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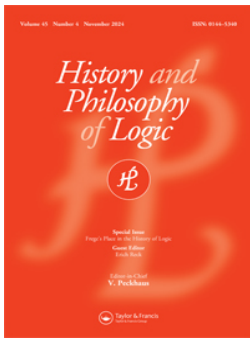
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Propositions with Negative Predicates in Arabic Logic

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ABSTRACT

This paper explores a neglected category of propositions in Arabic logic, propositions with negative predicates (*sālibat al-maḥmūl*), by addressing two pivotal questions concerning this propositional form: first, whether it is possible to defend it as distinct from metathetic and simple negative propositions and second, whether affirmative instances of these propositions have existential import. The paper argues for the existence of two distinct and conflicting theories of existential import frequently implicit in the views of Arabic logicians: one centered on the copula and the other on the predicate.

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1. Introduction

Syntactically, the simplest form of a proposition, Avicenna (Ibn Sīnā, d. 1037) remarks,¹ is the affirmative one, comprising a subject (*mawḍūʿ*), S, and a predicate (*maḥmūl*), P: *S is P*.² This signifies that P is attributed to S in the sense that P exists for S, the relation here being signified by *is*, the copula (*rābiṭa*). Next comes the negative one, *S is not P*, more complex with the addition of the negative marker, *not* (in Arabic *laysa*, *lā*, and the like), attached to the copula to signify the removal or denial of the affirmative relation in which P stands to S. In this case, the copula becomes *is not* to signify that P does not occur for S.

In addition to this syntactic difference made by the occurrence of the negative marker, affirmative propositions differ from their negative counterparts in another perhaps more crucial way: they have existential import (EI)³ in the sense that they are true only if S refers to something existent or if there is something that is S. This requirement does not apply to negative ones because if the affirmative is not true in the absence of S, then its negative counterpart is necessarily true, given the principles of non-contradiction and excluded middle.⁴

Arabic logicians, following Aristotle's lead in the *De Int.* X and *An. Pr.* I.46, recognized an alternative way to introduce negation into a proposition, where the negative particle

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¹ *Avicenna 1970*, p. 34, *1982*, pp. 51–52, *1992*, vol. 1, p. 224.

² In Arabic, a proposition might come with no explicit copula, like *SP*, which is called 'twofold' (*thunāʿī*), while those with an explicit copula (*S is P*) are called 'threefold' (*thulāthī*). However, in a twofold sentence, an implicit copula must be assumed if needed. For related discussions, see e.g., *Avicenna 1970*, p. 76 ff; *Zimmermann 1981*, p. 1, 26.

³ 'A proposition has existential import if and only if it cannot be true unless its subject refers to some existing object(s)'; *Chatti 2016*, p. 102.

⁴ See *Avicenna 1959*, pp. 258–259, *1970*, pp. 79–81, *1992*, vol. 1, p. 224; *Taḥṭānī 1948*, p. 99; also, *Hodges 2012*, *Dasdemir 2019*.

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belongs with the subject, the predicate, or both: *Non-S is P*, *S is non-P*, or *Non-S is non-P* respectively. The term in these examples combining with the negative particle to form a single expression is called ‘indefinite’ (*ghayr muḥaṣṣal* or *ma‘dūl*),⁵ and hence the proposition involving such a term as its one or both parts is called *ma‘dūla*, literally ‘deviant’. But adhering to the more prevalent nomenclature, I refer to it as ‘metathetic’ and restrict the discussion in the following to metathetic propositions with indefinite predicates (*ma‘dūlat al-maḥmūl*). For the other forms of metathetic propositions do not play such a significant role in the work of Arabic logicians.

We have now two forms of proposition which includes negation:

- (1) Affirmative-metathetic (M_a): *S is non-P*
- (2) Negative simple (D_n):⁶ *S is not P*

Obviously, these two are very close to each other. Hence Arabic logicians put forth syntactic and semantic criteria to distinguish between them. In terms of syntax, the negative marker in an M_a sentence attaches to the predicate rendering it indefinite. Conversely, in a D_n proposition it relates to the copula, negating the relationship between S and P to make the entire proposition negative. Metathetic propositions, of course, can also be made negative by means of a negative copula, resulting in a sentence of the form of *S is not non-P*.

Concerning semantic features, M_a propositions diverge from the D_n by the condition of EI, implying that it is true of only existent subjects. As pointed out earlier, negative propositions lack this stipulation and can be true of non-existent as well as existent subjects.⁷

Afḍal al-Dīn al-Khūnajī (d. 1248),⁸ a prominent logician of the thirteenth century, offered a novel reading of propositions with a negated part.⁹ Interpreting the combination of the negative particle (specifically *laysa*) with the subject and/or predicate to signify something different from the metathetic, he came up with ‘propositions with negative subjects’ (*sālibat al-mawḍū*), *Not-S is P*, ‘propositions with negative predicates’ (*sālibat al-maḥmūl*), *S is not-P*, and ‘propositions with two negative parts’ (*sālibat al-ṭarafayn*), *Not-S is not-P*.¹⁰ Of these, the most influential in the tradition is the second one, propositions with negative predicates (hereafter SM), and hence the discussion will be devoted to them in the following.

⁵ Although Aristotle speaks of indefinite nouns and indefinite verbs in the *De Int.* II & III respectively, the latter is ignored by Arabic logicians altogether on the ground that in Arabic, there is no indefinite verbs; see Zimmermann 1981, p. 28; Avicenna 1970, p. 28. Regarding indefinite nouns on the other hand, Fārābī says that a noun ‘becomes indefinite when the negative particle, i.e. the particle ‘not’, is linked with it in such a way that together the two words assume the shape of a single expression’: Zimmermann 1981, p. 222.

⁶ In Arabic logic, non-metathetic propositions are called ‘simple’ (*baṣīṭa*) or ‘definite’ (*muḥaṣṣala*). Hence, they are referred to hereafter as ‘ D_n ’.

⁷ For a historical debate over the difference between M_a and D_n propositions, see Dasdemir 2019.

⁸ On Khūnajī’s life and work as a logician, see *El-Rouayheb* 2010, 2019, pp. 44–47; Street 2014; Zolghadr 2024. Khūnajī’s enormous influence on the trajectory of Arabic logic was widely acknowledged in the decades immediately following his death. The renowned historian and social scientist Ibn Khaldun (d. 1406) (1958, vol. 3, p. 143), who was born less than a century later in Andalusia at the other end of the Islamic world, for example, names him alongside Fakhr al-Dīn al-Rāzī (d. 1210) as the pioneers of the new conception of logic in the Islamic world.

⁹ This is in line with Street’s observation (2014, p. 457) that ‘the profusion of propositional types’ is one the most striking features of Arabic logic in the period.

