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The Theory of *Aḥwāl* and Arguments against the Law of Non-Contradiction

Introduction

Following the rise of dialetheism—the view that some contradictions are true—in the 1980s, there was a growing interest in exploring and searching for the possible opponents of the law of non-contradiction throughout the history of philosophy, in both the East and the West. However, between these two—that is, philosophy in Europe and philosophy in India and East Asia—there was a philosophical tradition in the Islamicate world which, as far as I know, has been overlooked from this dialetheic point of view. In this paper, I will discuss some arguments against the law of non-contradiction (henceforth, LNC) set forth by some philosophers in the Islamicate world. The text in which these arguments can be found is Faḫr al-Dīn al-Rāzī's magnum opus *Muḥaṣṣal afkār al-mutaqaddimīn wa-l-mutaʾaḫḫirīn* (*The Compendium of the Thought of the Ancients and the Moderns*).

It should be noted that Rāzī (d. 1210) himself is not an opponent of the LNC or the law of excluded middle (henceforth, LEM). However, in a review of the ideas of his predecessors, he discusses the opposition to the LNC. The arguments against the LNC appear in the first part of the book in his discussion of assents (*taṣdīqāt*). According to Rāzī, some assents are based on sense-perception (henceforth, sensible assents), such as "the fire is hot," and some are self-evident, such as "negation and affirmation do not combine and cannot be denied" (*al-nafy wa-l-iṯbāt lā yaǧtami'ān wa-lā yartafi'ān*). As Rāzī explains, some philosophers deny sensible assents altogether and some accept some of them. Similarly, some philosophers deny all self-evident assents and some confirm that there are self-evident assents. Hence, four possibilities emerge, and thus there will be four groups of thinkers. The first is those who accept both sensible and self-evident assents. As Rāzī says, these constitute the majority. The second group contains those who accept self-evident assents, but deny sensible assents. Rāzī names Plato, Aristotle, Ptolemy, and Galen as members of this group and then discusses their arguments for rejecting sensible assents. The third group is made up of those who deny self-evident assents, but accept sensible assents. Rāzī does not explicitly tell us who they are, but he puts forward their arguments against self-evident assents, such as the LNC and the LEM. In fact, these arguments are the main concern of this paper. As we will see, they are based on Abū Hāšim al-Ǧubbāʾī's theory of *aḥwāl*.[1] Finally, the fourth group is

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1 Two comments are in order here. First, the Muʿtazilites are famous for advocating rationality and asking for the arguments for every claim. This third group of thinkers about whom Rāzī is speaking

formed of those who deny both self-evident assents and sensible assents. According to Rāzī, the Sophists belong to this group.

Since the arguments against the LNC are logically based on Abū Hāšim's theory of *aḥwāl* (i.e., states), before discussing the arguments, I should briefly explain the theory of states and its main claim: that there is a middle (*wāsiṭah*) between existence and non-existence, or, in other words, that some things are neither existent nor non-existent. Thus, according to Abū Hāšim, there are truth-value gaps.[2] In fact, it was not uncommon among the *mutakallimūn* (i.e., the Islamic theologians) to hold views which accepted some truth-value gaps or gluts.[3] Thus, in the first section, I will explain the theory of states which is the basis of the aforementioned arguments against the LNC. In the second part, we will discuss the arguments that Rāzī put forward. After this, in the third part, we will see the relationship between other so-called self-evident assents and the LNC. These are the three following assents: "The whole is bigger than its parts," "two objects identical with a third object are identical to each other," and "an object cannot be in two places at the same time." On behalf of the opponents of the LNC, Rāzī also argues that these so-called self-evident assents are based on the LNC; that is, they are true because of the truth of the LNC. Finally, in the fourth part, we will encounter a paraconsistent logic and

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rejects all self-evident assents. Does this mean that they cannot be among the followers of Abū Hāšim; i.e., the Bahšamiyyah? The Bahšamiyyah were some of the Muʿtazilites, and thus it does not seem that this can be the group of the thinkers to whom Rāzī is referring. However, this would be jumping to conclusions. It is possible to violate the law of non-contradiction and the law of excluded middle and still ask for reasons and arguments, or, in other words, to remain logical and coherent. For one explanation, see section 4 of this paper, in which some paraconsistent logics are introduced. For a detailed discussion, see Graham Priest, *Doubt Truth to Be a Liar* (Oxford: Oxford University Press, 2006), part 3. Second, in this paper, I provide no historical evidence that this group of thinkers were among the Bahšamiyyah. I only focus on the relationship between their arguments against the LNC and the theory of states. In fact, Rāzī is infamous for arguing against many positions for the sake of argumentation. Thus, it may be the case that those arguments against the LNC belong to Rāzī himself and that they are nothing more than dialectical constructions. However, I will not take a side as to whether there was such a group of thinkers among the Bahšamiyyah or not; my concern here is only philosophical and not historical.

2 Truth-value gaps are propositions which are neither true nor false (or in other words, propositions which do not take any truth value). Truth-value gluts are propositions which are both true and false. Consider the proposition "states are existent." According to the theory of states, this proposition is neither true nor false. Thus, it is a truth-value gap.

3 For some examples, see Ahmed Alwishah and David Sanson, "The Early Arabic Liar: The Liar Paradox in the Islamic World from the Mid-Ninth to the Mid-Thirteenth Centuries CE," *Vivarium* 47 (2009): 97–127, and Ahad Qaramaleki, "Khafri and the Liar Paradox" [Persian], *Journal of Religious Thought of Shiraz University* 11 (2004): 33–44. For the debates between the *mutakallimūn* and Aristotelian logicians, see Khaled El-Rouayheb, "Theology and Logic," in *The Oxford Handbook of Islamic Theology*, ed. Sabine Schmidtke (Oxford: Oxford University Press, 2016), 409–35, and Josef van Ess, "The Logical Structure of Islamic Theology," in *Logic in Classical Islamic Culture*, ed. Gustave E. von Grunebaum (Wiesbaden: Otto Harrassowitz, 1970), 21–50.

the way it can express the truth-value gaps and gluts in the theory of states without falling into triviality.

1 The Theory of States

It is well-known that Abū Hāšim invented the theory of states to answer a problem concerning divine attributes.[4] However, the theory of states is not confined to this problem, as states also play an extensive role in Abū Hāšim's metaphysics. First, let us discuss the problem of divine attributes and then we will see the other aspects of the theory of states.

