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► **To cite this version:**

Shahid Rahman, Rayane Boussad. DIALECTIC AND TEMPORALITY IN SUHRAWARDĪ'S USES OF PLENITUDE. 11TH INTERNATIONAL COLLOQUIUM OF THE SIHSPAI "Reason and Nature. Science, Philosophy and Theology in Classical and Post-Classical Islam", Société Internationale d'Histoire des Sciences et de la Philosophie Arabes et Islamiques, Sep 2023, Munich, Germany. halshs-04195039v2

HAL Id: halshs-04195039

<https://shs.hal.science/halshs-04195039v2>

Submitted on 7 Sep 2023 (v2), last revised 28 Sep 2023 (v4)

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(Société Internationale d'Histoire des Sciences et de la Philosophie Arabes et Islamiques)

Reason and Nature

Science, Philosophy and Theology in Classical and Post-Classical Islam



(Société Internationale d'Histoire des Sciences et de la Philosophie Arabes et Islamiques)

11th International Colloquium of the S.I.H.S.P.A.I.

Munich, September 6-8, 2023

[https://www.academia.edu/106169339/Reason and Nature Science Philosophy and Theology in Classical and Post Classical Islam](https://www.academia.edu/106169339/Reason_and_Nature_Science_Philosophy_and_Theology_in_Classical_and_Post_Classical_Islam)

DIALECTIC AND TEMPORALITY IN SUHRAWARDĪ'S USES OF PLENITUDE

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I Introduction

In his monumental new book, *The Formation, of Post-Classical Philosophy in Islam* (OUP, 2022), Frank Griffel advances in a text of over 600 pages the fascinating thesis that Post-Classical Islamic thought from the 12th century onwards gave birth to a new original philosophy, that in his depth, width and influence must be put on the same level as Rationalism, German Idealism and British Empiricism. Griffel calls this new current *ḥikma* – *wisdom* – which contrary to a widespread opinion, does not reduce to rational theology (*kalām*) but to an autonomous strong current of thought which produced new concepts and perspectives.

In his book Griffel gives Shihāb al-Dīn Suhrawardī's (549/1155 - 587/1191) work a crucial place in the rising of this new thought in the History of philosophy, namely, a place at the junction between the Avicennian tradition and its opponents. More precisely, Griffel (2022, p. 263) points out that the origin of Suhrawardī's innovations is the outcome of the proposal to set a new way for philosophy that results from the intertwining of the Avicennian discursive tradition

of *al-baḥth* or enquiry with the Sufi tradition *al-dhawq* or *tasting*— explicitly mentioned in the introduction of *al-Ishrāq* (1999, section 5, p. 3).

However, and this already constitutes one of the main points of our paper, Griffel’s insights on the rise of *ḥikmat* in general and of Suhrawardī’s *Illuminationist Philosophy* in particular, should be completed by a thorough study on the development of another current of thought taking place by that time, namely the fusion of logic and dialectic theory promoted by the twelfth-century-CE eastern school of Raḍī al-Dīn al-Nīsābūrī (d. 544/1149) students, especially Rukn al-Dīn al-‘Amīdī (d. 615/1218), and others – see Young (2021a,b,c).

Indeed, remarkable is the fact that Suhrawardī’s proof-methods for modalities and the notion of existence as presence delineated in *al-Ishrāq*, are developed in his discourse on fallacies (*mughālaṭa*) – cf. *al-Ishrāq* (1999, section 48, p. 38). These proof-methods are semantical or more accurately dialectical rather than syntactical. Indeed, they follow the so-called dialectical *no-counterexample* interpretation of the quantifiers, by the means of which the search for a counterexample is governed by rules of interaction. More generally, it very much looks as the theory of meaning at work is what we call *dialogical meaning explanations*, whereby the meaning of an expression is determined by rules that prescribe how to deploy them in an interactive situation of justification.

The dialectical stance shapes his notion of contingency, unfolded within a temporal structure that articulates both dimensions of time, namely, the epistemological and logical dimensions. The epistemological dimension, assumes that we experience time through the experience of change, and the logical dimension assumes an abstract time required by our experience of change in the sense that temporal order (defined on this abstract time) is a logical presupposition for experiencing incompatible facts as involving the same substance.

Whereas, Avicenna, in his revolutionary move that integrates explicitly temporality within logic, focused on the abstract time, Suhrawardī’s *epistemology of presence* articulates both of the dimensions mentioned above, whereby producing a presence (in fact, an abstract witness of such a presence) is part and parcel of the dialectical meaning explanations of the temporal structure shaping his modalities.

Moreover, Suhrawardī’s understanding of contingency involves both generic and individual forms of Plenitude. Whereas individual Plenitude attributes a contingent capacity that must be realized *de re* (every contingent capacity attributed to an individual instance of the subject must be realized at least once and at least once not), generic Plenitude attributes contingency to the subject-term (if the subject-term stands for a species, every contingent capacity attributed to the subject as a whole must be realized at least once for at least one instance of the species, and there must be another instance of that species for which this capacity will not be realized). The *epistemology of presence*, also seems to include – or at least admits, Avicenna’s merely conceivable realisation of the contingent, which displays a form of weak Plenitude. Weak Plenitude might be related to the Neoplatonist conception of the realization in the realm of the intelligible – cf. Kukkonen (2002).

Important for understanding Suhrawardī’s logical framework is that the “necessity” involved in the notion of Plenitude – i.e. that the attributed capacity *must* be realized – by his own words, only applies to those attributes (capacities or properties) that are said of instances of the *essence* of the subject term, meaning, the subject is taken as that **what it is** without any conditions or is

qualified by a **necessary** contingent attribute.¹ In contrast, those attributes that follow from describing **how** the subject is, by specifying some merely contingent actualized attribute (dependent upon some condition) on the subject term, such as attributing the capacity of moving fast to a human who is (actually) writing are purely accidental, since the subject is described as enjoying a temporary attribute, and thus do not satisfy Plenitude (it must not be actualized) if the subject is taken as deprived of that temporary attribute – *al-Ishrāq* (1999, p. 16, p. 17). We will come back to this later on, but notice that this is the reason behind Suhrawardī’s dismissal of Avicenna’s descriptonal (*wasfī*) propositions.