¹⁰ To differentiate between metathetic and negative terms, I prefer to show the former with *non-* and latter with *not-*, as will be clearer shortly.

We have thus three propositional forms in which negation somehow occurs: alongside (1) and (2) above,

(3) Affirmative proposition with negative predicate (SM_a): *S is not-P*

Khūnajī does not expound in detail on the semantics and truth conditions of this new category of propositions,¹¹ which sparked continuous debates from the thirteenth century to the present day,¹² revolving particularly around two issues:

- (1) The possibility of SM_a propositions, i.e. whether it is possible, on syntactic or semantic grounds, to defend this propositional form as distinct from M_a and D_n propositions. This is a problem because if the negative marker in SM_a propositions is included in the predicate, as Khūnajī seems to have accepted, then it is not easy to distinguish them from the M_a . If it is not included in the predicate, on the other hand, then it will attach to the copula, making the proposition D_n .
- (2) The EI of SM propositions, namely the question of whether SM_a propositions bear EI or, to put otherwise, how defensible to recognize a proposition that is affirmative yet lacking EI.

In addressing these two problems, proponents of SM propositions have tried to establish the conjunction that *SM propositions constitute an independent form and they do not have EI when affirmative*, whereas opponents have challenged either or both conjuncts. They have either directly rejected these propositions through categorical denial, on syntactic or semantic grounds, or indirectly challenged them by positing that, being affirmative, SM_a propositions require the subject to refer to something(s). I take this position as a rejection of SM propositions because if they have EI in their affirmative instances, it would be virtually impossible to differentiate them from M_a propositions. More crucially, in that case, they would become redundant, given that SM propositions were initially introduced due to the quest for an affirmative proposition free from EI requirement, as will be seen shortly.

This paper scrutinizes, this overlooked category of propositions as expounded in the writings of Arabic logicians from the thirteenth to the sixteenth century, the second section addressing the first problem and the third section the second problem.

2. The Possibility of *Sālibat al-maḥmūl* Propositions

In his *magnum opus*, *Kashf al-asrār*, Khūnajī for the first time talks about propositions with negative parts when he offers an exceedingly detailed examination of the contraposition (*aks al-naqīd*) of categorical propositions. There he classifies propositions according to

¹¹ See e.g., *Khūnajī 2010*, pp. 152, 154–55, 185.

¹² The discussions of SM propositions are still alive especially in contemporary Iranian philosophy in connection with the notion of possibility along the lines drawn by Mullā Ṣadrā (d. 1641), who defines (1990, vol. 1, part 1, p. 169) possibility in an SM_a proposition as something's being attributed the negation of both sides of necessity, i.e., the necessity of existence and the necessity of non-existence; for a detailed discussion of the relationship between possibility and SM propositions in Ṣadrā's thought, see also *Javādī Āmolī 1382/2004*, vol. 1, part 2, pp. 590–600; *Mohammadi 1375/1996*. The discussion between Moḥammad Ḥosayn Ṭabāṭabāī (d. 1981) and Mahdī Ḥā'eri Yazdī (d. 1999) in the 1970s is significant in this respect. For their respective stands on the issue, see *Ḥā'eri Yazdī 1353/1974–5* and *Ṭabāṭabāī 1360/1981–2*.

their subjects and predicates being simple/definite (S and/or P), metathetic (non-S and/or non-P), or negative (not-S and/or not-P), obtaining at the end nine different propositions.¹³ This examination is highly innovative in that it introduces SM propositions (and also in some other aspects the details of which do not pertain to our subject).¹⁴ To do so, Khūnajī first seems to draw a distinction between two Arabic expressions of negation, namely *not-* (*laysa*) and *non-* (*lā*). The former renders negative any term it attaches to, while the latter makes it metathetic.¹⁵ That is, a part of proposition is negative if it has the form *that which is not P* (*mā laysa B*) or *not-P* (*laysa B*) for short, whereas it is metathetic if it is of the form *that which is non-P* (*mā huwa lā-B*) or *non-P* for short. Accordingly, such a proposition as *S is [something] that is non-P* is a proposition with a metathetic predicate and hence M_a , while *S is [something] that is not P* is an SM_a proposition. Second, he suggests on several occasions¹⁶ that *not-P* (*laysa B*) is more inclusive than *non-P* (*lā-B*) because it applies to non-existent things as well. This is understandable given the semantic of *not-P* as *that which is not P* because it is evident that not only existent but also non-existent things might not be P.

To establish the feasibility of such a category as SM_a propositions without EI, Khūnajī does not provide positive theoretical proofs. Instead, he puts these propositions into practice to propose substantiated revisions to Avicennian logic. Two instances of these revisions are noteworthy.

First, Khūnajī criticizes Avicenna's definition of contraposition as 'taking what contradicts the predicate to make it the subject and what contradicts the subject to posit it as the predicate'.¹⁷ According to Khūnajī, contraposition should be redefined as an inference in which the original subject or its contradictory is predicated of the original predicate's contradictory, provided that in the latter case, the original proposition retains its quality, whereas in the former, it assumes the opposite one.¹⁸ Thus, *All Ss are P*, for instance, implies as its contrapositive either *No not-P is S* or *All not-Ps are not-S*. Notice here that the second contrapositive is an SM_a but equivalent to its negative counterpart, *No not-P is S*. This is possible only if the SM_a is taken without EI because, otherwise, the negative one would be more generally true than, hence not equivalent to, the SM_a .

According to Khūnajī, we must recognize a universal SM_a proposition without EI if Avicenna's proof for the contraposition of universal affirmative propositions will go through, which is the following:¹⁹

Avicenna's proof:

If all Ss are P, then all not-Ps are not-S.

¹³ Khūnajī 2010, pp. 147–194.

¹⁴ See Zolghadr 2024.

¹⁵ In fact, Avicenna at times (e.g. 1910, p. 66) explicitly acknowledges that a proposition containing a *laysa* following the copula (as in *Zaydun huwa laysa bi-'aqil*) is more likely to be interpreted as affirmative rather than negative. Khūnajī may have been inspired by such statements of Avicenna when introducing SM propositions.

¹⁶ Khūnajī 2010, p. 90, 152.

¹⁷ Avicenna 1964, p. 93.

¹⁸ Khūnajī 2010, pp. 147–148. His account of contraposition is much more complex, but I am simplifying it for the sake of brevity.

¹⁹ Avicenna 1964, p. 93.