In the Qurʾan, different attributes are ascribed to God. The *mutakallimūn* were concerned about the nature of God in relation to these properties. The main question concerns the relationship between these attributes and the essence of God. There were two main rival views on this issue in early Kalām: (1) Abū al-Huḏayl al-ʿAllāf (d. 841) held the view that God is identical with His attributes. For instance, Him being knowledgeable (*ʿālim*) implies that being knowledgeable is not a distinct reality from His. Being knowledgeable is God Himself; thus, according to Abū al-Huḏayl, God's attributes are not distinct realities from Him and "God's being knowledgeable" refers to nothing but God Himself. (2) Ibn Kullāb (d. 859) advocated the view that God's attributes are distinct entities from Him and so they are not identical with God. In his opinion, "being knowledgeable" refers to a reality distinct from and alongside God.

Each of these views had its problems. On the one hand, if God were identical with His attributes, He could not be transcendent. Moreover, His attributes, by transitivity of identity relation, would be identical with each other and thus the differences between the attributes would disappear: for example, "being knowledgeable" would be the same as "being powerful." On the other hand, if God were distinct from His attributes, then He could not be one, for affirming eternal realities alongside God means admitting the existence of several Gods. Thus, neither case is acceptable. To answer this problem of divine attributes, Abū Hāšim came up with his theory of states.[5] According to this theory, attributes are *aḥwāl* (pl. of *ḥāl*)—that is, states—and

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4 See Muḥammad Šahrastānī, *Nihāyah* (Beirut: Dār al-Kutub al-ʿIlmiyyah, 1956), 79; Allāmeh-Hellī, *Kašfu l-Murād* (Qom: Muʾassese Našr-e Eslami, 1995), 15; Jan Thiele, "Abū Hāšim al-Ǧubbāʾī's (d. 321/933) Theory of 'States' (*aḥwāl*) and Its Adaption by Ashʿarite Theologians," in *The Oxford Handbook of Islamic Theology*, 368; and Richard Frank, *Beings and Their Attributes: The Teaching of the Basrian School of the Muʿtazila in the Classical Period* (Albany, NY: SUNY Press, 1978), 16.
5 It is worth mentioning that before Abū Hāšim, different theologians had tried to answer this problem, though all of them were faced with crucial objections. The most notable attempt was that of Abū Hāšim's father, Abū ʿAlī al-Ǧubbāʾī (d. 915), who was the head of the Basrian Muʿtazilite school at the time. For more, see Frank, *Beings and Their Attributes*, chapter 1.

aḥwāl are neither existent nor non-existent. But what are *aḥwāl* and how do they resolve the aforementioned problem?

Abū Hāšim borrowed the concept of *ḥāl* from grammarians. In Arabic grammar, one of the instances of *ḥāl* which Abū Hāšim took is the situation or state of the subject or object of the verb at the time of its occurrence.[6] For example, in the sentence *ğāʾanī Zaydun māšīyan* ("Zayd came to me walking"), *māšīyan* ("walking") is a *ḥāl* ("state"); the state in which the verb occurs. Abū Hāšim paraphrases subject–predicate sentences in such a way that the predicate becomes a *ḥāl*. Consider the sentence *Zaydun ʿālimun* ("Zayd is knowledgeable"). For Abū Hāšim, this sentence means that Zayd *is* and that he is in the state of being knowledgeable. He paraphrases the sentence by adding the verb *kāna*[7] ("to be" or "to become"). Thus, *yakūnu Zaydun ʿālimun* is a paraphrase of *Zaydun ʿālimun*. Although they both have the same meaning, each implies a different proposition on the metaphysical level. The original sentence is a usual subject–predicate sentence, but the paraphrase is not. The latter implies the being of the subject and then the state in which the subject is. Abū Hāšim paraphrases all predicates as such. However, as we will see, his use of the concept of *ḥāl* is not restricted to predicates.

The Muʿtazilites were atomists and for them, the metaphysical categories consisted of God, atoms, and accidents.[8] Hence, there was no place for universals or attributes as such in their categories of beings. Abū Hāšim added *aḥwāl* to these categories. One of the distinct roles of *aḥwāl* was to explain the relationship between different accidents which go by the same title. Thus, the theory of *aḥwāl* completes the Muʿtazilites' metaphysical picture by explaining universals and attributes as a specific metaphysical category. Thus, *aḥwāl* are real. However, they are not objects (*ḏawāt*) and they are neither existent nor non-existent. There are five categories of *aḥwāl*:[9]

(1) The attribute of essence: this is the self-identity of things. Through this attribute, objects differ from each other. A thing being itself is the attribute of essence. For example, for an atom, being an atom is its attribute of essence which makes it what it is.

(2) Essential attributes: these are the attributes which are entailed as soon as objects become existent via the attribute of essence. For instance, the essential attribute of an atom is to occupy space (*taḥayyuz*). When an atom is non-existent, it is still an atom; however, it does not occupy space. But as soon as it becomes existent,

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6 Frank, 20.

7 The verb *kāna* is sometimes a complete verb and sometimes incomplete. Here, the complete form of *kāna*, which means "to be" or "to become," is used.

8 Alnoor Dhanani, *The Physical Theory of* Kalām: *Atoms, Space, and Void in Basrian Muʿtazilī Cosmology* (Leiden: Brill, 1994), 17.

9 See Frank, *Beings and Their Attributes*, 27; Thiele, "Abū Hāšim al-Ğubbāʾī's Theory of States," 370–76; and Sabine Schmidtke, "The Muʿtazilite Movement III: The Scholastic Phase," in *The Oxford Handbook of Islamic Theology*, 163–64.

it occupies space. Thus, Abū Hāšim and his followers, as well as some of the other Muʿtazilites, held the view that some objects do not exist. Their idea of existence and objecthood will become more evident in our discussion of the next category of *aḥwāl*.