In our logical analysis we will follow three further main philosophical principles of Suhrawardī:

1. Time is a magnitude. This principle, inherited from Avicenna (and Aristotle), amounts to reject logical analyses that render moments as bearers of events – such as in Hodges’s (2016) and Hodges&Johnston’s (2017) formalizations of Avicenna’s logic: events are not properties of moments ! This take might also be linked to Tianyi Zhang’s (2023) observation that, according to Suhrawardī, time is not in fact existent but a construct constituted by acts of remembering and anticipation out of the experience of the present indexed by a reference point produced by imagination in relation to which the before and the after are defined, the “instantaneous moment in imagination” (*Ilal âne al wahmî a daf ‘î , الآن , إلى الآن* / *الوهمى الدفعى*) or *now* – *al-Ishrāq* (1999, section 185, p. 120). Remembering amounts to re-actualizing an event actualized in the intelligible realm, similar for anticipations of premonitions – the intelligible realm is the one of the divine mind or of celestial entities which constitutes the *world of memory* – *al-Ishrāq* (1999, section 220, p. 136), and where *the inscription of all beings have been recorded as forms* – *al-Ishrāq* (1999, sections 252 and 253, p. 152).
2. Temporal modalities are ways the Predicate Term relates to the Subject Term – cf. *al-Ishrāq* (1999, section 19, pp. 16-17). This indicates that temporal operators are to be understood as linked to the theory of predicables, rather than as monadic Priorian-style connectives – cf. Malink (2006,2013), who points this out in his reconstruction of Aristotle’s modalities as predicables. More precisely, Suhrawardī’s **necessarily necessary** predication **admitting simple conversion** corresponds to Aristotle’s **predicable by definition, necessarily necessary predication not admitting simple conversion** corresponds to **predicable by genus**; Suhrawardī’s **necessarily contingent** predication **admitting simple conversion** corresponds to Aristotle’s predicable by **proprium**, **necessarily contingent** predication **not admitting simple conversion** corresponds to predicable by accident.
3. Suhrawardī’s weak form of Plenitude, that admits realization in the purely intelligible, can be reconstructed by means of a branching time structure, rather than by assuming a possible world semantics.

A reconstruction of such a system, when coupled with some properties satisfied by Suhrawardī’s form of Plenitude such as the principle of sufficient reason, has bearings to crucial interwoven discussions within *hikma*’s framework, involving the problem of free-will – notice that whereas individual Plenitude assumes some form of determinism, generic does not, at least not necessarily so. In one word, according to our view it is the notion of Plenitude that links his logic and epistemology with his metaphysical enquiries. Moreover, this suggest that a focus on

¹ We discuss the case where the subject is qualified by a necessary contingency in the next section. But notice that if the subject has such a qualification, then it is constituted by two components such that the contingency (the second component) is made dependent upon the first component, in virtue of it the contingency is said to be necessary. Moreover the modality in the predicate will be dependent upon the first component of the compound subject.

the notion of Plenitude might offer new perspectives on the development of *ḥikma*. However, the present paper is just a first exploration towards developing such a link.

II Main Notions: The Sources

II.1 Knowledge is about General Affirmative Laws

The central notion in Suhrawardī's Illuminationist Logic and epistemology is the one of definitely necessary [*al-ḍarūriyya al-batāta*] propositions:

Since the contingency of the contingent, the impossibility of the impossible, and the necessity of the necessary are all necessary, it is better to make the modes of necessity, contingency, and impossibility parts of the predicate so that the proposition will become necessary in all circumstances. You would thus say, "Necessarily all humans are contingently literate, necessarily animals, or impossibly stones." Such a proposition is called the "definitely necessary." [...]. We can make no definitive and final judgment except concerning that which we know necessarily. Even for that which is only true sometimes, we use the definitely necessary proposition. In the case of "breathing at some time," it would be correct to say, "All men necessarily breathe at some time." That men necessarily breathe at some time is always an attribute of man. That they necessarily do not breathe at some time is also a necessary attribute of a man at all times, even at the time when he is breathing. *al-Ishrāq* (1999, p. 16, p. 18).

According to Suhrawardī since the general aims of science is to achieve certainty, it is advisable, to always to prioritize:²

- affirmative over the negative quality of judgments – *al-Ishrāq* (1999, p. 15), and
- judgements with a universal quantity over an existential one – *al-Ishrāq* (1999, p. 14-15).

If things are done in accordance with what we are saying, then only universal propositions will remain, for the particular propositions are not investigated in the sciences. *al-Ishrāq* (1999, p. 14).

II.2 Modalities are neither Quantifiers nor Monadic Connectives but Ways the Predicate Relates to its Subject

II.2.1a Necessary Contingent Predication is Necessary by Virtue of its Essence

(19) The relation of the predicate of a categorical proposition to its subject either must exist (in which case it is called "the necessary") or must not exist ("the impossible") or may either exist or not exist ("the possible" or "the contingent"). An example of the first is "Man is animal"; of the second, "Man is stone"; and of the third, "Man is literate." [...]. The contingent is necessary by virtue of that which necessitates it and is impossible on condition of the nonexistence of that which necessitates its existence. When one examines the thing itself in the two states of existence and nonexistence, it is contingent *al-Ishrāq* (1999, p. 16).