(1) <i>All Ss are P</i>	(premise)
(2) <i>Some not-Ps are not not-Ss</i>	(assumed contradictory of the consequent)
(3) <i>Some not-Ps are Ss</i>	(from 2, double negation law)
(4) <i>Some Ss are not-Ps</i>	(from 3, conversion)
(5) \perp	(contradiction between 1 & 4)
(6) <i>All not-Ps are not-Ss</i>	(from 2 & 5)

Khūnajī argues that if the contrapositive here is to be taken as M_a rather than SM_a , then the inference from (2) to (3) would not be valid. This is because,

- (i) (2) is more generally true than (3), the reason being that (2), being negative, lacks EI, while (3) possesses it. More generally true statements do not imply more specific ones.
- (ii) Thinking otherwise would result in the impossibility of two contradictories being simultaneously false. For let us assume that (2) is true and implies (3), then its contradictory, i.e. *All not-Ps are not-S*, would be false, but (3) also could be false at the same time because in the absence of the subject, *All not-Ps are not-S* and *Some not-P is S* would be both false. Although these two propositions are not contradictory, if the latter is false, (2) must be also false because the consequent being false makes the antecedent false.²⁰

Through this argument, Khūnajī demonstrates that Avicenna must have interpreted the contrapositive of the universal affirmative proposition, *All not-Ps are not-S*, as an SM_a proposition without EI, rather than an M_a with EI.²¹

As a second instance to which Khūnajī applies his SM propositions, I could mention his approach to affirmative premises in the first- and third-figure syllogisms. According to him, the following syllogism is valid:

Everything that is not-existent is not-sensible

The void is not-existent

Therefore, the void is not-sensible

Khūnajī views this syllogism as valid whose minor premise declares the subject to be not-existent, while the major states that everything of which being not-existent is affirmed has the property signified by the predicate. However, the premises cannot both be negative, as two negative premises would yield no conclusion. Furthermore, they cannot be M_a , either, because they—especially the minor premise, traditionally supposed to be affirmative and therefore possess EI—lack EI, as evident from the propositions themselves stating

²⁰ Khūnajī 2010, p. 147, also 87; Kātībī 2019, p. 448. Khūnajī's theory of contraposition elicited both supportive and opposing arguments from later logicians. However, given the limitations of this paper, a more thorough investigation of this matter will not be pursued further. For a historical and theoretical account of contraposition in Arabic logic, see Fallahi 2019, 2023.

²¹ The fact that Avicenna (1964, p. 94) justifies the contraposition of particular affirmative propositions by saying 'there happen to be existent and non-existent things that are outside both J and B', lends support to this conclusion. His mention of non-existent things could be taken as implying their inclusion in the extension of the subject in the particular SM_a proposition.

that the subjects do not exist. Therefore, the minor in this first-figure syllogism must be an affirmative premise without EI, that is, I argue,²² an SM_a proposition.²³

Khūnajī's distinction between two negative particles, *laysa* and *lā*, to separate SM and metathetic propositions seems to have found support from his students. Athīr al-Dīn al-Abharī (d. 1265), for instance, in his *Tanzīl al-afkār*, his most 'revisionist'²⁴ writing on logic, reiterates the distinction. For him, *Every S is not-P (Kullu J laysa B)*, read as an SM_a proposition, signifies that the negated predicate, *not-P*, is affirmed of every individual falling under S.²⁵ It seems, therefore, that in the early generations, SM propositions were conceptualized as having the negative marker of *laysa* in their predicate, setting them apart from metathetic propositions with *lā* in their predicate.

Naṣīr al-Dīn al-Ṭūsī (d. 1274), a card-carrying Avicennian logician, who authored a critical commentary on Abharī's *Tanzīl al-afkār*, categorically rejects this newfangled class of propositions of the post-Avicennian tradition. His argument runs as follows:

[T1] *Ṭūsī* 1974, p. 168:

If the negation follows the copula [in Arabic], then it indicates metathesis ('*udūl*'), irrespective of whether the expression *not-* (*laysa*) combines with another or the expression *non-* (*lā*) merges with another. This is because all these expressions combined or merged with another are taken as a single unit (*mufrad*) to be predicated [of the subject]. For a proposition could not be predicated of a single subject through a predication of it-is-it (*hamla huwa huwa*).

Ṭūsī rejects the distinction suggested by Khūnajī and Abharī between *laysa* and *lā* in determining whether a proposition is M or SM. For Ṭūsī, what matters in this context is the position of these negative markers. If they follow the copula in Arabic, that is, if it attaches to the predicate rather than the copula, the proposition should be deemed metathetic. This is because the compound expression (*laysa P* or *lā-P*) is treated as a single unit, attributable to S. Otherwise, if this compound expression is not considered a single unit, then it would be a negative sentence with *laysa*, which would pose an important issue given that a sentence cannot be predicated of a single subject.²⁶ Therefore, according to Ṭūsī, there is no way to interpret *Every J is not-B (Kullu J laysa B)* as an SM_a proposition as suggested by Abharī; instead, it must be regarded as an M_a proposition.

In his commentary on his own *Qistās al-afkār*, Shams al-Dīn al-Samarqandī (d. 1322), another influential logician of the period, raises another argument to the same end. For him, the negative word of *laysa* is utilized in Arabic language to negate the predicate of the subject, regardless of whether it precedes or follows the copula. Hence, the proposition in

²² As the anonymous reviewer of HPL brings to my attention, Khūnajī never explicitly labels the minor premise as an SM proposition. However, his mention of 'negation being truly predicated of the subject' in the premise, which might count as the definition of SM propositions, makes clear enough that what he means by the affirmative proposition with no EI here is the SM proposition. In addition, as the reviewer also points out, Sirāj al-Dīn al-Urmavī (d. 1283), one of Khūnajī's most influential followers, explicitly states that the minor premise here should be SM with the same justification; see *Tahtānī*, 1393/2014–5, p. 284. It should also be noted that regarding such syllogisms, Najm al-Dīn al-Kātibī (d. 1277) (2022, p. 168) requires the minor premise to be a mental proposition, a propositional category not available to Khūnajī yet.

²³ *Khūnajī* 2010, p. 90. Indeed, Aristotle's argument in the *De Caelo* I.3 was interpreted as involving a first-figure syllogism composed of two M_a propositions, and since then, logicians including Alexander of Aphrodisias, Boethius, and Avicenna deemed such syllogisms valid, provided that they included M_a minors. As such, they were not considered an exception to the rule requiring affirmative premises to have EI. See *Alexander of Aphrodisias* 2006, p. 94; *Zimmermann* 1981, pp. 239–240, esp. notes on these pages; *Avicenna* 1964, p. 492, 1970, p. 81.

²⁴ *El-Rouayheb* 2019, p. 50.

²⁵ *Abharī* 2022, p. 111. Also, Abharī does not accept Avicenna's theory of contraposition and his argument above; see *Abharī* 2022, p. 157.