(3) Attributes which are affected by an agent (*al-ṣifāt bi-l-fāʿil*): specifically, this attribute is *existence*. An agent, which can be either God or human, generates an object and then the object is existent. It is the agent's action which causes the existence of the object, and a non-existent object becomes existent through the action of an agent. Thus, for an object, being existent is a state in which the essential attributes of the object are actualised. As already mentioned, some objects are non-existent. For instance, a non-existent atom is still an atom: it is knowable and we can discuss its attributes as an atom. However, as long as it is not in the state of existence, its essential attributes, such as occupying space, are not actualised. What causes it to be in the state of existence is an act of creation performed by an agent, and what causes a non-existent (*maʿdūm*) to be an object is its knowability.[10] Anything that is knowable, whether existent or non-existent, is an object. However, existence itself is not an object: it is a state (*ḥāl*). Since only objects are knowable and states are not objects, states are not knowable; however, they are real.

(4) Attributes which are grounded in accidents: as already mentioned, the Muʿtazilites' metaphysical categories consisted of God, atoms, and accidents. Therefore, they could not explain the similarities and differences between objects by relying on these categories. One important aspect of this shortcoming is a coherent account of universals. What is the similarity between a raven and the night sky? The answer is easy; they are both black. But what is black? According to the Muʿtazilites, an accident (*ʿaraḍ*) of blackness inheres in a raven and another accident of blackness inheres in the night sky. These two are distinct accidents; for one thing, they are in different places. Thus, the Muʿtazilites' metaphysics cannot explain the similarity between two black objects. Abū Hāšim's fourth category of states is those states which are grounded in accidents. An object in which an accident of blackness inheres is in the state of being black. Thus, states also play the role of universals. Now we can say that the similarity between a raven and the night sky is the state of being black.

(5) Those states which do not gain actuality by the object itself or by another object, the most important example of which is "being perceiving." In contrast to his predecessors, Abū Hāšim takes perception not as an accident, but as a state.[11]

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[10] Dhanani, *The Physical Theory of* Kalām, 30.

[11] Considering these five categories of *aḥwāl*, one might ask whether Abū Hāšim was under the influence of the Stoics, specifically, the theory of *hexeis*. The historical roots of the theory of states are not my concern here, but I can say by referring to Dhanani, *The Physical Theory of* Kalām, 5, that there is no historical evidence of any direct link between the *mutakallimūn* and Greek philosophers.

To sum up, states are neither existent nor non-existent. They are also not objects, which means that they are not knowable. However, Abū Hāšim explained different characteristics of states. Moreover, although states are not objects, they are real. These features of states help Abū Hāšim to reply to the problem of the divine attributes. According to the theory of states, attributes of God are states. States are real, and thus they can explain the attributes ascribed to God. However, states are not objects, and hence, in ascribing His attributes to Him, it does not follow that some objects *are* alongside Him. Thus, God's unity will not be violated. In this way, not only His unity, but also His transcendence and the reality of His attributes are preserved.

Let us see where the theory of states violates the LNC. That states are neither existent nor non-existent apparently entails truth-value gaps and thus violates the law of excluded middle.[12] Avicenna was well aware of the theory of states and calls the followers of the theory of states those who "are not among the assemblage of the discerning."[13] Some pages later, in his *Metaphysics* (*Ilāhiyyāt*) of *al-Šifāʾ*, while defending the LNC, he argues that any violation of the LEM entails a violation of the LNC. The LEM fails when both affirmation and negation are removed. Avicenna tells us how this leads to the violation of the LNC:

> **[T1]** If both [affirmation and negation] together are false with respect to one thing, then that thing would, for example, be "not man" and also "not not man." Hence, the thing which is "not man" and its negation (which is "not not man") would have been combined (Avicenna, *Metaphysics of the Healing*, 42–43).[14]

If this argument works, then the theory of states violates the LNC, and thus it is a dialetheic theory. There is a middle between existence and non-existence, or, in other words, states are neither existent nor non-existent. It follows that states are not existent and not not existent. Therefore, according to Avicenna's argument, the middle between existence and non-existence entails a contradiction.

On the other hand, although states are not knowable according to Abū Hāšim, he has told us about many of their features and we now know several characteristics of states as well as their roles in his metaphysical theory. This is also a contradiction and is mentioned by some opponents of the theory of states. Whether these are good reasons to take the theory of states as a dialetheic theory can be discussed further, but for our purposes, these would suffice. Let us now examine the arguments against the LNC which Rāzī ascribes to those who accept sensible propositions but deny self-evident propositions.

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12 It is worth mentioning that this claim is based on the idea that existence and non-existence are the most general metaphysical categories. In other words, everything is either existent or non-existent and consequently, predicating existence/non-existence on states is not a categorical mistake.

13 Avicenna, *The Metaphysics of the Healing*, trans. Michael E. Marmura (Utah: Brigham Young University Press, 2005), 27.

14 فإنه إذا كذبا معا فى شىء، كان ذلك الشىء ليس بإنسان مثلا، وليس أيضا بلا إنسان. فيكون قد اجتمع الشىء الذى هو اللا إنسان وسالبه الذى هو لا لا إنسان.

2 Arguments against the LNC

Rāzī gives four arguments on behalf of those who deny self-evident assents while defending sensible propositions. The most self-evident assent is defined as "negation and affirmation do not combine and cannot be removed" (*al-nafy wa-l-iṯbāt lā yağ-tamiʿān wa-lā yartafiʾān*).[15] Before discussing the arguments, a note on their method: they are *ad hominem*. Each of them shows that holding the LNC is self-refuting; that is, that accepting the LNC leads to its refutation. Thus, these arguments do not have any presuppositions: they begin with the opponent's stance and then show that it refutes itself. Thus, in order to pose such arguments, one does not have to accept the LNC.

Now let us briefly consider the relationship between these arguments and the theory of states. As we will see, the first argument concerns intentionality. Asserting the law of non-contradiction implies referring to contradiction. Whatever is intendable is real, and thus, the LNC is self-refuting. The second argument concerns existence, suggesting the ontological explanation of existence itself posed by the theory of states. It can be considered as an argument for the claim that existence itself is neither existent nor non-existent. As already mentioned, this claim is an important part of the theory of states. The third argument concerns the problem of universals, and is nothing more than an argument in favour of the theory of states concerning this problem. Again, universals are one of the five categories of states. The fourth argument concerns impossibility and the process of becoming. In these two latter arguments, the middle between existence and non-existence, which is the core of the theory of states, is explicitly advocated. Thus, it is not only the middle between existence and non-existence which makes the connection between these arguments and the theory of states, but also the targets of these arguments are some of the most important aspects of this theory.