The point is that a contingency can be attributed by necessity iff it can be attributed to every actual presences of the subject, devoid of any temporary condition. In Suhrawardī's first example, **HUMAN** has no such a qualification, thus the capacity of being literate can be attributed by necessity (or always) to every presence of being human, but, as we will discuss further on, this does not necessarily mean that every individual human actualizes this capacity.³

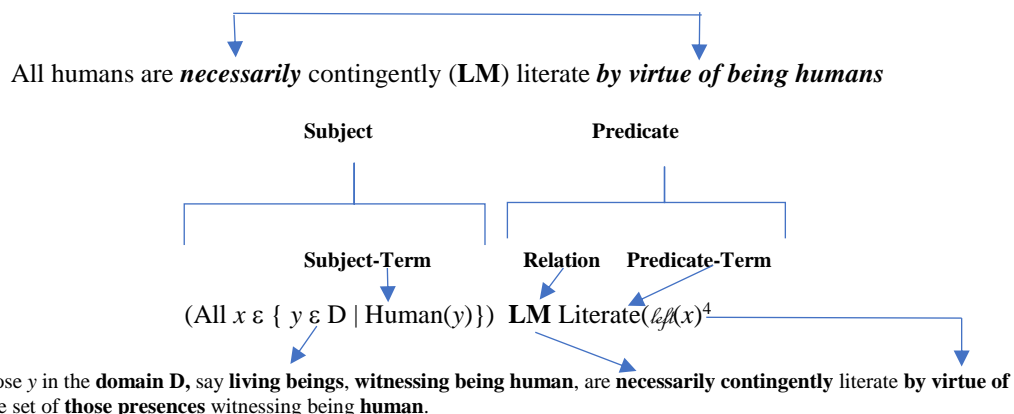
N.B. In the formalization below we use the operator $\text{left}(x)$ of Constructive Type Theory, called the *left-projection* – see Ranta (1994, pp. 64-66), which extracts from the set of those living beings (D) who are human – i.e., $\{ y \in D \mid \text{Human}(y) \}$ –, the elements of D (the left component of the set) enjoying the

² Cf. Kaukua (2022, pp. 35-45) provides a lucid discussion of these priorities,

³ Notice that this particular example of a necessary contingent predication, uses the predicable *proprium*, since every human has the capacity of literacy and every one who has such capacity is human.

property of being human. In other words, witnesses x of $\{y \in D \mid \text{Human}(y)\}$ are pairs such that the first component of the pair is some y in D and the second component is a function $b(y)$ that witnesses that the y is human the projection $\ell_{\text{eff}}(x)$, extracts the left component of every such a pair. Projections have a kind of anaphoric role: if an instance has been given that witnesses the set, the left projection picks out this instance of living being who is human, of which it is predicated that it enjoys the contingent capacity of being literate necessitated by the very fact of being human.

The “ ε ” corresponds linguistically to the copula, logically to the element-relation in Constructive Logic (whereby the elements are not available without Set/Type they instantiate). Lorenz & Mittelstrass (1967) used this notation in their analysis of Plato’s theory of language.



Or in a form closer to the natural language expression

(All (D who are) Human) LMLiterate

Or eve more compact

(All Human_D)LM Literate

As we shall see when we discuss the dialogical meaning explanations of Suhrawardī’s modalities, the inner structure will be spelled out when the one who asserts it is asked to provide a justification.

II.2.1b The Divided Sense of the Subject

For example, “All humans are necessarily contingently literate, “All [necessarily] contingent literate beings are necessarily animals (or contingently walkers) by necessity”, therefore, all humans are necessarily animals (or contingently walkers) by necessity. *al-Ishrāq* (1999, section 25, p. 23).

In the two other versions of the second premise in Suhrawardī’s example, the subject contains a qualification of necessary contingent. However, since it is necessary, this contingency is dependent upon the other not temporary component of the subject, namely, **living being**. Thus, because of the necessity of contingency occurring in the Subject, presences of **living being** suffice for attributing a necessary contingency in the predicate.

Indeed, a good test for this kind of predication is to check if the attribution of the predicate for an instance of the subject holds because of that component of the subject which is not temporally restricted. This indicates that Suhrawardī focuses on Avicenna’s *divided sense* of modalized propositions – cf. Street (2002). If we consider that, having the capacity of being literate is a temporary capacity we would have the following analyses:

⁴ Notice that every premise of a syllogism requires a common domain D over which subject- and predicate-term are defined – see McConaughy (2021). Usually this domain is left implicit, but in our context, if witnesses (presences) are to be integrated explicitly in the framework, D must be made explicit too. Particularly so, if presences of D can, in some occasions, be “separated” from presences of the subject-term defined over this domain.

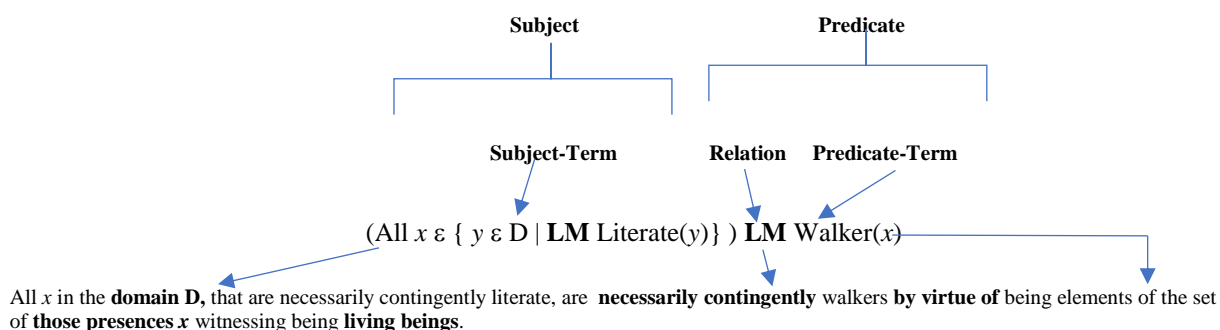
All (necessarily) contingently literate (living) beings are **necessarily** necessary animals *by virtue of being living beings*

All (necessarily) contingently literate (living) beings are **necessarily** contingently walkers *by virtue of being (living) beings*

In order to stress the divided sense, in the cases where the subject contains a necessarily contingent modality, any element x of $\{y \in D \mid \mathbf{LM} \text{ Literate}(y)\}$ can be understood as a bare element of D , (in our example) the set of **living beings**.