²⁶ For an explanation, see *Siyālkūtī* 1288/1871–2, p. 46.

which it occurs is inevitably D_n . The negative expressions $\bar{l}\bar{a}$ and *ghayr*, however, he contends, render the proposition M . Consequently, Arabic syntax makes no room to formulate an SM proposition.²⁷

Qutb al-Dīn al-Rāzī al-Taḥṭānī (d. 1365), who was otherwise rather unhappy with post-Avicennian innovations in logic, introduced a new analysis of SM propositions, which would serve as the standard point of departure for subsequent discussions. Taḥṭānī first raises a hypothetical objection, highly reminiscent of Ṭūsī's argument above, that in, e.g. *S is not P (J laysa B)*, if the negation is regarded as part of the predicate, the proposition assumes the form of an M_a . Conversely, if it is considered external to the predicate, the proposition is then D_n . Hence, such a proposition as SM_a becomes inconceivable. In response to this objection, Taḥṭānī states:

[T2] *Taḥṭānī 1393/2014–5*, p. 286:

The negative marker is outside the predicate both in [simple] negative and SM propositions. However, in the case of SM propositions, there is an additional element to consider: in the [simple] negative, we conceptualize the subject, the predicate, and the affirmative nexus between them before negating that nexus. In SM propositions, on the other hand, we [similarly] conceptualize the subject, the predicate, and the affirmative nexus, and subsequently, negate that nexus. Yet after that, we proceed to predicate that negation of the subject. This is because if the predicate's being affirmed of the subject is not true, then its negation of it must be true. That is, unlike the [simple] negative, the SM proposition involves considering the negation twice.

The most significant in this account is Taḥṭānī's assertion that the negative marker is outside the predicate. Very probably under the influence of Ṭūsī's argument in **T1**, Taḥṭānī must have felt the need to exclude the negative particle from the predicate so as to defend the possibility of SM propositions. Yet he seems aware that this move will confront him with the question of how to differentiate them in that case from D_n propositions. His solution is noteworthy as he accepts four semantic elements in the latter: the conception of the subject, the conception of the predicate, the conception of affirmative nexus between them and its negation. In the SM proposition, there is a fifth element to take into account in addition to the four: the affirmative predication of this negation of the subject. This is why the proposition is affirmative at the final analysis.

On the following lines, Taḥṭānī makes clearer a point in the passage that an SM proposition is a result of two proposition-making operations. In the first, one forms a negative proposition, *S is not P*, and in the second, one forms an SM_a by predicating that negative proposition of the same subject, *S is something that is not P*. This reading of the SM proposition clearly separates them from both M_a and D_n ones because, Taḥṭānī remarks, the D_n signifies that P is negated of S while the M_a that S is non- P . Note here that the copula of the SM_a is affirmative, and therefore so is the proposition itself. However, despite being affirmative, it exceptionally lacks EI, according to Taḥṭānī, too, just like a D_n proposition.²⁸

Nevertheless, even with this two-layered analysis of SM propositions by Taḥṭānī, it appears, not all the problems were settled, as the question of whether the negation is part of the predicate persisted as a point of contention in subsequent discussions. For instance, Jalāl al-Dīn al-Dawānī (d. 1502), the influential scholar of the fifteenth-century Iran, addresses the question to criticize an argument saying that the negative particle is not

²⁷ *Samarqandī MS*, fol. 39a.

²⁸ *Taḥṭānī 1393/2014–5*, p. 286.

part of the predicate in the first D_n proposition although it is in the second, i.e. SM_a , proposition. To Dawānī, this is nothing more than a desperate and forced attempt to explain away the obvious inconsistency into which Taḥṭānī got himself.²⁹

Dawānī also supports Ṭūsī's argument in T1, dealing with an objection raised against it. In this objection, Dawānī relates, it is granted that the predicate of SM propositions encompasses the content (*maḍmūn*) of a D_n proposition. Yet this does not imply that the predicate is a proposition in its own right, just as with the sentence *Zayd, his father is not standing*.³⁰ The anonymous objector here seems to suggest that the predicate in this example sentence (*his father is not standing*) is not an independent proposition due to the presence of the indexical expression *his*, which lacks complete sense without also considering *Zayd*. Similarly, the objection implies, the predicates of SM propositions, despite appearing to be complete sentences, are not independent, complete statements.³¹

According to Dawānī, however, this objection is not enough to undermine Ṭūsī's argument because what matters in this context is whether or not the negative marker is part of the predicate. Hence, if it is, the proposition is inherently metathetic, irrespective of whether the predicate is expressed succinctly (*ijmāl*) or elaborately (*tafṣīl*).³² The crux of his argument appears to be that whether phrased succinctly as *S is not-P* or elaborately as *S is something that is not P*, the proposition retains its metathetic nature as long as the negative marker is incorporated in the predicate. If it is the case, then the proposition is also affirmative, Dawānī adds, and therefore has EI, which brings us the more controversial aspect of SM propositions, namely their EI.³³

3. The Existential Import of *Sālibat al-maḥmūl* Propositions

The assertion that SM_a propositions lack EI in contrast to other affirmative propositions appears to have captured the attention of Arabic logicians on a broader scale. Before proceeding to the arguments for and against this assertion, I would like to highlight two approaches that these discussions have brought to the forefront more prominently than in any other context, namely two distinct and competing theories of EI regarding the specific element within affirmative propositions that serves as the cause or basis for EI. The first identifies it as the copula, which I will call the 'copula-based theory' of EI, while the second as the predicate, which I call the 'predicate-based theory'.

²⁹ Dawānī 2014, p. 195.

³⁰ Dawānī *MS*₂, fol. 54b10–21.

³¹ This interpretation was adopted by some later sources where it is asserted that the predicate of an SM proposition is a D_n proposition devoid of judgment (*ḥukm*): see e.g., Şafawī 1983, p. 168. As Nūrī (1397/2018–9, p. 69) also points out, such a view depends on the idea that the existence of a proposition does not necessarily implies the existence of a judgment. This is clear, e.g. from the case of conditional propositions; they include at least two propositions as their antecedents and consequents, but both are devoid of judgment and therefore not true or false on their own. At this point, a question might occur as to whether a declarative sentence without judgment could be called proposition, but I would see it as a verbal discussion of little logical significance to our topic. On the issue, see Avicenna 1910, p. 61, 1964, pp. 231–232, 1971, pp. 25–26; also Shehaby 1973, pp. 215–216.

³² Dawānī *MS*₂, fol. 54b22–24.

³³ In the secondary literature, Fallāḥī 1388/2009 addresses the issue of EI as the ambiguous aspect of SM propositions and tries to eliminate this ambiguity with the help of modern logical notations in terms of Khunajī's too complex propositional classifications, which we cannot discuss in detail here. However, the paper is open to criticism due to both these notations and its negative evaluations of Arabic logic.

