) In getting qualities out of the domain of the existent, the Islamic theologians circumvented the problem posed for the strict unity of God by the plurality of His attributes.

[6] Van den Bergh, *op. cit.*, pp. 4-5 (n. 3.6). On the medieval Latin reaction to one aspect of the Arabic views on subsistence-in-the-mind see A. Maurer, "*Ens diminutum*: a Note on its Origin and Meaning," *Mediaeval Studies*, vol. 12 (1950), pp. 216-222.

[7] Bio-bibliographical information regarding all the Arabic logicians to be discussed can be found in N. Rescher, *The Development of Arabic Logic* (Pittsburgh, 1964). For al-Fārābī specifically see N. Rescher, *Al-Fārābī: An Annotated Bibliography* (Pittsburgh, 1962).

(and similar ones) it has no predicate, for the existence of a thing is nothing other than the thing itself, and [for the scientist] a predicate must furnish information about what exists and what is excluded from being.[8] Regarded from this point of view, this proposition does not have a predicate. But when a *logician* investigates this proposition, he will treat it as composed of two expressions, each forming part of it, and it [i.e., the composite proposition] is liable to truth and falsehood. And so it does have a predicate from this point of view. Therefore the assertions are both together correct, but each of them only in a certain way.[9]

Grammatically, "Man exists" is a complete sentence, with a grammatical subject, "man," and a grammatical predicate, "exists." Thus due to close parallelism between the logical and the grammatical relations (especially in Arabic) al-Fārābī unhesitatingly classes "exists" as a legitimate grammatical (or logical) predicate. Even Kant agrees with this, affirming that: "*zum logischen Prädicate kann alles dienen, was man will.*" Consideration of the question "Is 'exists' a predicate?" and of the logical issues involved in it thus goes back at least to the 9th century. Further, al-Fārābī's insistence that the attribution of existence to an object adds nothing to its characterization, and provides no new information about it, effectively anticipates Kant's thesis that: "*Sein ist offenbar kein reales Prädicat, d. i. ein Begriff von irgend etwas, was zum Begriffe eines Dinges hinzukommen könne.*"

4. AVICENNA (980–1037)

In Avicenna's treatise *Dānesh-nāme* he argued:

The difference between the two propositions ["Zayd is a being-that-does-not-see" and "Zayd is not a being-that-sees"] is this, that if Zayd

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[8] That is to say the predicate must give information regarding the nature (*māhīya*, "what"-ness, *quidditas*) of the thing in question. The existence of a thing (its *huwīya*, "that"-ness, *esse*) is not a part of its essence.

[9] *Alfārābī's Philosophische Abhandlungen*, ed. by F. Dieterici (Leiden, 1890), p. 90. For further discussion of this text see the writer's *Studies in the History of Arabic Logic* (Pittsburgh, 1963), pp. 39–42. "Everything possible in itself is, when its being is educed into act, forthwith necessary through another. For, it cannot but be that actual existence either be or not be its true predicate. But it is contradictory that actual existence be not its true predicate, else it would be impossible. It remains, therefore, that actual existence is its true predicate. But, then, either its being is necessary or not necessary...." *Avicennae: Metaphysics Compendium*, ed. N. Carame (Romae, Pont. Institut. Orientalium Studiorum, 1926), Cap. iii, pp. 69–70. Cited in the English translation by Gerard Smith, "Avicenna and the Possibles," *The New Scholasticism*, vol. 17 (1943), p. 342.

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does not exist in the world, you can say "Zayd is not a being-that-sees," because this Zayd who does not exist is not a being-that-sees; but it is not correct to say "Zayd is a being-that-does-not-see" so long as Zayd does not exist.[10]

Avicenna is thus committed to the thesis that if ϕ is a genuine predicate, then

$$\frac{\text{``} \phi a \text{'' is true}}{\text{E}!a}$$

is a valid inference, ("E!a" being construed as stating that a exists). And correspondingly an important difference must be drawn between the assignment of a negation-predicate and the negation of a predicate assignment: [11]

$$[\sim \phi]a \rightarrow \text{E}!a$$
$$\sim [\phi a] \leftrightarrow (\sim \text{E}!a \text{ v } [\sim \phi]a)$$

The proposition "Zayd is a being-that-does-not-see" is an affirmative one, as Avicenna rightly insists, and he lays it down that such a proposition is never true of a singular subject that does not exist.[12]

This doctrine that only actual existents can bear predicates obviously has the significant consequence in that it pretty well rules out the very conception of nonexistents. If it is never true that they have a certain property, they will not have qualities and cannot even be characterized or defined.