Rāzī explains the first argument as follows:

> [T2] This assent is based on conceptualising non-existence, and people have been perplexed by this. Because that which is conceptualised must be distinguished from other things, and whatever is distinguished from others must have an essential determination, and whatever is essentially determined is an object in itself. Since the affirmation [of the law of non-contradiction] is

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15 In this passage, Rāzī sometimes defines the most self-evident assent as "affirmation and negation do not combine and cannot be removed," sometimes as "an object either is or is not," and sometimes as "negation and affirmation do not combine." This may have been influenced by Avicenna's argument that every violation of the LEM is also a violation of the LNC. As we will see, the arguments against the LNC do not always directly target it; sometimes, they reject it via their rejection of the LEM. This makes sense if we accept Avicenna's argument. Thus, for simplicity, I will not explain on every occasion that such a method is being used, but I will ask the reader to bear it in mind while reading this section of the paper.

based on this conceptualisation and this conceptualisation is impossible, therefore, this affirmation is also impossible (Rāzī, *Muḥaṣṣal*, 30).[16]

Rāzī does not explicitly explain how the claim that "affirmation and negation do not combine and cannot be removed" is based on conceptualising the non-existence. Non-existence, in this affirmation, occurs in two places: first in negation and then regarding truth-value gaps or gluts. Negating something of something is to claim the non-existence of the former in the latter. For instance, asserting that "snow is not black" is to affirm the non-existence of the accident of blackness in snow. Moreover, the claim that affirmation and negation are neither combined nor removed also means that there are no truth-value gaps—that is, removal of both affirmation and negation—or gluts—that is, combinations of affirmation and negation. Thus, it affirms the non-existence of truth-value gaps and gluts. I will consider both cases in order to make the discussion sufficiently exclusive.

Since, following the LNC and the LEM, truth-value gaps and truth-value gluts are non-existent, we must first be able to conceptualise non-existence. It is the same for negation: for example, negating the blackness of snow, which is the non-existence of blackness in snow. However, having a conceptualisation of non-existence is already a problem, though not for the followers of Abū Hāšim. In fact, besides some of the Muʿtazilites, no other Islamic theologians or Muslim peripatetic philosophers held the view that some things do not exist. For this much larger group, every object is existent. Thus, for them, non-existent is not an object and since an object is that which is knowable, whatever does not exist is not an object and cannot be conceptualised.

As for truth-value gaps or truth-value gluts, talking about them implies their objecthood, because in order to be able to refer to them, or in Rāzī's words, to have a conceptualisation of them, they must be determined. Whatever is determined in itself is an object, and if every object is existent, truth-value gaps and truth-value gluts become existent and thus one cannot claim their non-existence. In other words, affirming the LNC and the LEM implies the conceptualisation of truth-value gaps and gluts. Thus, anyone one who accepts the LNC or the LEM cannot hold them to be true.

One possible answer on behalf of the advocates of the view that every object is existent is to make a distinction between mental existence and external existence. Rāzī mentions this possible reply. In fact, Muslim peripatetic philosophers, such as Avicenna, made this distinction. According to Rāzī, one cannot reply to the objection by embracing such a distinction between mental and external existence, because for those who advocate the LNC and the LEM, truth-value gaps and gluts are impossible, not only in the external world, but also in the mind; in their view,

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16 أن هذا التصديق موقوف على تصور أصل عدم والناس قد تحيروا فيه. لأن المتصور لا بد وأن يتميز عن غيره والتميز عن غيره متعين في نفسه، وكل متعين في النفسه فهو ثابت في نفسه، فكل متصور ثابت في نفسه، فما ليس بثابت فغير متصور فالمعدوم غير ثابت فلا يكون متصورا وإذا كان ذلك التصديق متفرعا على هذا التصور وكان هذا التصور ممتنعا كان ذلك التصديق ممتنعا.

they are unperceivable. Moreover, when a person negates the blackness of snow, it does not follow that she affirms the existence of blackness in snow in her mind. Thus, the mental–external distinction of existence is of no help here.

It should be noted that if this argument works, it works against those who hold every object to be existent. One might well be an advocate of the LNC and the LEM and yet hold the view that some objects do not exist.

Rāzī, then, explains the second argument:

> **[T3]** Let us accept that non-existence can be conceptualised. However, the assertion that nega-
> tion and affirmation do not combine implies a distinction between existence and non-existence,
> and this distinction implies that the referent of non-existence has a distinct essence from that of
> existence, but this is impossible, because every entity which the mind intends can also be re-
> moved by the mind; otherwise, it does not have an opposite. Therefore, non-existence does
> not have an opposite and this implies the denial of existence, and it is false. Thus, the removal
> of that which is the referent of non-existence is coherent. However, this removal is a specific one
> and is counted as a case of absolute non-existence, and it means that the complement of non-
> existence is a part of it, which is impossible (Rāzī, *Muḥaṣṣal*, 30).[17]

Since negation and affirmation do not combine,[18] there is a distinction between existence and non-existence. In other words, there is nothing which is both existent and non-existent, because affirmation implies the existence of an entity, such as an accident or object, and negation implies the non-existence of an entity, such as an accident or object, and these two—that is, affirmation and negation—do not combine. Consequently, the referents of existence and non-existence are distinct. Rāzī claims that this is not the case. Here is the reason why: on the assumption that existence can be removed by the mind, the removal of non-existence is the opposite of non-existence; however, it is still a sub-case of non-existence, because all privations are cases of non-existence. Hence, a contradiction: the removal of non-existence is non-existence and not-non-existence at the same time. Therefore, the aforementioned distinction between existence and non-existence is impossible. To sum up, the LNC is based on a distinction between existence and non-existence, which is impossible. Therefore, the LNC is not true.

Rāzī then proceeds to the third argument. This is the longest and the most complicated of the four. Thus, I will first attempt to split the argument and then we will discuss the details.

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17 لو سلمنا إمكان تصور العدم لكان قولنا النفى والإثبات لايجتمعان يستدعى امتياز العدم عن الوجود، وامتياز العدم عن الوجود يستدعى أن يكون لمسمى العدم هوية متميزة عن الوجود لكن ذلك محال، لأن كل هوية يشير العقل إليها يمكنه رفعها، وإلا لم يكن له مقابل، وكان يلزم أن لا يكون للعدم مقابل وكان يلزم نفى الوجود وهو باطل، فثبت أن ارتفاع الهوية المسماة بالعدم معقول، لكن ارتفاع تلك الهوية ارتفاع خاص فيكون داخلا تحت العدم المطلق، فيكون قسيم العدم قسما منه هذا خلف.