- (a) **The copula-based theory:** According to this perspective, what requires affirmative propositions to have EI is the affirmative and predicative nature of the copula. For given that the copula indicates something being predicated of another, the other thing, the subject, must be existent to underlie or bear the predicate, with no regard to whether the predicate itself bears any existential content.
- (b) **The predicate-based theory:** This approach does not deny the necessity of the affirmative copula for the EI requirement but deems it insufficient on account that the requirement is rooted in the predicate rather than the affirmative copula. If the predicate contains existential or positive content, then the subject must exist to bear it. If the predicate lacks such content, the subject need not exist, even in the presence of an affirmative copula.

The difference here seems to have its source in two distinct ideas about the nature of the predication. The copula-based theory seems to presuppose the notion of the affirmative predication that expresses the attributive relation between the subject and predicate and, like any relation, requires the existence of two *relata*. Notably, this theory takes the subject and predicate as two entities of equal standing. On the other hand, the predicate-based theory appears to hinge on the ontological relation between an attribute or accident and its subject. Accordingly, if the attribute/accident is positive, the subject bearing it must be existent, but if it is not, then the subject will not be necessary to exist. Therefore, while the first theory seems to adopt a more logic-oriented approach, taking the proposition itself in the centre of the account, the second appears to be more focused on ontology, putting emphasis on the ontological relation that the proposition is *about*. Although this explanation may appear appealing *prima facie*, it may not do full justice to theories here, particularly to the first.

The copula-based theory in Arabic logic can be readily traced back to Avicenna. He appears to endorse this perspective when he emphatically asserts that, irrespective of the specific properties of the predicate, affirmation itself necessitates the existence of the subject.³⁴ Moreover, the so-called principle of dependence (*qā'idat al-far'iyya*) could be recorded in favour of this approach, i.e. that one thing's being affirmed (*ithbāt/ijāb*) of another depends on the other thing's itself existing. In negative terms, no predicate can be affirmed of such a non-existent subject. In sum, no property could conceivably subsist in a subject if the latter by no means existed, nor could any predicate be affirmatively said of a non-referring subject-term.³⁵

We find, on the other hand, an articulation of the predicate-based theory in the writings of Rāzī, where he asserts that anything that is the subject of a positive/existent predicate (*bi-ḥukmin thubūtiyyin/bi-ṣifatin wujūdiyyatin*) must also be positive/existent.³⁶ It is noteworthy that this position shifts the focal point of the EI requirement from the affirmative

³⁴ Avicenna 1970, p. 82.

³⁵ The underlying idea of the principle is abundant in the writings of Avicenna and his immediate successors (e.g., Avicenna 1960, p. 33, 1970, p. 79; Bahmanyār 1375/1996–7, pp. 288–289). Yet it appears that the first comprehensive formulation, articulated as 'something's obtaining (*ḥuṣūl*) for something else is depending on that thing's obtaining in itself', is credited to Rāzī (1990, vol. 1, p. 130, 132, 2021, vol. 1, p. 296). For recent scholarship, see Benevich 2018, pp. 37–42; Dasdemir 2019; Adamson & Benevich 2023, p. 140; Zamboni 2024, p. 77.

³⁶ Rāzī 1990, vol. 1, p. 130, 132, 2021, vol. 1, p. 295. Benevich (2018, p. 37) aptly shows that *ḥukm* in this context means 'predicate', but not 'judgment'. See also Hilli 1433/2011–2, p. 106 for his controversial assertion that Muslim philosophers unanimously held this principle.

copula to the predicate's being positive. Actually, Rāzī himself applies this principle to M_a propositions, leading to the conclusion that they cannot be affirmative and consequently lack EI due to the fact that their predicates are not positive. If a predicate, like that of meta-thetic propositions, is not existent in itself, it could not exist for any subject, and in that case, there would be no affirmation, which amounts to saying that metathetic propositions could not be affirmative.³⁷ However, as we will see shortly in more detail, Jurjānī represents a more moderate application of the principle, rejecting only the EI of SM_a propositions based on this interpretation of EI.

Let's now delve deeper into the arguments for and against the view that SM_a propositions have EI, clarifying meanwhile the pivotal role played by the two theories of EI within these arguments.

3.1. For the EI of SM_a Propositions

As far as I am aware, the earliest argument for the EI of SM_a propositions comes from the fifteenth-century Ottoman scholar Hatibzāde (d. 1496).³⁸ In his critical superglosses on al-Sayyid al-Sharīf al-Jurjānī's (d. 1413) widely read glosses on Ṭūsī's philosophical kalām handbook, *Tajrīd al-i'tiqād*, Hatibzāde raises objections to the glossator's view of SM_a propositions as lacking EI. First, he reminds Taḥṭānī's definition of the SM_a proposition as a statement that S is something of which P is denied.³⁹ Departing from this definition, his argument unfolds as follows:

[T3] *Hatibzāde MS*, fol. 39b4–9:

Undoubtedly, the truth of this affirmation depends on the concept of something (of which P is denied) being present for S in *nafs al-amr*, and something's being present for something [else] is dependent on the presence of the subject of affirmation [...]. Then, it follows that SM propositions, just like other affirmative propositions without any difference, require the subject to exist, at least in the mind.⁴⁰

The argument makes a clear point that, according to the principle of dependence, something's existence for another depends on the other's being existent. An SM_a proposition is true provided that its predicate (namely, 'something of which the predicate is negated') exists for the subject. Therefore, its being existent for the subject must also depend on the existence of the subject. Notice in this argument Hatibzāde's emphasis on the copula's affirmative character and his use of the principle of dependence as the major premise of his argument, which, as we saw, serves as an indispensable foundation for the copula-based theory of EI.

Two points in this argument deserve special attention: *nafs al-amr* and the phrase of 'at least in the mind' at the end of the text. To begin with the first, a comprehensive account of the concept of *nafs al-amr*, which holds a highly significant place in post-classical Islamic thought, particularly in discussions around the truth of propositions, goes beyond the

³⁷ Rāzī 2021, vol. 1, p. 116, 1384/2005, vol. 1, pp. 158–159. For a discussion of the issue, see *Dasdemir 2019*.

³⁸ On his and work, see *Taşköprizāde Aḥmed 2019*, pp. 250–255. The Ottoman proper names are transliterated hereafter according to the modern Turkish conventions.

³⁹ *Taḥṭānī 1393/2014–5*, p. 286.