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[10] M. Achena and H. Massé (tr's), *Avicenne; Le Livre de Science*, vol. I (Paris, 1955), p. 38. Zayd is the paradigm individual for the Arab logicians—like Plato or Socrates for the Latin medievals.

[11] See A. M. Goichon (tr.), *Ibn Sīnā: Livre de Directives et Remarques* (Paris, 1951), pp. 125–126, where this point is developed. The position at issue here, as well as the thesis that there is no true predication save of existents, go back to Aristotle's discussion in *Categories* x, 13b12–19, where, however, the issue is beclouded by talk of contrary rather than contradictory predications.

[12] *Ibid.*, pp. 37–38. "Everything possible in itself is, when its being is educed into act, forthwith necessary through another. For, it cannot but be that actual existence either be or not be its true predicate. But it is contradictory that actual existence be not its true predicate, else it would be impossible. It remains, therefore, that actual existence is its true predicate. But, then, either its being is necessary or not necessary...." *Avicennae: Metaphysics Compendium*, ed. N. Carame (Romae, Pont. Institut. Orientalium Studiorum, 1926), cap. iii, pp. 69–70. Cited in the English translation by Gerard Smith, "Avicenna and the Posssibles," *The New Scholasticism*, vol. 17 (1943), p. 342.

5. AVERROES (1126–1198)

With regard to the question of whether the world was *possibly* existent prior to its actual existence, Averroes maintained the negative. In line with the Aristotelian thesis that possibility presupposes actuality, Averroes maintained that the possibility of a world "demands an existing matter." [13] Arguing against al-Ghazālī's argument that if possibility requires an existent as its *locus essendi* then so does impossibility, and this consequence is absurd, Averroes meets the argument head-on:

> For impossibility is the negation of possibility, and, if possibility needs a substratum, impossibility which is the negation of this possibility requires a substratum too. [14]

The reasoning is that no judgment is true unless it states what is the case, and nothing can be the case unless it is about something: "All true intellectual concepts need a thing outside the soul; for truth, as it has been defined, is the agreement of what is in the soul with what is outside the soul." [15] This position of course requires a liberalized conception of something—as Aristotle insists *Metaphysics* Γ ii, 1003b10—even absolute privation or non-being is "something," namely the nonexistent. [16] We are brought back to the (Stoic) view that even "nothing" stands for something—although the "something" it stands for does not exist. [17]

The "substratum" at issue in Averroes' discussion is thus not strictly speaking a material one at all in the case of nonexistents, but immaterial, or rather, conceptual. We are, in effect, brought back to the dualistic ontology of existents and nonexistents.

The Averroist position differs, however, from that of Avicenna in

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[13] S. van den Bergh (tr.), *Averroes' Tahāfut al-Tahāfut*, vol. I (London, 1954), p. 60; see also the translator's note *ad loc.* in vol. II (*op. cit.*), p. 46, and cf. p. 136 (n. 236.3).

[14] *Ibid.*, pp. 60–61.

[15] This definition follows that of Aristotle, *De Interp.*, ix, 19a33.

[16] Cf. van den Bergh, *op. cit.*, vol. II, p. 47 (nn. 61.6 and 61.7). Note, however, that Aristotle holds that the actual existence of something is not a requisite for its being thought about so that "Homer is a poet" does not entail "Homer *is* (*simpliciter*) [i.e., exists]." See *De interpretatione* xii, 21a23–28.

[17] Al-Ghazālī took the harder line, holding that, since the nonexistent does not exist, "nonexistence" does not mean anything and stands for nothing. (Van den Bergh, *op. cit.*, vol. II, p. 52 [n. 67.1].)