Thus, under such a reading, if \mathbf{d}/x is a bare element of $\{y \in D \mid \mathbf{LM} \text{ Literate}(y)\}$, then, it does not convey the information that this \mathbf{d} is **necessarily contingently literate**. This suggests replacing $\text{Walker}(\text{left}(x))$ with x :⁵

All (necessarily) contingently literate (living) beings are **necessarily** contingently walkers *by virtue of being (living) beings*



Curiously, Suhrawardī's own formulation suggests that *walking* is predicated because of *being literate*, but this would amount to a *wasfī* reading that he rejects. As discussed in the next section, Suhrawardī's way of distinguishing between both readings amounts to decide if we are going to read the subject as being or not temporary restricted – in the first case a *wasfī* reading is at work, in the latter a *dātī* reading is the operating one. So, in our example, presumably, Suhrawardī reads *being literate* as not being temporary restricted: since there is no moment (or interval) at which those beings who are said to have that capacity don't have it (it is a necessary contingency after all), despite the fact that not all of those individuals will actualize it. Furthermore, perhaps, examples of this nature back other post-classical authors, who included *wasfī* propositions in their syllogistic frameworks.

II.2.2 Compound Sense, *While* instead of *by Virtue of*.

Purely Accidental Modal Predication holds all the Time the Temporary Attribute by means of which the Subject-Term is described applies

Further, when you say, "All things that move necessarily change," you should know that each and every thing described as moving is not necessarily changing because of its own essence, but because it is moving. Thus, its necessity depends on a condition and *it* is contingent in itself. By "necessary," we mean only that which it has by virtue of its own essence. That which is necessary on condition of a time or state is contingent in itself. *al-Ishrāq* (1999, p. 16, p. 17).

⁵ See Ranta (1984, p. 64) and a variant of it suggested by Rahman&Zarepour (2021) in order to stress the divided sense.

This kind of predication, which refers to Avicenna's descriptonal (*wasfī*) propositions, only holds if the presences of the subject are taken in its compound sense. In our example, things do not change necessarily by virtue of being **things**, but by virtue of being **moving things**: So, its purported necessity, is in fact contingent on the interval while the "thing" in moving. Suhrawardī's dismisses them as having no scientific value.

Of course, one can also use Avicenna's own analysis by making explicit that the condition on the subject is temporary in the following way:

All things that move necessarily change, **all the time while they are moving**

In point of fact, Suhrawardī framework contains an elegant solution for differentiating between Avicenna's essential (*dātī*) and descriptonal (*wasfī*) readings: whereas the temporary feature of the later can be made explicit in the way just mentioned, the former can be analysed as containing a subject without any temporal parameter:

on one hand, the subject in the essential reading, is assumed as being always actual or so long it is what it is, and thus we can spare of both adding a temporal dimension on the subject and a predicate of existence (a controversial predicate present in some reconstructions of Avicenna) ;

on the other the explicit indication of the time restriction in the subject of a descriptonal reading, highlights its contingency. So, *All things that move necessarily change, all the time while they are moving*, is, according to Suhrawardī, still **contingent** rather than **necessary**, since there are is at least one time at which **that (thing)**, of which it is said that it necessarily changes, is not moving. Clearly, Suhrawardī analysis follows from an essential reading of Avicenna's example. Essential reading is after all the one conducive to scientific certitude.

- Moreover, the de-temporalized, causal, expression *by virtue of* (*bimā yūḡabu*, بما يوجب), indicates that, when the focus is on an essential reading, **the principle of sufficient reason** is at work.⁶ In contrast, Avicennean temporality expressions qualifying the description of the subject, such as *while* (*mādāma* ما دام), *all the time* (*dā'iman*, دائما) indicate that temporary conditions on the subject shape the descriptonal reading. In other words, Suhrawardī operates a switch of perspective on Avicenna's two-fold reading: whereas essential reading focuses on universal causality (with regard to presences of the subject) as source for the attribution of modality to the predicate, descriptonal reading focuses on the role of temporally restricted causality leading to such attributions. Recall that, as mentioned in the introduction, attributions of contingency based on a temporary conditioned subject does not support Plenitude of the necessary contingency attributed to that subject. Indeed, when the condition restricting the subject does not apply, the contingency of the predicate might never be actualized by that subject.

As well known, Avicenna restricted his study of syllogism to the *dātī* reading, since this reading is the closest to Aristotle's own syllogisms. So, in some sense Suhrawardī's rejection of

⁶ (54) A thing may be either necessary or contingent. The contingent is that which is not itself a sufficient reason for itself to exist rather than to be non-existent, but whose sufficient reason is something else. The sufficient reason for its existence is the presence of its cause, and [the sufficient reason] for its nonexistence is the nonexistence of its cause. It is either impossible or necessary by another, so its existence or its nonexistence is contingent. *al-Ishrāq* (1999, p. 43).

descriptive propositions, which follows Avicenna's prioritization of *dātī* reading, is somehow disappointing. Nevertheless, the logical analyses of *wasfī* propositions by post-classical thinkers such as Nağmaddīn al-Kātībī and of Fahraddīn ar-Rāzī, who did include *wasfī* propositions in their syllogistic frameworks, pick up some of features that shape Suhrawardī take on the issue.

III. Plenitude and Dialogical Meaning Explanations

The meaning explanations of Suhrawardī's modal relations are contained in the following short but quite insightful text occurring in the third discourse consecrated to the study of fallacies: .