⁴⁰ ولا شك أن صدق هذا الإيجاب يتوقف على ثبوت مفهوم شيء سلب عنه ب لـج في نفس الأمر وأن ثبوت شيء لشيء فرغ ثبوت المثبت له فيلزم أن يقتضي السالبة المحمول وجود الموضوع ولو في الذهن كسائر القضايا من الموجبات بلا فرق.

scope of this paper. Nevertheless, let me provide a brief overview: the term of *nafs al-amr* refers to a mode of reality that serves as the truthmaker or the reference point for propositional truth. This reality encompasses the extramental world entirely, that is, whatever exists or holds in the extramental world exists in *nafs al-amr*, too. There is, however, a partial overlap between mental existence and *nafs al-amr* because the former does not include extramental existence, while the latter is devoid of counterfactual assumptions of the mind. Consequently, a proposition is true only if it corresponds or represents a state of affairs/a fact that is realized in *nafs al-amr*.⁴¹ By referring to *nafs al-amr*, Hatibzâde could have meant to underline that the truth of SM_a propositions is contingent upon a situation therein. If the subject of such a proposition possesses in *nafs al-amr* the property of being ‘something of which the predicate is negated’, then the proposition will be true.

Hatibzâde’s caveat of ‘at least in the mind’ seems to allude to the fact that SM propositions could be interpreted as mental propositions, namely, propositions whose subjects exist only in the mind and impossible to exist extramentally.⁴² His reference to *nafs al-amr* corroborates this allusion because *nafs al-amr* is more often referred to as a truthmaker for propositions whose subjects exist only in the mind.

On the following lines, Hatibzâde unequivocally rejects the predicate-based theory. For the predicate, Hatibzâde argues, has no role to play in the requirement of EI because the major premise above, that is, the principle of dependence, is regarded by logicians as a necessary premise, making no distinction between positive and negative predicates. He then shifts the discussion to the EI requirement for mental propositions. For him, just as the existence of the subject is considered necessary to attribute a positive or negative predicate to an externally existent subject, in the same way, an affirmative predication of a subject in the mind must require its mental existence.⁴³ Here once again, we see more clearly Hatibzâde’s tendency to view the category of SM as mental propositions.

The position that SM_a propositions have EI receives a significant support from Hatibzâde’s Iranian contemporaries, Dawānī and Şadr al-Dīn al-Ḍashtakī (d. 1498). The former argues for the position with reference again to the copula-based theory and Avicenna’s remark in its favour mentioned above. He contends that it is only the affirmative copula (*al-rabṭ al-thubūtī*) that requires the subject to refer to something, with the properties of the predicate being completely irrelevant in this context. He also appeals to the principle of dependence, stressing that it is a universal principle with no reasonable exception.⁴⁴

According to Ḍashtakī, some predicates, like ‘not-changeable’ (*ka-ghayri l-mutaḥarriki bi-ma‘na l-salbi*), could hold true of both existent and non-existent things, while some, like ‘changeable’ (*mutaḥarrik*) are true only of existent subjects. However, in either case, the subject must be existent if the proposition is affirmative because of the relation between the subject and predicate. That is, that the subject and predicate are different in one regard and one in another requires the existence of the subject and also the predicate because

⁴¹ There is an emerging secondary literature on *nafs al-amr*, including notably *Fazlıođlu 2014, Hasan 2017, Spiker 2021*, and *Erdt 2024*.

⁴² The term of ‘mental proposition’ was used by Latin logicians to refer to a completely different category in their classification of propositions into mental, written, and spoken, according to the medium they exist. On relevant discussions, see *Cesalli 2016; Read 2016*.

⁴³ *Hatibzâde MS*, fol. 39b9–16.

⁴⁴ *Dawānī MS*, 1787, fols. 39b13–40a7; 2014, pp. 193–194.

non-existent things cannot be said to be one or different,⁴⁵ which we can take as another explanation for the copula-based theory.

Finally, in this subsection, I would like to briefly address another manoeuvre of downgrading SM propositions appealed to by the logicians who ascribe EI to SM propositions. As I said above, claiming that these propositions have EI amounts in a way to rejecting their feasibility. This is because it would be practically impossible and completely futile to introduce SM_a propositions alongside M_a ones if the former group also has EI just like the latter. Here I will speak of the conceptualization of SM propositions as mental propositions.⁴⁶

The first I could pinpoint to pave the way to interpreting SM propositions as mental is Hacı Paşa (d. ca. 1424), reportedly a classmate of Jurjānī.⁴⁷ In addressing the problem of the EI of SM_a propositions, he takes a middle-ground position, asserting that these propositions would not require EI if construed as essentialist or external, but they would if interpreted as mental propositions. However, he adds two remarks to further complicate the situation: (a) there is no distinction between SM_a and M_a propositions in having EI when considered mental propositions, and (b) it makes no difference in this context whether the time of the predicate's existence for the subject or the judgment of this existence is taken into account.⁴⁸

Hacı Paşa's account of SM propositions appears both original and unconventional. It is original in the sense that, to the best of my knowledge, he is the first to apply three different readings of propositions to them, yielding varying results in terms of the EI requirement: SM_a propositions have EI on the externalist and essentialist readings, but lack it on the mental reading. It is unorthodox because he ascribes the same status of EI to both M_a and SM_a , which, if granted, would render practically impossible to distinguish between these two propositional classes. His final assertion (b) alludes to yet another distinction that Arabic logicians introduced to address the challenging issues of EI.

Arabic logicians delineate two periods of time during which the subject of a proposition may exist.⁴⁹ The first denotes the time during which one engages in making the judgment that S is (or is not) P—this is momentary, for example, and is termed the 'judgment time'

⁴⁵ *Dashtakī MS*, fols. 28a20–b2.

⁴⁶ According to tripartite classification of propositions in the post-Avicennian Arabic logic, if the subject of a proposition is taken into account in terms of its referents existent extramentally, then the proposition is externalist (*khārijīyya*). If, however, the subject is taken to encompass individuals that are assumed to exist as well as extramentally existent ones, then the proposition becomes essentialist (*ḥaqīqīyya*). Accordingly, *The phoenix is a bird* is false if read externally because there is no phoenix in the external world, but it is true if read essentially, that is, on the assumption that if the phoenix existed, it would be a bird. If the subject has only mental individuals that are impossible to exist externally, then the proposition is mental (*dhihniyya*). For the early sources of the classification, see *Rāzī 2021*, vol. 1, pp. 118–120; *Tahtānī 1948*, p. 94, *1393/2014–5*, pp. 262–263; *Abharī 2022*, pp. 105–107. For criticism of the category of mental propositions, see *Tūsī 1974*, p. 164; *Tahtānī 1393/2014–5*, pp. 269–270. For the translation of relevant texts and the discussion of the classification, see *Street 2010; 2014*, pp. 461–464; *Ahmed 2011; El-Rouayheb 2016*, pp. 76–79; *Zolghadr 2024*.

⁴⁷ On Hacı Paşa, see *Akpınar 1996; Yıldız 2014*.