18 Initially, Rāzī defines the conjunction of the LNC and the LEM as the most self-evident. However, on some occasions, instead of the conjunction of the LNC and the LEM, he is only talking about the LNC. One example is this passage of *Muḥaṣṣal*. Thus, the reader should be aware of the way Rāzī uses the conjunction of the LNC and the LEM interchangeably with the LNC.

Rāzī begins by making a distinction between two cases in which affirmation and negation occur:[19] first, affirming and negating the reality (*ṯubūt*) of the object itself, such as "blackness is either existent or non-existent" (*al-sawādu immā an yakūnu mawǧūdān wa-immā an lā yakūnu mawǧūdān*), and second, affirming or negating the reality (*ṯubūt*) of an object in another object, such as "the body is either black or not" (*al-ǧismu wa-immā an yakūnu aswad wa-immā an lā yakūn*).[20]

Consider the first case:

(1) Blackness is either existent or non-existent.

As Rāzī says, (1) can be asserted only after conceiving the meaning of "blackness is existent" and "blackness is non-existent," but this is not going to happen.

(1.1) Blackness is existent.

In this statement, either blackness is identical with existent or blackness is distinct from existent. Rāzī demonstrates that both are false.

Let us take the first. As Rāzī puts it:

[T4] Our statement that blackness is existent [would] be like the statement "blackness is blackness" and the statement "existent is existent," but it is not like these, for the [two] latter [statements] are trivial; however, the former is informative (Rāzī, *Muḥaṣṣal*, 31).[21]

Thus, since "blackness is existent" is informative, it is not a simple identity statement.

Then, Rāzī explains why the second understanding of (1.1)—that is, that blackness and existent are distinct—is also false. He gives two reasons for this:

[T5] One of them: that is, if existence is grounded in blackness, then blackness is not, as such, existent, because otherwise the question arises again, but the same object cannot be existent for a second time. And if so, existence would be grounded in that which is not existent. However, existence is the property of existent. Otherwise, we should accept the middle between existence and non-existence, but you deny that (Rāzī, *Muḥaṣṣal*, 31).[22]

If existence is grounded in blackness, then blackness is metaphysically prior. In other words, blackness is blackness without being existent and then existence is grounded in it. It is obvious that blackness could not be existent before being existent because, as Rāzī explains, this would mean that it would be existent for a second time. Moreover, the question about the latter existence would also arise for the

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19 Rāzī, *Muḥaṣṣal*, 31.

20 The reader should be aware that, as already mentioned, the theory of *aḥwāl* is based on the idea that some objects do not exist. Thus, the predication relation does not have existential import in itself. My thanks to an anonymous referee for mentioning this point.

21 كان قولنا السواد موجود جاريا مجرى قولنا السواد سواد وقولنا الموجود موجود ومعلوم أنه ليس كذلك لأن هذا الأخير هذر، والأول مفيد.

22 أحدهما: أنه إذا كان الوجود قائما بالسواد فالسواد فى نفسه ليس بموجود وإلا لعاد بحث فيه، ولكان الشىء الواحد موجودا مرتين وإذا كان كذلك كان الوجود قائما بما ليس بموجود، لكان الوجود صفة موجودة وإلا لثبت الواسطة بين الموجود والمعدوم وأنتم أنكرتموه.

former. Thus, blackness in itself is non-existent. Since existence is the property of an existent, it cannot be the property of blackness, because blackness is non-existent. Therefore, Rāzī concludes, existence and blackness, in the statement "blackness is existent," cannot be distinct.[23] Here, Rāzī mentions the middle between existence and non-existence as a solution to this issue. We saw in part 1 that this is the main idea of the theory of states. In fact, this is the first explicit reference to the theory of states in these arguments.

Let us move on to the second argument for the impossibility of the distinction between existence and blackness:

> **[T6]** If existence is distinct from quiddity, the referent of our saying "blackness" is different from our saying "existent." Then, if we say that blackness is existent and by this we mean that blackness is that which is existent, this would be asserting the oneness of the two [non-identicals], which is impossible (Rāzī, *Muḥaṣṣal*, 31).[24]

We also cannot say that that which is existent is blackness, for this implies the identity of the two. This is unacceptable because we have already presupposed that blackness and existent are non-identical. Moreover, we have already seen that blackness and existent cannot be identical.

One might reply that the identity sentence is asserting the identity relationship between "blackness" and "described by being existent" and not that between "blackness" and "existent." Rāzī explains to us that this reading faces similar problems and does not work. As he put it:

> **[T7]** And if you say that this is not what we intend from our saying that blackness is existent— that is, that the referent of "blackness" is the referent of "existent"—but what we intend is that blackness is described by being existent, you have just moved the issue to the referent of "described." Then, if the referent of blackness is the referent of "described by being existent," then this is also impossible, because our saying that blackness is described by being existent becomes the same as our saying that blackness is blackness, and that is impossible. And if [the referent of blackness] is distinct from [the referent of "described by being existent"], then asserting that blackness is described by existence is asserting the oneness of the two (Rāzī, *Muḥaṣṣal*, 31).[25]

Thus, replacing "existent" with "being described by existence" does not solve the problem. Again, we will face the same problems as in the case of "existent."

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23 However, if we consider that existence is grounded in blackness, this presupposition seems reasonable if we analyse the structure of the sentence "blackness is existent" in a subject–predicate form.

24 إذا كان الوجود مغايرا للماهية كان مسمى قولنا السواد غير مسمى قولنا موجود فإذا قلنا السواد موجود بمعنى أن السواد هو موجود كان ذلك حكما بوحدة الاثنين وهو محال.

25 فإن قلت ليس المراد من قولنا السواد موجود وهو أن مسمى السواد مسمى الوجود، بل المراد أن السواد موصوف بالموجودية قلت فحينئذ ينقل الكلام إلى مسمى الموصوفية، فإنه إما أن يكون مسمى الموصوفية بالوجود محال فيكون قولنا السواد موصوف بالوجود جاريا مجرى قولنا السواد سواد وهو محال، وإما أن يكون مغايرا له فيكون الحكم على السواد بأنه موصوف بالوجود حكم بوحدة الاثنين.