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an interesting and important way. To exhibit this difference simply and clearly let us introduce two modes of "existential" indicators, E! for strictly *actual* existence and ∃! for all *possible* existence (applying alike to both existents and nonexistents). Then in Avicenna we have it that whenever ϕ is a genuine predicate (i.e., one whose application imputes the possession of a genuine quality) then

$$\frac{\text{"}\phi a\text{" is true}}{\text{E}!a}$$

is a valid inference, so that "the possession of a quality requires the existence of the object." In Averroes, on the other hand, we have merely the weaker thesis that the inference

$$\frac{\text{"}\phi a\text{" is true}}{\exists!a}$$

is valid, so that "no (predicative) judgment is true unless there is something of which it is true." The entities in question may, however, be not strictly *real* but merely *conceptual* existents. [18]

Like al-Fārābī before him, Averroes attacks the Muʿtazilite position that existence is an attribute (and that "exists" is a genuine predicate), and he attacks both al-Ghazālī and Avicenna on this point. [19] He maintains that "existence" has two senses, applying to (1) that which is actual (i.e., true), and (2) that which belongs to the supreme genus of all entities. [20] The first applies when we speak of "what is" in the sense of *what is the case*: thus "x exists" when x is a fact or state of affairs means "x is actually the case." [21] The second meaning applies when we say, for example, "Zayd exists"—existence here represents simply the genus of all actual things. In either case, Averroes insists:

> when we say that a thing exists, the word "exists" does not indicate an entity added to its essence outside the soul, which is the case when we say of a thing [for example] that it is white. It is here that Avicenna erred, for he believed that unity is an addition to the essence and also

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[18] Cf. van den Bergh, *op. cit.*, vol. II, p. 70 (n. 118.1).

[19] Van den Bergh, *op. cit.*, vol. I, pp. 117–119 and 236; cf. the notes in vol. II, pp. 79–81 and 137 (n. 237.4).

[20] *Ibid.*, p. 179.

[21] See also *ibid.*, vol. II, pp. 4–5 (n. 3.6) where van den Bergh properly stresses that "thing" for Averroes comprises also "fact" and "event."

that existence, when we say that a thing exists, is an addition to the thing.[22]

Averroes' position accords with the contention urged by al-Fārābī against the Mu'tazilites: the *existence* of an existing thing is not to be taken as one of its qualities.

6. AL-QAZWĪNĪ AL-KĀTIBĪ (CA. 1220–1292?)

In the *Risālah al-Shamsiyyah* of al-Qazwīnī al-Kātibī [23] we find a discussion which largely follows that of Avicenna but with certain interesting twists. This author terms " *a* is non-φ " an *affirmative privative proposition* and the corresponding " *a* is not φ " an *indivisible negative proposition*. It is maintained that:

> The indivisible negative proposition ... is more general (contains more) than the affirmative with privative predicate ..., for the negation [i.e., the indivisible negative] may be true though the subject is a nonentity ..., but the affirmation cannot be true [in such a case]: because affirmation is admissible only in regard to a thing of ascertained (or acknowledged) existence. ... If the subject does exist the indivisible negative and affirmative privative propositions are equivalent.[24]

Like Avicenna, al-Qazwīnī al-Kātibī accepts the principle that a statement making an affirmative predication of a nonexistent cannot be true. His example of a nonentity is *the partner of God*. We cannot admit the truth of a predication to a nonentity for an affirmation cannot be true of it—" if we say that the partner of God is non-omnipotent, we admit that there is a partner." The negative proposition however can be true—" though there is no such thing as a partner of God, we can still say that if there were one he could not

be omnipotent." [25] The governing principle is that if *a* does not exist, then

a is a φ

must be false, and

a is not a φ

must be true, regardless of the property represented by the predicate φ. (This principle agrees exactly with Russell's theory of descriptions whenever ' *a* ' represents a vacuous definite description.)