⁴⁸ *Hacı Paşa MS*, fol. 158a1–5. Hacı Paşa's views make clear what Hatibzāde meant by his expression of 'at least in the mind' at the end of T3, which is evinced by the fact that he quotes Hacı Paşa's explanation without naming him; see *Hatibzāde MS*, fol. 40a14–18. Also, Hacı Paşa's final remark seems to be a response or critique to the claim, by another influential figure of the fourteenth century, Sa'd al-Dīn al-Taftāzānī (d. 1390), that 'mental propositions, particularly those with predicates that exclude existence, necessitate only the conception of the subject during the judgment time, as with the negative propositions': *Taftāzānī 2011*, p. 228.

⁴⁹ As far as I could establish, the first scholar to draw this distinction in these terms is Shams al-Dīn al-Samarqandī (d. 1322): *2014*, p. 199; *MS*, fols. 27b27–28a8. See also *Tūsī 2004*, p. 110; *Jurjānī 1318/1900–1*, p. 137; *Taşköprizāde Ahmed 2009*, p. 45.

(*ḥāl al-ḥukm* or *waqt al-ḥukm*). This sort of existence is inevitably in the mind where judgments occur because nothing compound could exist without its parts being already there, viz. the subject, predicate, and the nexus between them in the case of propositions.

The second, which I call the ‘reference time’, signifies the period in which the predicate holds true of the subject, whether for a specific duration (as in *S is P tomorrow*) or perpetually (*S is always P*). This is usually referred to as the ‘time of the predicate being considered’ or the ‘time of the predicate’s existence for the subject’ (*ḥāl i’tibār al-ḥukm* or *ḥāl thubūt al-ḥukm*), and this is what is meant by EI in the real sense. For even though the subject of not only affirmative but also negative propositions must exist in the first period and inevitably in the mind, exclusively those of affirmative propositions are required to exist in the second period.

These two time periods may overlap in certain cases, as in *Zayd is writing right now*, in which the time periods are the same: ‘right now’. Yet, in the proposition *Zayd will write tomorrow*, they differ from each other because the reference time is ‘tomorrow’, while the judgment time is the moment during which one who utters this proposition makes the involved judgment. Also, this distinction should not be confused with, nor assumed to correspond to, the distinction between mental and external forms of existence. For in mental propositions, for example, even though the subject exists solely in the mind, it is still possible to differentiate between two instances of its existence, namely in the judgment time and in the reference time.

Dawānī carries Hacı Paşa’s view of SM_a propositions one step further towards establishing their status as mental propositions. According to Dawānī, SM propositions of later logicians must be accepted as mental propositions because the subject being affirmed of a negation is only realized in the mind, and therefore, the subject of the SM_a proposition must exist in the mind, not in the extramental world, in order for the requirement of EI be met. He further explains that this mental existence should be understood as the existence in *nafs al-amr* because every concept has existence in *nafs al-amr*.⁵⁰

I argue that Dawānī’s approach downgrades SM propositions for two reasons. Firstly, it confines the potential subjects of these propositions to a limited set of entities that exist only in the mind and are impossible to exist extramentally. Secondly, and perhaps more significantly, if SM propositions are constrained to being solely mental, they become largely useless in philosophy and science. These disciplines primarily concern actually or, at the very least, hypothetically existent entities. Dealing with impossible things is typically done indirectly and for the sake of possible things. Therefore, Dawānī’s perspective seems to have significantly limited the utility of SM propositions in philosophy and science. However, it doesn’t appear to have such a substantial impact on the trajectory of these contentious propositions.

3.2. Against the EI of SM_a Propositions

As for the arguments for the position that SM_a propositions lack EI, as we have seen, the pioneering proponents of SM propositions, such as Khūnajī and Kātībī,⁵¹ appear to have justified their denial of EI of these propositions primarily on practical grounds:

⁵⁰ Dawānī 2014.

⁵¹ Khūnajī 2010, p. 90; Kātībī 2022, p. 166.

there should be an affirmative proposition without EI in order for this and that inference go through. Or they explain this lack of EI merely averring that SM_a propositions are essentially equivalent to D_n propositions.⁵²

However, Jurjānī brings up a compact argument for this equivalence. According to him, SM_a propositions lack EI because they are in fact reducible (*rāji'atun*) to D_n propositions due to the fact that the absence of something from another necessarily implies that the other is described by the absence of that thing from it and *vice versa*. The distinction between these two cases, as al-Jurjānī asserts, is only a matter of difference in perspectives (*bi-l-i'tibār*).⁵³ An unpacked version of this argument that SM_a propositions are equivalent to D_n propositions is provided by the fifteenth-century Ottoman scholar, Taşköprizâde Kâsım (d. 1513),⁵⁴ in his treatise of mental existence (*MS*, fols. 175b22–176a2), which could be reconstructed as follows:

The equivalence argument:

If S is not P, then S is not-P

- | | |
|---------------------------|---|
| (1) <i>S is not P</i> | (premise) |
| (2) <i>S is not not-P</i> | (assumed contradictory of the consequent) |
| (3) <i>S is P</i> | (from 2, double negation law) |
| (4) \perp | (contradiction between 1 & 3) |
| (5) <i>S is not-P</i> | (from 2 & 4) |

If S is not-P, then S is not P

- | | |
|-----------------------|---|
| (1) <i>S is not-P</i> | (premise) |
| (2) <i>S is P</i> | (assumed contradictory of the consequent) |
| (3) \perp | (contradiction between 1 & 2) |
| (4) <i>S is not P</i> | (from 2 & 3) |

This argument makes it quite clear that the SM_a , *S is not-P*, and the D_n propositions, *S is not P*, are equivalent and therefore contradict the same proposition. However, this inevitably leads to the question of why the former should be regarded as affirmative? The only answer we can give is that it is affirmative in *form* due to the occurrence of the affirmative copula *is*, and Arabic logicians, at least those who regard it as affirmative, seem to have attended to the surface structure or linguistic expression of the proposition. In fact, the equivalence between two propositions does not necessarily render either redundant. Otherwise, a substantial number of propositional and even syllogistic forms would have to be excluded from the logical framework.

Furthermore, there is another, more serious, issue with the argument: it is not evident whether it proves or presupposes the lack of EI in SM_a propositions. The argument relies on considering the affirmative proposition of *S is P* as the contradictory of the SM_a proposition. However, this assumption holds only if the latter does not have EI. If one were to consider the SM_a proposition with EI, this argument could not proceed as, in that case,

⁵² *Abhari* 2022, p. 111; *Tahtānī* 1393/2014–5, p. 286.

⁵³ *Jurjānī* 2020, vol. 2, p. 84.