So far, Rāzī has shown that sentence (1.1) is false, or, to be more precise, impossible (*muḥāl*). Obviously, it is impossible for one who endorses the LNC. Now, he proceeds to the second part of (1) and demonstrates that this is also false:

(1.2) Blackness is non-existent.

It is obvious that being blackness cannot be the same as the existence of blackness. Otherwise, as Rāzī explains, (1.2) entails that blackness is not blackness, which is a contradiction.[26] Thus, existence is not identical with blackness. Then, Rāzī argues that blackness and its existence cannot also be distinct, if (1.2) is to be true.

The gist of his argument is as follows. Negating the existence of a quiddity implies the quiddity to be determined and this in itself entails that the quiddity is real (*ṯābit*). To be real is to be existent. Thus, in order to negate the existence of an entity, it should be existent, which is a contradictory. Therefore, (1.2) cannot be asserted.

This is the well-known problem of negative existentials. It is obvious that this argument is only against those who hold every object to be existent, or, in other words, those who hold that all that is real (*ṯābit*) is existent. As already mentioned, this was the dominant view among the *falāsifah* and *mutakallimūn*. However, some Muʿtazilites held the view that some objects do not exist, or, in other words, that there are real entities (*ṯābitāt*) which are non-existent. Among these Muʿtazilites are those who advocated the theory of states; that is, Abū Hāšim and his followers. However, since one can well be an advocate of the theory that some objects do not exist and also be an advocate of the LNC, like some of the early Muʿtazilites, this argument loses its generality.

Then, Rāzī proceeds to the second form of the sentence expressing the LNC:

(2) A body is either black or not.

First, we should grasp the meanings of both "the body is black" and "the body is not black." Rāzī argues that this is impossible. He begins with "the body is black," giving us two reasons for the "impossibility of this statement." First, it cannot be an identity statement; otherwise, it is asserting the oneness of two distinct entities, which is impossible. Second, since it is not an identity statement, it has the form of a subject–predicate sentence in which the subject is described by the predicate. Now, as Rāzī explains, "that the body is described by blackness is either a non-existential property or an existential one."[27]

Being described (*mawṣūf*) is itself a property. It is not a non-existential property, because it is the negation of not being described, which is itself a non-existential property. On the other hand, Rāzī also argues that being described is not an existential property:

26 These arguments are against those who defend the LNC. Thus, any premise which entails a contradiction is not acceptable. See Rāzī, *Muḥaṣṣal*, 32.
27 Rāzī, 33.

> **[T8]** If [being described] is existential, then it is either the same as the existence of the body and blackness or distinct from them. The former is impossible, because it is not the case that whenever one conceives the existence of the body and the existence of blackness, one also conceives that the body is described by blackness. The latter is also impossible, because if being described by blackness were superadded to the body, then being described by that property [i.e., the property of being described] would also be superadded to the body. But this [leads to regress and thus] is impossible (Rāzī, *Muḥaṣṣal*, 33).[28]

Here, Rāzī is asking about the ontological status of a property. Is there a reality which is correspondent to the property of an object? He replies that the answer is neither yes nor no. The property of being described is not existential. In other words, there is no reality (*ṯābit*) which is the property of being described. In order to be real, being described by blackness for a body should either be the same as the body and blackness itself or distinct from these two. It is not the same as the body and blackness, for one can conceive these two without conceiving the body being described by blackness. In other words, the existence of a body and the existence of blackness do not entail that the body is black, or that the body is described by blackness. Thus, there should be another reality which is described (*mawṣūf*) and is distinct from the body and blackness. But this is also impossible, because then there would have to be another reality which is being described by being described, and this leads to regress. Therefore, neither of these possibilities is true.

This argument exposes one of the problems which the theory of states answers: the problem of universals. As already mentioned in section 1, Abū Hāšim's theory of states, among other things, explains the ontological status of properties. According to other *mutakallimūn*, the ontological categories of the world consisted of God, atoms, and accidents. However, these cannot explain what it is to have a property. Relying on the grammarians' analysis of language, Abū Hāšim appealed to states (*aḥwāl*) to explain the ontological status of properties. This argument demonstrates the shortcoming of the theories which Abū Hāšim criticised in order to give a full-fledged ontological explanation of the world.

Let us move on to the fourth argument against the LNC, which is also an explicit defense of the theory of states. This argument concerns impossibility (*imtināʿ*) and the process of becoming (*ḥudūṯ*). First, consider impossibility. Rāzī says that there are three possibilities for that which is called impossibility:[29] either it is existent, or it is non-existent, or it is neither existent nor non-existent. He demonstrates that the first two possibilities are false:

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28 أن يكون أمرا ثبوتيا لأنه على هذا التقدير إما أن يكون نفس وجود الجسم والسواد وإما أن يكون مغايرا لهما. والأول محال لأنه ليس كل من عقل وجود الجسم ووجود السواد عقل كون الجسم موصوفا بالسواد. والثاني أيضا محال لأن موصوفية الجسم بالسواد لو كانت صفة زائدة لكانت موصوفية الجسم بتلك الصفة زائدة عليها وهو محال.

29 He does not tell us why it cannot be both existent and non-existent. Even if he thinks that the truth-value gap here is the same as the truth-value glut, he does not explain it. However, there is a fourth possibility; i.e., both existent and non-existent.

[T9] It is not existent, because otherwise that which is described by it would also be existent. For existent cannot be placed at non-existent and if that which is described [by impossible] were existent, then the impossible would not be existent; however, it would either be necessary or possible (Rāzī, *Muḥaṣṣal*, 34).[30]

The instances of impossibility are non-existent because otherwise, they would not be impossible. Since those which are described by impossibility are not existent, impossibility is not existent because existent cannot be grounded (*qāʾim*) in non-existent.