7. MODERN PERSPECTIVES

The conception of nonexistents has played an extensive role in modern times in the philosophy of the school of Franz Brentano, figuring in the notion of " intentional inexistence " developed in this school—especially in the theory of " objects " of Brentano's pupil Alexius Meinong.[26] Nonexistent possibles were assigned an important place in logical theory by Hugh MacColl,[27] and Russell's " theory of descriptions " was designed to deal with the problem in a way inspired primarily by the semantical theory of Gottlob Frege. The logical machinery of " nondesignating singular terms " has been developed extensively in the past decade.[28]

The thesis—supported in somewhat different forms by both Avicenna and Averroes—that one can make the inferential step from

" φa " is true

to

a exists

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[22] *Ibid.*, vol. I, p. 118. Averroes makes the interesting assertion that: " the term ' existent ' is attributed essentially to God and analogically to all other things in the way in which warmth is attributed [essentially] to fire and [analogically] to all warm things." (*Ibid.*, p. 179.)

[23] Aloys Sprenger (ed.), *Dictionary of the Technical Terms used in the Sciences of the Musulmans*, pt. II (Calcutta, 1862). Appendix I entitled " The Logic of the Arabians " gives a text edition of this work, together with a (somewhat incomplete) English translation. The omitted sections—which deal with modal logic—are translated in N. Rescher, *Temporal Modalities in Arabic Logic* (Dordrecht, 1967; Supplementary Series for *Foundations of Language*, Vol. 2).

[24] *Op. cit.*, p. 18 (§ 47).

[25] *Loc. cit.*

[26] For an account in English see J. N. Findlay, *Meinong's Theory of Objects and Values* (London, 1963; 2nd ed.).

[27] He published a long series of articles in *Mind* (1880–1906), which were ultimately incorporated into his *Symbolic Logic and Its Applications* (1906). MacColl's views—which for a time succumbed to the (generally misguided) criticisms of Bertrand Russell—are only now beginning to be recognized for their genuine importance. A brief sketch of MacColl's theory is given in the writer's paper cited in the next footnote. By way of contrast the reader may consult A. N. Prior's interesting paper " Nonentities " in R. J. Butler (ed.), *Analytical Philosophy* (London, 1962), pp. 120–132.

[28] N. Rescher, " On the Logic of Existence and Denotation," *The Philosophical Review*, vol. 68 (1959), pp. 157–180; T. Hailperin and H. Leblanc, " Non-Designating Singular Terms," *The Philosophical Review*, vol. 68 (1959), pp. 239–243; J. Hintikka, " Existential Presupposition and Existential Commitments," *The Journal of Philosophy*, vol. 56 (1959), pp. 125–137; J. Hintikka, " Towards a Theory of Definite Descriptions," *Analysis*, vol. 19 (1959), pp. 79–85; T. Smiley, " Sense Without Denotation," *Analysis*, vol. 20 (1960), pp. 125–135.

has been espoused by several logicians in recent years. Thus P. F. Strawson has propounded a sense of " subject-predicate statement " and that the question of the truth or falsity of a statement of this sort of the form " ϕa " would be said " not to arise " unless a actually existed.[29] Along the same lines, R. Harré [30] has argued that if " ϕa " has any truth-value at all (true or false), then it must be the case that $(\exists x)(x = a)$. The theory (which we have found to play a prominent role in Arabic logic) that " there is no predication save of existents " is very definitely a living doctrine in the logic of today.

8. APPENDIX: STOIC ORIGINS

The Mu'tazilite elaboration of the doctrine of nonentities—and thus the entire course of Arabic discussions of the issue—derives from Stoic sources.[31] Its whole machinery of existents and nonexistents, and qualities, states, and relations goes back to this origin. We may be sure of this salient fact even though we cannot trace the exact course of transmission of ideas with all the desirable detail.[32] All the pieces of the intricate chess-game the Arabic philosophers played with the conception of existence were taken from the Stoics, even if some of the moves were original.