(48) Know that the universality of a rule stating that something is predicated of something else is disproved by a single instance where that second thing is absent. The universality of a law stating the impossibility of something being predicated of something else is proven/by the existence of that thing in a single case. Thus, if someone asserts that every C is necessarily B but finds a single C that is not B, then the universality of the rule is disproved. Likewise, if someone asserts that it is impossible for any C to be B but then finds a single C which is B, then the law will be disproved. However, if someone asserts that any C may be B, this is disproved by neither the existence nor the absence of instances. Thus, should someone claim that some universal is contingently true of another universal—for example, asserting the "B-ness" of C—then **he needs to find [it suffices (كفاه) to find, S. Zarepour]** only a single instance that is B and another that is not B in order to show that the universal B is not impossible in the nature C (since otherwise no individual C could be described as being B) and that [B] is not necessary [in C] (since in that case no individual C could fail to be B). *al-Ishrāq* (1999, p. 38).

Suhrawardī's text on the rules for justifying assertions involving modalities follow the so-called dialectical *no-counterexample* interpretation of the quantifiers, by the means of which the search for a counterexample is governed by rules of interaction. In such a context, to grasp the meaning of a proposition involved in an assertion amounts to knowing:

- (a) what *requests* or *challenges* are granted to the antagonist by that assertion
- (b) what *commitments* (i.e. *defences*) does the assertion engage to.

That is what we mean when we speak of *dialogical meaning explanation* – see Rahman et al. (2018, chapter 3) and Crubellier et al. (2019). The dialectical approach constitutes in fact the main background followed by Rahman&Seck (2023) for the reconstruction of Suhrawardī's logic and theory syllogism.

N.B. Saleh Zarepour pointed out in an email to Rahman, and rightly so, that in the Arabic source for someone seeking to prove a necessary contingency it **suffices (كفاه) to find a particular [instance of C] that is B and another particular [instance of C] that is not** rather than **needing** to find such instances, as in Zia and Walbridge's translation above.

Zarepour's point is an Avicennian one: if contingency amounts to **necessarily** finding at least one instance where the potentiality is realized (and one where it is not), then this seems to lead to a strong form of Plenitude: anything possible must be once realized. Ibn Sīnā's take on Plenitude is a weaker one: what is required is that such an instance is *conceivable*. This has been admirably discussed by Griffel (2009). Nevertheless, it is difficult to decide if Suhrawardī endorse or not a weak form of Plenitude: on one hand the insistence on *presence*, seem to be more ontologically committed than *mere presence in the mind*, on the other there are texts that might suggest this, such as in the case of mixed syllogisms – cf *Manṭiq al-talwīḥāt* (1955, p. 35-36).

The second author of the present paper suggested that strong Plenitude is the form of Plenitude directly linked to Suhrawardī's epistemology of presence, however, weak Plenitude can be also incorporated into that epistemology as the result of a process of abstraction. In other words, according to this suggestion, the different forms of Plenitude correspond to two different levels of epistemological abstraction with a decreasing level of epistemic force. Notice that in case of the purely accidental, where the condition describing the subject is not met, and more generally in those cases where the attribute is not realized, it seems plausible to argue that it must be at least conceivable, that the attribute realizes, if that attribute can be predicated of a given subject at all. We will leave for the moment this out, but we will come back to weak Plenitude further on.

The text above make it patent, that the (necessary) contingency targeted by Suhrawardī is the so-called two-sided possibility, the meaning of which is set by a dialogical meaning explanation based on Plenitude.

More precisely, the most general concept of necessary contingency is generic Plenitude, that requires at least one second instance of the subject. In other words, the contingent property B applies generically by necessity to a subject, iff for every instance d_i of the subject which actualizes B there is another instance d_j , of the same subject which does not actualize B. This holds in general for any capacity, but in particular for acquired ones such literacy, being a musician and so on, that require the acquisition of some other capacity such a education. Not acquired capacities such as dispositions, laughing, breathing, and so on, requires both, that there is at least one moment at which an individual instance of the subject realizes the capacity, and that there is in at least one moment that it does not: recall

In the case of "breathing at some time," it would be correct to say, "All men necessarily breathe at some time." That men necessarily breathe at some time is always an attribute of man. That they necessarily do not breathe at some time is also a necessary attribute of a man at all times, even at the time when he is breathing. *al-Ishrāq* (1999, p. 18).

Strictly speaking, the distinction between *de re* and *de dicto* modalities does not really apply, since modalities are relations – this point has been already made by Malink (2006, 2013) with regard to Aristotle, and by Thom (2008, 2012) with regard to Avicenna. Indeed, since Suhrawardī's modalities are ways the predicate relates to the subject, a modality attributes to every individual the capacity/property under its scope. However, whereas individual plenitude attributes its actualization for every individual, generic does not necessarily so. More precisely, in the case of generic plenitude, showing that at least one individual actualizes the capacity (and one not), suffices to show that attributing a capacity to the subject, *qua subject*, is neither impossible nor necessary. Interestingly, the distinction between generic plenitude does not apply to the necessarily necessary, since the iteration of the necessary requires every individual to be actualized.

III.1 Plenitude, the (Dia-)Logic of Presence and Temporality

The dialogical meaning explanations of the necessarily necessary and the necessarily contingent modalities mentioned above integrates explicitly instances of the subject and the predicate into his logic. This articulates the epistemology of presence with his relational understanding of modalities shaped by a temporal take on Plenitude

As already Suhrawardī's notion of the contingent is led by two main Aristotelian principles on time, namely (1) time is a logical presupposition of the contingent – i.e., given a pair of propositions expressing two incompatible attributes at work with the presence of the same substance their truth must be temporally relativized (if contradiction is to be avoided); (2) the experience of the contingent is an epistemological presupposition of time. Moreover, Suhrawardī' adds, the mental witness of an experience of the contingent, is an epistemic presupposition of existence (*al-Ishrāq* (1999, p. 16))

In other words, the temporal dimension is constitutive of the meaning of Suhrawardī's notion of true attributions of contingency. Moreover, if we have a close look at Suhrawardī's texts it seems quite clear that temporal conditions are not here understood here in a propositional way, neither as implications nor as indexes that saturate a propositional function, which by the way would made time to become a substance (in contravention to very well-known metaphysical views on time in ancient and medieval philosophy). Temporal conditions are contextual

parameters that can be made explicit in order to *enrich* an assertion that has already content,⁷ rather than in order to complete the meaning of a propositional function.