Impossibility cannot be non-existent either,

[T10] because it is the negation of not-impossibility which can be predicated to non-existent. Thus, since not-impossibility is non-existential, impossibility is not non-existential. Moreover, impossibility is a determined quiddity in itself, which is distinct from other quiddities. Otherwise, it could not be intended by the mind. Thus, it cannot be absolute non-entity (Rāzī, *Muḥaṣṣal*, 34).[31]

There are two arguments in this paragraph in favour of the view that impossibility is not non-existent. It is dubious that the result follows in the first one. For one thing, impossibility is the negation of possibility and a similar argument can be applied to demonstrate that impossibility is non-existential. According to the second argument, what is impossible is supposed not to be an entity simply because it is impossible. However, since it can be intended by the mind, it must be something, and thus, by understanding non-existence in its broadest sense, it is not absolutely non-existent. Rāzī also considers a possible reply according to which the impossible has reality in the mind and not in the external world. Rāzī rejects this reply by emphasising the nature of the impossible which is impossible in itself, whether in the mind or in the external world.[32]

Now consider the process of becoming existent from non-existence. As Rāzī explains, *becoming* means coming out of non-existence into existence. Thus, the referent of *becoming* is distinct from both the referent of *non-existence* and the referent of *existence*, because otherwise, "the referent of *non-existence* or the referent of *existence* will be the referent of *coming out of non-existence into existence*, and that is impossible." He considers three possibilities for that which is the quiddity of the referent of coming out of non-existence into existence. It is either existent, non-existent, or neither existent nor non-existent. Then, he demonstrates that it cannot be existent:

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30 لا جائز أن يكون موجودا وإلا لكان الموصوف به موجودا لاستحالة قيام الموجود بالمعدوم ولو كان الموصوف به موجودا لم يكن الممتنع ممتنعا، بل إما واجبا أو ممكنا.

31 لأنه نقيض اللا امتناع الذى يمكن حمله على المعدوم فيكون اللا امتناع عدميا فلا يكون الامتناع عدميا. ولأن الامتناع ماهية متعينة فى نفسها متميزة عن سائر الماهيات إذ لو لم يكن كذلك لاستحال إشارة العقل إليها، وإذا كان كذلك استحال أن يكون نفيا محضا.

32 Rāzī, *Muḥaṣṣal*, 34.

[T11] If it was existent, it would be true of the existent that it is coming out of non-existence into existence, and if this is so, it would be like saying that the existent is coming out towards existence and thus the object is existent twice, and that is impossible (Rāzī, *Muḥaṣṣal*, 34).[33]

It is also not non-existent, because otherwise, there would be no change from non-existence to existence. As Rāzī put it:

[T12] When it is non-existent, the original non-existence endures, and as long as the original non-existence endures, no change from non-existence occurs (Rāzī, *Muḥaṣṣal*, 34).[34]

Since it cannot be either existent or non-existent, Rāzī concludes that when something is in the process of becoming, it is neither existent nor non-existent. As already mentioned, the same is true of the impossible. Therefore, the LNC is not true.

So far, we have discussed the four arguments against the LNC which, according to Rāzī, were posed by those thinkers who accept sensible assents, but altogether deny self-evident assents. We also saw that these arguments are based on the theory of states, or, to be more precise, the middle between existence and non-existence, which is the core idea of the theory of states, as well as the idea that some objects do not exist.

As already mentioned, they also argue that other well-known self-evident assents are based on the LNC, and since the LNC has been rejected, those assents are also unacceptable. These self-evident assents are the subject of the next section.

3 Other Self-Evident Assents

There are three other well-known self-evident assents: (i) The whole is bigger than its parts; (ii) identity is transitive; (iii) an object cannot be in two different places at the same time. The philosophers in question argue that all three of these assents are based on the LNC. We will see their arguments one by one.

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33 فإن كانت موجودة فقد صدق على الموجود أنه يخرج من العدم إلى الوجود فيكون ذلك كأنه يقال الموجود يخرج إلى الوجود فيكون الشيء موجودا مرتين وهو محال.

34 متى كانت معدومة كان العدم الأصلى باقيا ومتى كان العدم الأصلى باقيا لم يكن النقل فى التغير من العدم حاصلا.

3.1 The whole is bigger than its parts

As Rāzī put it:

> [T13] The whole is bigger than its parts because otherwise, the existence of the other part and its non-existence would be the same. Thus, being existent and being non-existent is combined, at the same time, in the other part (Rāzī, *Muḥaṣṣal*, 29).[35]

It is obvious that here, parthood is proper parthood. Thus, consider an object, namely *a*, which has two proper parts, namely *b* and *c*. By using mereological formalisation, we have:

$$b < a \quad , c < a$$

Since *b* and *c* are two distinct parts of *a*, they do not overlap. Thus:

$$(c \circ a) \wedge \neg(c \circ b)$$

It follows that:

$$(1) \; \exists x((x \circ a) \wedge \neg(x \circ b))$$

On the other hand, if *a* was not bigger than *b*, we would have *a* = *b*, which means that parthood is improper. Then, it follows:

$$(2) \neg \exists x((x \circ a) \wedge \neg(x \circ b))$$

Therefore, (1) and (2) are contradictories. They express that there both is and is not an object—namely, *c*—which is the other part of *a*, while *b* is a proper part of *a* and is not smaller than *a*.

    The rejection of this assent leads to contradiction. Thus, this is true as long as the LNC is true. In other words, the statement that the whole is bigger than its parts is based on the LNC.

3.2 Identity is transitive

Identity is transitive. In other words, two objects which are identical with a third object are themselves identical with each other:

> [T14] [Two] objects that are identical with another object are identical, because otherwise, [an object, namely] *a* which is identical with blackness is blackness. And since it is identical with that which is not blackness, it is not blackness. Hence, if *a* is identical with two different things,

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it follows that *a* is in itself blackness and also that *a* is not in itself blackness. Thus, the affirmation and the negation are combined (Rāzī, *Muḥaṣṣal*, 29).[36]

Let us simplify the example. Suppose there are three objects—*a*, *b*, and *c*,—and suppose, for the sake of simplicity, that there are only two properties, P_1 and P_2. *a* has both properties and *b* only has the property P_2. *c* is identical with *a*, and thus it has both properties. Therefore, P_1c and P_2c are both true. On the other hand, *c* is identical with *b*. Thus, *c* has the property P_2, but it does not have the property P_1. This means that $\neg P_1c$ and P_2c are true. Therefore, $P_1c \wedge \neg P_1c$, which is a contradiction. The table below shows the details:

	P_1	P_2
a	+	+
b	−	+
c	±	+

If two distinct objects, *a* and *b*, are identical with a third object, *c*, then the third object will have contradictory properties.[37] Thus, the rejection of the transitivity of identity entails contradictions. If the LNC is not true, then at least some contradictions are true, and therefore, it is not necessarily true that identity is transitive.