The Stoic theory of categories is summarized in Mates' monograph as follows:

> Compared with Aristotle's ten categories, those of the Stoics number only four, plus one " highest notion." The highest notion was called *to ti*, " the indefinite something," and the four categories were:

[29] *Introduction to Logical Theory* (London, 1952), ch. vi.
[30] " A Note on Existence Propositions," *The Philosophical Review*, vol. 65 (1956), pp. 548–549. Cf. the writer's review of this paper in *The Journal of Symbolic Logic*, vol. 21 (1956), p. 384.
[31] Van den Bergh, *op. cit.*; Von Arnim, *Stoicorum Veterorum Fragmenta*; vol. II, pp. 48–49, 118–122, 131–133; E. Bréhier, *La Théorie des incorporels dans l'ancien Stoicisme* (2e ed., Paris, 1928). This Stoic provenience is recognized by van den Bergh only in part, and by Nader (*op. cit.*, pp. 143–144) not at all. (Nader [pp. 143–144] traces the Mu'tazilite doctrine back directly to the Aristotelian teaching that all being requires a preexistent possibility which must in turn have a foothold in some manner of actual existence.)
[32] See S. Horowitz, " Ueber den Einfluss des Stoicismus auf die Entwicklung der Philosophie bei den Arabern," *Zeitschrift der deutschen morgenländischen Gesellschaft*, vol. 57 (1903), pp. 177 ff.; and *idem*, " Ueber den Einfluss der griechischen Philosophie auf die Entwicklung des Kalām " (Breslau, 1909; Jahresbericht des jüdisch-theologischen Seminars zu Breslau). But see also Giuseppe Furlani, " Sur le stoicisme de Bardesane d'Edesse," *Archiv Orientálni*, vol. 9 (Prague, 1937), pp. 347–352.

(1) *to hypokeimenon*   subject or substratum
(2) *to poion*   quality
(3) *to pōs echon*   state
(4) *to pros ti pōs echon*   relation

We are told that these four categories are so related to one another that every preceding category is contained in and more accurately determined by the next succeeding one.[33]

The Arabic term *shay'* (thing)—defined by the theologians as *huwa mā yajūz an yukhbara 'anhu* (" that which it is possible to speak [or: ' predicate '] about ") [34] corresponds to the Stoic *ti* (" something ") which applies to whatever can be meant, the false and the nonexistent included [35]—whatever can be represented by a *lekton* (meaningful expression).

Within the domain of the *ti* (or entity in the very widest sense) lies the *hypokeimenon* (Arabic: *mawjūd*) or actually extant substance.

The Stoic *to poion* or *poiotēs* (" quality ") corresponds to the Arabic *kayfiyyah*. The Stoic thesis of successive containment is clearly the basis for the doctrine that only actual existents can possess qualities.[36] (This doctrine is apparently the ultimate foundation for the contention of al-Fārābī—and certain ancients?—that existence is not a quality and " exists " not a predicate.)

[33] Benson Mates, *Stoic Logic* (Berkeley and Los Angeles, 1961; originally published as vol. 26 of the University of California Publications in Philosophy). Mates here follows the more extensive discussion of E. Zeller, *Die Philosophie der Griechen*, vol. III, pt. 1, (5th ed., Leipzig, 1923), pp. 93–105. On the Stoic categories see also: O. Reith, *Grundbegriffe der Stoischen Ethik* (Berlin, 1933); M. Pohlenz, " Die Begründung der abendländischen Sprachlehre durch die Stoa," *Göttingische gelehrte Nachrichten*, vol. 2 (1938), pp. 182–185; *idem*, *Die Stoa* (Göttingen, 1949); P. de Lacy, " The Stoic Categories," *Transactions of the American Philological Association*, vol. 76 (1945), pp. 261–263; M. E. Reesor, " The Stoic Concept of Quality," *American Journal of Philology*, vol. 75 (1954), pp. 40–58.
[34] Van den Bergh, *op. cit.*, vol. II, pp. 4–5 (n. 3.6). Cf. footnote 2 above.
[35] *Ibid.*, pp. 136–137 (n. 237.2). Ultimately the discussion of course carries back to Plato's *Sophist* (240b) and its conception of a realm of *meanings* that represent a mode of being intermediate between the actually real and the utterly nonexistent. (Cf. *Theaetetus*, 189a.)
[36] Some Stoics distinguished distinct senses of the term—a narrow sense (*poiotēs*) in which a " quality " can be attributed only to an existent and a wider one (*poion*) in which it can also be applied to nonexistents. Zeller, *op. cit.*, p. 98 (n. 1 *ad* p. 97); Bréhier, *op. cit.*, pp. 8–9.