One way to render this formally, is the following: if “*T(ime)*” stands for some set of moments, and “@” for a monadic operator that enriches a proposition with elements of *T* we obtain expressions such as $B(d)@t_i$ – whereby “@” can be thought correspond to an adverbial. In fact, $B(d)@t_i$ encodes the outcome of the *timing* function τ which associates presences of $B(d)$ with instants of time – i.e., the function *times* presences of laughing:

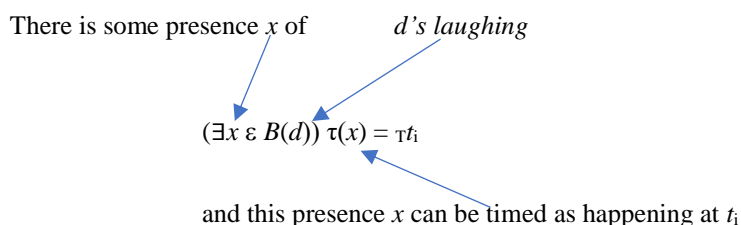
Example:

d laughs at t_i

Grammatically, the time indication can be understood as having an adverbial role, expressed by the operator “@”

d laughs@t_i

The operator @ is in fact understood as the result of associating some (actual) presence x of d 's laughing, with a moment in time. Thus, *d laughs@t_i* stands as an abbreviation for



- Since in Suhrawardī’s framework the explicit appeal to temporality comes to the fore when the counterpart of the individual witnessing the subject has been identified, we will make this enrichment process explicit once such an identification has taken place. More precisely, in Suhrawardī’s setting temporality is made explicit when a witness for an assertion on contingency has to be produced.

Notational conventions: We deploy here the Polish notation à l’ancienne“ for modalities, namely, **L**” for necessary and “**M**” for contingent. However, recall that these modalities are not connectives but relations, linking presences of the subject, with presences of the predicate

Plenitude and the Role of Presences		
Statement	Challenge	Defence
<p style="text-align: center;">Explicit Dialectical Encoding</p> <p style="text-align: center;">$\mathbf{X} ! (\forall z: \{x: D \mid A(x)\}) \mathbf{LMB}(\ell_{\#}(z)^Y)$</p> <p style="text-align: center;">All <i>D</i>'s that are <i>A</i>, are necessarily contingently <i>B</i> – whereby “$\ell_{\#}(z)^Y$”</p>	<p style="text-align: center;">Explicit Dialectical Encoding</p> <p style="text-align: center;">$\mathbf{Y} ! A(d_i)$</p> <p style="text-align: center;">$\ell_{\#}(z)=d_i: D$</p>	<p style="text-align: center;">Explicit Dialectical Encoding</p> <p style="text-align: center;">$\mathbf{X} b(d_i): (\exists y: A_D) B(d_i) \supset \sim B(y)$</p>

⁷ We owe the expression *enrichment* to Recanati (2017).

stands for an element of D , who is an A , chosen by the adversary Y .	Y states $A(d_i)$, by choosing a d_i which is one of those left components of z , that that are A in D .	X associates d_i with B iff some other, chosen by X , witnesses its absence
Dynamic Encoding $X ! (\text{Every}_{A_D})LMB$	Dynamic Encoding $Y ! A(d_i)$	Dynamic Encoding $X ! (\text{Some}_{A_D}) B(d_i) \supset \supset \sim B$ X states that d_i witnesses B iff some other witnesses its absence.

In fact, the text quoted above does not explicitly mention moments when applying generic Plenitude but only a different instance – reference to time is necessary for individual Plenitude. So if time is made explicit, the reference to a different instance seems to assume that the time is the same (though this is not necessary). For the sake of generalization we add temporality for both forms of Plenitude, but nothing hinges on this choice

Temporality and Generic Plenitude		
Statement	Challenge	Defence
Explicit Dialectical Encoding $X b: (\exists y: A_D) B(d_i) \supset \supset \sim B(y)$ $X ! (\text{Every}_{A_D})LMB$	Explicit Dialectical Encoding $Y ? \exists$ $Y: \text{who is that } y? .$	Explicit Dialectical Encoding $X b(d_i): B(d_i)@t_i \supset \supset \sim B(d_j)@t_i$ Whereby $d_i \neq_{A_D} d_j$ X states that d_j is the y who also witnesses the absence of B , at a time, in principle the same to the one when d_i witnesses the presence of B .
Dynamic Encoding $X ! (\text{Some}_{A_D})B(d_i) \supset \supset \sim B$	Dynamic Encoding $Y \text{ Who is that } A_D?$	Dynamic Encoding $X ! B(d_i)@t_i \supset \supset \sim B(d_j)@t_i$

Individual Plenitude only requires that in the last column, the defender produces again a presence of the **same** d_i , which witnesses B at some moment and $\sim B$ at **another moment**.

In the case of a necessarily necessary predication, i.e. $(\text{Every}_{A_D})LLB$, Suhrawardī's meaning explanation in the text quoted above amounts to associate every "actual" presence of the subject with an actual presence of the predicate, rather than to a capacity that can and cannot be actualized. Thus, its meaning amounts to an ontologically committed universal. This might

recall Aristotle's passage on the necessity of the present: "What is, necessarily is, when it is", *De Interpretatione*, 19a23.