⁵⁴ For the earliest account of his life and work, see *Taşköprizâde Ahmed* 2019, pp. 616–618.

S is not-P and *S is P* would be contrary propositions—both could be false but not simultaneously true. In the case *S* refers nothing existent, both would be false. Therefore, the argument seems to be begging the question.⁵⁵

It is also understood from the argument that Jurjānī implicitly assume the predicate-based theory of EI. Otherwise, the argument would not yield the sought conclusion. This assumption becomes more obvious in Jurjānī's conviction that there are unreal as well as real affirmations. Only if the predicate is free from any kind of negation in its semantic content, the affirmation could be real and irreducible to a negative proposition. For Jurjānī, this criterion effectively distinguishes between SM_a and M_a propositions because the former is an instance of unreal affirmation reducible to its D_n equivalent, while the latter is not reducible in the same manner. Jurjānī elaborates that when one predicates, say, the privation of writing of Zayd, one obtains a M_a proposition, *Zayd is non-writing*. This is an affirmative proposition that could entail a negative proposition yet is not reducible to it. An SM_a proposition, on the other hand, is obtained through negating writing of Zayd and then predicating that negation of Zayd. This is why it is reducible to its negative equivalent.⁵⁶ Therefore, for Jurjānī, if the predicate is not positive then the proposition cannot be affirmative in the real sense, even if it formally involves an affirmative copula.

Jurjānī's distinction of real-unreal affirmation seems to have some influence on later logicians. Taṣkōprizāde Kāsim, for instance, incorporates this distinction into his argument against the EI of SM_a propositions. According to him, affirmation can be understood in two distinct ways: (a) real (*ḥaqīqī*) affirmation, signifying the assertion that the nexus between the subject and predicate obtains in reality, and (b) unreal (*ghayr ḥaqīqī*) affirmation, which resembles an affirmation in form and linguistic structure. For him, SM_a propositions fall into the latter category because these propositions essentially consist of nothing more than the rephrasing of a negative proposition in a condensed manner.⁵⁷ That is, the D_n proposition, *S is not P*, is reconsidered as the predicate of SM_a proposition in such a compact form as *not-P*. Given that its predicate is a shorthand for a negative proposition, the SM_a proposition could not count as real affirmation and hence cannot have EI, according to the predicate-based theory.

Finally, we see the same idea articulated in similar terms by the renowned Ottoman bio-bibliographer Taṣkōprizāde Ahmed (d. 1561), the nephew of Taṣkōprizāde Kāsim. He also accounts for the absence of EI in SM_a propositions with reference to Taḥṭānī's two-layered analysis, according to which, as we already saw, these propositions incorporate a D_n proposition within their predicates. Based on this, Taṣkōprizāde Ahmed maintains that SM_a propositions lack EI only because the D_n propositions serving as their predicates do not possess it either.⁵⁸

Furthermore, Taṣkōprizāde Ahmed argues against the copula-based theory which he ascribes to Avicenna. His argument depends on a distinction we discussed in the previous

⁵⁵ Actually, Taṣkōprizāde Kāsim (*MS*, fol. 176a14), too, notes such an objection to the argument.

⁵⁶ *Jurjānī 2020*, vol. 2, p. 84. Jurjānī's category of unreal affirmation is reminiscent of Rāzī's dismissal of M_a propositions as not affirmative in the real sense discussed above. However, Jurjānī seems to separate negation from privation such that SM propositions have negative predicates and therefore are not affirmative in the real sense, while the predicate of metathetic propositions is privative, and hence they could count as real affirmation.

⁵⁷ *Taṣkōprizāde Kāsim MS*, fol. 177b8–9.

⁵⁸ *Taṣkōprizāde Ahmed 2009*, p. 57.

section between the judgment time and the reference time. According to him, the copula-based theory of Avicenna could be granted if considered in the judgment time. However, in the reference time, what requires the subject to exist is the positive nature of the predicate.⁵⁹

Notice here that Taşköprizâde Ahmed's remarks align closely with my assessment above that the copula-based theory is more logic-oriented, while the predicate-based theory is more focused on ontology. However, Taşköprizâde Ahmed's approach would be notably unfair to the copula-based theory. This is because a concept of existence confined to the judgment time and consequently to the mind does not truly represent existence in the real sense. As emphasized, the presence of judgment components in the mind constitutes a highly trivial interpretation of EI. Therefore, this perspective leads to the problematic notion that Avicenna and his followers are not genuinely seeking EI requirement in affirmative propositions. Moreover, if Avicenna had perceived the EI requirement as limited only to the judgment time, he would have had to impose the condition of existence not only for subjects of affirmative propositions but also for subjects of negative propositions and even for the predicates of all kinds of propositions. This is because a negative proposition is as much a judgment as an affirmative one, and the predicate is as much a part of the judgment as the subject. Therefore, while the subject and predicate of all propositions must be present in the mind at the judgment time, Avicenna never discusses them in contexts related to EI. Hence, Taşköprizâde Ahmed's comment about the copula-based theory does not appear to be accurate.

To wrap up, our exploration of the arguments presented by two parties—one affirming and the other denying the EI of SM_a propositions—has shown that the root of this disagreement lies in conflicting views about the origin of the EI requirement within propositions. However, it remains uncertain to me whether there are more profound ontological or logical assumptions underpinning these views.

4. Conclusion

This paper has explored the diverse stands on SM propositions embraced by Arabic logicians from the thirteenth to the sixteenth centuries. Two central questions have guided this examination: whether it is conceivable to accept an affirmative proposition without EI, such as the SM_a proposition introduced by Khūnajī, and whether it is justified for these propositions to lack EI.

In addressing the first question, we have encountered logicians like Tūsī, who categorically reject the viability of this propositional category. In contrast, others, such as Khūnajī and Taḥṭānī, endeavour to accommodate SM_a propositions by either incorporating the negative marker into the predicate or excluding it therefrom. Taḥṭānī's influential two-layered analysis of these propositions left a lasting impact in subsequent centuries.

Regarding the second issue, I have identified two underlying theories of EI assumed by Arabic logicians often implicitly, which I term the copula-based theory and the predicate-based theory. According to the former, the affirmative nature of the copula is crucial in endowing affirmative propositions with EI. However, the predicate-based theory posits that although the copula's affirmativeness is necessary, it is not sufficient; the predicate must also be positive for an affirmative proposition to bear EI. The copula-based theory has

⁵⁹ Taşköprizâde Ahmed 2009, p. 60. This view, too, seems to have its source in Jurjānī's writings: see Jurjānī 2020, p. 84, n. tā.

led logicians to argue that SM_a propositions must have EI because they are affirmative. Conversely, the predicate-based theory has steered them towards the perspective that these propositions lack EI simply because their predicates are not positive.

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