The Arabic term *ḥāl* (" state ") represents the Stoic *pōs echon*.[37] And Arabic *iḍāfah* (" relation ") represents the Stoic *pros ti pōs echon*. The Stoics—like the Sceptics and most of the Muʿtazilites—regarded relations as subjective.[38]

The contemporarily popular " modern " view that nonexistent possibles are to be denied any (strictly) ontological status because the foundation on which they rest is purely linguistic finds its counterparts in the medieval Arabic discussions, and indeed comes round in a full circle to the position espoused in classical antiquity by the Stoics in their theory of the *lekta* (" meanings "; Arabic: *maʿānī*).[39]

In general, it may be said that the searching discussions of the concept of existence nowadays proceeding among logicians, like the earlier ones current in medieval Arabic philosophy, represent variations on a Stoic theme.[40]

[37] On *ḥāl* see M. Horten, " Die Modus-Theorie des Abu Haschim," *Zeitschrift der deutschen morgenländischen Gesellschaft*, vol. 63 (1909), pp. 303–324 and O. Pretzl, *op. cit.*, pp. 51–54. Thinking only of Aristotle among the ancients, Horten claims that the theory of " states " is an indigeneously Islamic development. On our view of the matter, the circumstantial evidence points almost conclusively to a Stoic origin.

[38] Van den Bergh, *op. cit.*, vol. II, p. 11 (n. 13.1), and p. 81 (n. 119.2).

[39] For *al-maʿnā* (pl. *al-maʿānī*) see O. Pretzl, *op. cit.*, pp. 37–43 and M. Horten, " Was bedeutet *m-ʿ-n-y* als philosophischer Terminus," *Zeitschrift der deutschen morgenländischen Gesellschaft*, vol. 64 (1910), pp. 391–396. Also *idem*, " Die ideenlehre des Muʿammar," *Archiv für systematische Philosophie*, vol. 15 (1909), pp. 469–484. Al-Jubbāʾī's use of the term *al-musammā* is also close to the Stoic *lekton*. Cf. H. Ritter (ed.), *Die dogmatischen Lehren der Anhänger des Islam von Abu l-Hasan ʿAlī ibn Ismāʿīl al-Ashʿarī* (Istanbul, 1929; *Bibliotheca Islamica* I; 2d edition, Wiesbaden, 1963), pp. 158–162. However, none of the authorities cited have remarked the Stoic roots of the concepts at issue.

[40] I wish to thank Dr. Bas van Fraassen who served as my research assistant in the preparation of this study, and am grateful to Mr. Salih Alich for helpful comments on a draft of the paper.

VII

THE THEORY OF TEMPORAL MODALITIES IN ARABIC LOGIC AND PHILOSOPHY

1. INTRODUCTION

In the wake of A. N. Prior's book on *Time and Modality* [1] an active interest has sprung up among logicians in the logical theory of chronological propositions generally, and particularly in the relationships that obtain between such propositions and modal concepts. This phenomenon is not surprising, because the issue is one that ramifies widely into various topics of logico-philosophical interest: the theory of tensed discourse, the problem of determinism, and the puzzle of future contingency, among others. The modern discussions have gone forward wholly oblivious to the fact that medieval Arabic logicians had given extensive attention to the development of a theory of temporal modalities, and had developed an extensive and subtle machinery for dealing with problems in this area. The aim of the present discussion is one of " intellectual archeology "—to present the Arabic contributions to this branch of logic in such a way that their linkage with ideas and concepts of present-day interest can be assessed and appreciated.

2. SOURCES

The principal basis for our discussion is " The Sun Epistle " *Al-Risālah al-shamsiyyah* of the thirteenth-century Persian philosopher-scientist al-Qazwīnī al-Kātibī [2] (ca. 1220–1276 or 1292). Not only is this work one of the few that treats of our problem in significant

[1] Oxford, The Clarendon Press, 1957.

[2] For this Arabic logician—as well as all others to be mentioned here—see the biobibliographical register in N. Rescher, *The Development of Arabic Logic* (Pittsburgh, 1964); see pp. 203–204.

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