An alternative way to spell this out is to define necessity as what N. Belnap call *settled-truth*: i.e., true whatever the future brings – cf. Perloff&Belnap (2011). As the authors point out this is not the notion of necessity of contemporary modal logic, but it just amounts to the idea that the truth of *A* at a moment does not depend on what happens later: If *A* is true at *m*, it will continue to be true at *m* in relation to *every history* that crosses that moment. Notice that this means that iterations of "L", have not semantic consequence. Now, Suhrawardī's use of necessity is stronger since universals assume a non-empty domain, so at any moment an instance of the subject (and the predicate) can be produced.

There is no evidence in the texts for iteration of **M**. Some iteration of **M** might nevertheless make sense, in order to pinpoint at a moment where a capacity has been acquired.

IV Plenitude and Brief Remarks on Suhrawardī's Epistemology and Metaphysics of Time

The reconstruction of Suhrawardī's logic in the precedent sections does not deploy temporal order. In fact, Suhrawardī's own rules for syllogism, not unlike Avicenna's temporal logic, do not even mention such an order. However, if the attribution of a capacity to a subject is asserted after that capacity has been once actualized but now lost, such an order might be nevertheless useful. We might consider that potentialities are open to the future, not to the past, particularly in the context of Plenitude: a potentiality cannot be realized in the past.

Perhaps, for Suhrawardī's general logical and epistemological aims, attribution of a capacity only requires that the subject once actualized it. This suggests that such attributions are carried out at a purely logical level, i.e. not attached to some fixed moment of utterance. We might say that the moments of the realization of a capacity are seen from the perspective of God's eyes, not temporally ordered, but instantaneous.

Still, the moment of utterance underlies the dialectical interaction on assertions of contingency, which articulates the experience of time with the abstract time involved in logical inferences involving contingency. Crucially, the moment of utterance is constitutive of Suhrawardī's understanding of time, when the instantaneous moment of the *now*, is introduced as a mental (imaginary) reference point, to determine the *before* and the *after* that define time as a magnitude

Time is the magnitude of motion when the magnitude of its earlier and later are brought together in the mind. It is ascertained by the daily motion, that most evident of motions.

[...]

"Before" and "after" are so considered in relation to the instantaneous moment of imagination, and time is that which is around it. *al-Ishrāq* (1999, sections, 184 and 185, pp. 119-120).

Time as a magnitude is the mental product of attaching the experience of the presence of motion or change, to the construct of a *now*, in relation to which the before and the after are defined. The attribution of *before*, is the product of acts of remembering, and the attribution of *after* of premonitions or anticipations. Acts of remembering and premonitions, as already mentioned, pick out the events from some transcendental (celestial) world, which constitutes the worlds of

memory and premonition, where *the inscription of all beings have been recorded as forms – al-Ishrāq* (1999, sections 252 and 253, p. 152).

One first result of the mental act, is attaching those inscriptions to moments -this might suffice for most of Suhrawardī's targeted logical purposes, the second is to provide them with temporal order.

If our interpretation is sound, we can find three perspectives on time involving contingency:

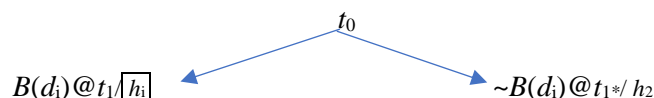
1. The sheer experience of a presence of contingency, mentally indexed by a moment, that in the case of the past requires an act of *re-actualization* of that present and in the case of the future an act of anticipation or protension (indulging in Husserlian terminology)
2. The linguistic dialogical time, that assumes a moment of utterance or *now* of the assertion. Thus, it is in the context of a dialectical interaction that the utterance moment is determined and by means of which the formal meaning of contingency (pertaining to the third level) is put at work in a concrete context.
3. The abstract logical time, shaped by the notion of Plenitude that identifies moments of actualization of the contingent. This yields the formal meaning of contingency

It is quite straightforward to incorporate weak Plenitude into Suhrawardī's framework. One natural way to do it is to conceive alternative courses of events following the utterance moment t_0 , such that, whatever the future brings, one particular history (a linear stretch of moments) will be realized.⁸

So, if in this particular history, $B(d_i)$ actualizes, there is another possible course of events, that did not in fact actualize, but on which $\sim B(d_i)$ is conceived as being the case instead – from the purely abstract level, all of the courses of events are possible and no one is privileged. Retroactively, we might single one the course of events that actually happened, but this cannot be known before

- $B(d_i)$, actualizes at some moment $t_i > t_0$ on the **real** history $\boxed{h_i}$, iff $\sim B(d_i)$ actualizes at a 'twin' moment $t_{i^*} > t_0$ on the alternative course of events h_j . – histories h_i and h_j cross t_0 . In short, $B(d_i)@t_{i>0}/\boxed{h_i} \supset \subset \sim B(d_i)@t_{i^*>0}/h_j$.

The square in the expression $\boxed{h_i}$ indicates this story is the *actual course of events*, and ' t_0 ' indicates the reference point *now*.



This yields the following dialogical meaning explanations

WEAK PLENITUDE		
Statement	Challenge	Defence

⁸ This assumes that the flow of time has a branching structure.

$X ! B(d_i)@_{t_i>0}[\overline{h_i}] \supset \sim B(d_i)@_{t_i^*>0}/h_j$ <p>Clearly, the setting also admits the variant in which the negative occurs on the real history.</p>	$Y ! B(d_i)@_{t_i>0}[\overline{h_i}]$ <p style="text-align: center;">Or</p> $Y ! \sim B(d_i)@_{t_i^*>0}/h_j$ <p>Y challenges the bi-implication by either stating the left or the right of it.</p>	$X ! \sim B(d_i)@_{t_i^*>0}/h_j$ <hr style="border-top: 1px dashed black;"/> $X ! B(d_i)@_{t_i>0}[\overline{h_i}]$ <p>X defends by stating the right if Y states the left and vice versa</p>
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- Notice that weak Plenitude makes generic Plenitude somehow redundant, since every individual will actualize the attributed contingency, either during an actual or a merely conceivable course of events. However, the distinction between generic and individual Plenitude might be still conceptually fruitful for contexts where the focus is on actuality.

Conclusions : Plenitude and the Associated Principles

Rahman&Seck (2023) pointed out that Suhrawardī's *logic of presence* is the result of including the experience of presences as constitutive of the notion of modalities, shaped by a dialogical theory of meaning. Such framework offers a new view on Avicennian-like approaches to temporality in logic in general and in syllogism in particular.

However, and this, so we claim, is the main result of our paper, Suhrawardī's framework also proposes a new epistemological perspective, on the role of Plenitude for the understanding of contingency which has large philosophical consequences.

In a nutshell, definitely necessary [*al-darūriyya al-batāta*] propositions, those propositions Suhrawardī considers to be the only ones conducive to certitude, are governed by the causal force of the subject, which is the source of the Plenitude at work in the necessary contingency attributed to the predicate. This causal force, contrasts with the temporally conditioned description of the subject that constitutes Avicenna's *wasfī*-propositions. Philosophically speaking this move of Suhrawardī amounts to make the attributed contingency dependent upon the Principle of Sufficient Reason. Both, the Principle of Sufficient and the Principle of Plenitude articulate the link between the epistemology and logic of presence with the general aims of Illuminationist Philosophy.

At this point of the discussion, it seems to be convenient to have a general conceptual, but brief, overview on Suhrawardī's use of Plenitude and the Principles of Sufficient Reason, Continuity, Gradation and Compossibility identified by Lovejoy's (1936) – in his landmark work on the history of Plenitude – as being deeply interwoven with it.⁹

⁹ Lovejoy, to whom we owe the term *Plenitude*, studies this notion in the history of philosophy from Plato to German Romanticisms and Idealism. Unfortunately, he misses the Islamic tradition, and quite surprisingly underestimates the temporal version of Plenitude discussed by Aristotle. Perhaps, one of reasons behind this neglect is that he focuses in the Platonist and Neo-Platonist perspective of the graded realization of beings rather than in the actualization of potentialities or capacities.

Of course, this requires a broader and deeper study, but placing the principles associated to Suhrawardī's Plenitude might provide first hints to their role in Illuminationist Philosophy.

Sufficient Reason, Plenitude and Determinism

We already discussed how the principle of *Sufficient Reason* shapes Suhrawardī's causal understanding of Avicenna's essential reading of propositions. Lovejoy's (1936), and many others rejected Plenitude since it seems to lead to determinism. More recently, Kane (1976), contests this view by showing that Sufficient Reason implies some temporal version of Plenitude, and that though the principle of Sufficient Reason does indeed entail determinism, Plenitude does not. In order to back this claim Kane builds a counterexample based on contemporary physics where Sufficient Reason does not hold, Plenitude does but in such a model determinism is not entailed.

Suhrawardī's notion of generic Plenitude provides a finer analysis: since the causal force at work in generic Plenitude applies to a species as a whole it does not distribute in relation to the individual presences of that species; then, the notion of generic Plenitude implied by the principle of Sufficient Reason, does not distribute individually either. Thus, not every contingency, must be realized in the same individual. True, if we focus in only one contingency, there must be at least one individual that realizes the capacity after all, though it is in principle not determined which one, or if it is we, as humans, cannot forecast which.

In contrast, when Plenitude involves non-acquired capacities such as dispositions, causality does distribute individually, and determinism follows, but this of course does not contravene free-will in general.

A question relevant to the issue is the following: Might instances of the subject include merely conceivable ones? If they do, then weak Plenitude needs to be integrated. Now, it is not that clear if the domain of quantification includes *possibilia*, particularly in the case of scientifically informative propositions. What can be verified is that there are some passages suggesting the inclusion of fictions, which can produce knowledge by mental presence, triggered by the reports of others:

Likewise, when someone conceives of a thing through one of its concomitants and has not actually seen it he may be in doubt about its other attributes, even after it is described to him.

[...]

Only through many people telling him that the other attributes of the bird called "phoenix" are such-and-such can he know it so well that he can say that the attributes mentioned by someone describing it to him all belong to what he seeks and to nothing else. *al-Ishrāq* (1999, section 46, p. 37).

Continuity, Gradation and Capacities

Lovejoy, who focuses in Neo-Platonism, argues that every kind of being present in the divine mind, even the lowest in ontological gradation, such as individuals must be realized continuously and without gaps in the chain. This has of course bearing to a recurrent and thorny issue in Islamic Philosophy, namely God's knowledge of particulars, and the emergence of knowledge as a relation, between the epistemic subject and the object of knowledge, rather than identity of subject and object of knowledge. An interesting question, is to elucidate how Suhrawardī's own gradation of beings interacts with his knowledge as presence, purported to go further than the relational view on knowledge developed by post-Avicennian philosophers, particularly in the case of God's knowledge of particulars – see Kaukua (2013). Though we cannot here engage in such a research, Continuity and Gradation seem to be also relevant for

the more restricted case of attributing capacities that fulfil Plenitude. Indeed, those capacities that can be contingently attributed to a species as a whole must include all of the potentialities of that species, if each of them **must** be actualized by the species. More precisely, the constitution of a gradated continuum is relevant to both acquired and non-acquired capacities: the actualization of being literate, assumes the actualization of the capacity of learning, and so on; the actualization of laughing assumes that the actualization of producing sounds, etc.

Compossibility

As very well known, the notion of Compossibility developed by Leibniz, establishes the compatibility of different actualizations, in particular of existence: the existence of one individual must not be incompatible with the existence of another. This of course extends to the realization of potentialities and capacities: the actualization of one capacity at some instant of time can only take place if this actualization is not incompatible with the actualization of another at that very instant.

As already mentioned, this constitute the start rather than the end of a research which should not only focus in role of Plenitude in Suhrawardī work, but also its development by those thinkers involved in the constitution of *ḥikma in Post-Classical Islam*.

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