3.3 An object cannot be in two different places at the same time

[T15] A single object cannot be in two different places at the same time, because if this was possible, then there would be no difference between an object being in two places or two objects being so, and meanwhile, the existence of the other object would be the same as its non-existence, and it would be true to say that it is both existent and non-existent (Rāzī, *Muḥaṣṣal*, 29).[38]

Suppose that *a* is an object which is located at l_1 and suppose that at the same time *a* is also located in another place, namely, l_2. This scenario is similar to a scenario in

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36 الأشياء المساوية لشيء واحد متساوية لأنه لو لم يكن كذلك لكان الألف المحكوم عليه بأنه يساوى السواد سوادا لا محالة، ومن حيث إنه محكوم عليه بأنه يساوى ما ليس بسواد يجب أن لا يكون سوادا فلو كان الألف مساويا للأمرين لزم أن يكون الألف فى نفسه سوادا وأن لا يكون فى نفسه سوادا فيجتمع النفى والإثبات.

37 Here, the Leibnizian definition of identity is used. According to this definition, two objects are identical if they share the same properties. For more on the non-transitivity of identity and its resulting contradictions, see Graham Priest, *One: Being an Investigation into the Unity of Reality and of Its Parts, Including the Singular Object which Is Nothingness* (Oxford: Oxford University Press, 2014), chapter 2.

38 إن الجسم الواحد فى الآن الواحد لا يكون فى مكانين معا، لأنه لو جاز ذلك لما تميز الجسم الواحد الحاصل فى مكانين متباينين عن الجسمين اللذين حصلا كذلك، وحينئذ لا يتميز وجود الجسم الآخر عن عدمه فيصدق عليه كونه موجودا معدوما معا.

which there are two objects, *a* and *b*, which both have exactly the same properties with only one exception: that is *a* is located in l_1 and *b* is located in l_2. According to this argument, since these two scenarios are not distinguishable, *b* can be considered as both existent and non-existent. Thus, the rejection of this assent entails a contradiction. Since the LNC is already rejected, at least some contradictions might be true. Therefore, if the LNC is not true, this assent is not true either.

There is also another more straightforward argument that this assent is based on the LNC. Let us write the property of being located in l_1 as *P*. Thus, if *a* is located in l_1 and is not located in l_1, we have $P_a \wedge \neg P_a$, which is a contradiction.

4 Dialetheism and Paraconsistency

In this part, we will see how the violation of the LNC co-exists with the theory of states without demolishing the coherency of the theory of states and the ability to reason within this theory.[39] Let us accept that the aforementioned arguments against the LNC work. Since this rejection of the LNC logically follows from the theory of states, the theory of states is a dialetheic theory. However, we already saw that some contradictions are true in the theory of states; for example, that states are and are not objects. Now, we should discuss how the theory can be logically modelled.

The logic of a dialetheic theory should be a paraconsistent one. A paraconsistent logic is a logic whose consequence relation is not explosive;[40] that is, explosion, or *ex contradiction quodlibet* (ECQ), is not a valid argument in that logic. Otherwise, the theory will be trivial; that is, everything, and consequently every contradiction, would be true according to this theory.[41] There are many paraconsistent logics on the market. Before choosing one, we should take another look at the theory of states and focus on the claims which are critical to the LNC and the LEM. These are two: (1) "states are neither existent nor non-existent" and (2) "states are and are not ob-

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39 Marwan Rashed gives another interpretation of the theory of states by focusing only on truth-value gaps and applying intuitionistic logic. For more, see Marwan Rashed, "Abū Hāshim al-Ǧubbāʾī sur le langage de l'art," *Histoire Épistémologie Langage* 36, no. 2 (2014): 85–96, and Rashed, "Abū Hāshim al-Ǧubbāʾī et l'infini," in *Miroir de l'amitié: Mélanges offerts à Joël Biard*, ed. Cristophe Grellard (Paris: Vrin, 2017).

40 In classical logic, explosion—i.e., the argument $A \wedge \neg A \vdash B$—is valid. According to explosion, or *ex contradiction quodlibet*, from an arbitrary contradiction, everything follows. However, in his defence of the principle of non-contradiction, Aristotle does not propose this argument, although Avicenna later defended a primary form of explosion in *Metaphysics of the Healing*, 42. Finally, in the twelfth century, Willian of Soissons formalised the argument for explosion in a way which is valid in classical logic. For more, see Benham Zolghadr, "Avicenna on the Law of Non-Contradiction," *History and Philosophy of Logic* 40, no. 2 (2019): 105–15.

41 It is obvious that the theory of states is not trivial: "nothing exists in the world" is not true in this theory.

jects." The former seems to state a truth-value gap, while the latter is apparently a truth-value glut. If we accept both truth-value gaps and gluts in the theory of states, we need a four-valued logic. A good candidate might be the logic of FDE.[42] However, there are other ways to choose the proper logic for the theory of states while keeping the theory as simple as possible. Perhaps the best choice is the three-valued logic LP.[43] In LP, propositions can be only true, only false, and both true and false. By applying LP, not only do we have a simpler logic with more straightforward interpretations, but we can also have the truth of (1) without the need for a fourth value; that is, neither true nor false. We will see the details after an explanation of LP. Since, for the purpose of this paper, the propositional logic of LP suffices, I will restrict the discussion to it and skip the first-order LP.

A logic is defined by the structure $< V, \ D, \ \{f_c : c \in C\} >$. V is the set of truth values, D, which is a subset of V, is the set of designated values, C is the set of connectives, and f_c is the corresponding truth function. For LP, we have:

$$V = \{0, \ 0.5, \ 1\}$$

$$D = \{0.5, \ 1\}$$

$$C = \{\neg, \ \wedge, \ \vee\}$$

Thus, the truth values are true, both true and false, and false, which are conventionally represented by 0, 0.5, and 1 respectively. The designated values are true and both true and false. The connectives are negation, conjunction, and disjunction. The material conditional can be defined as follows:

$$A \supset B \equiv \neg A \vee B$$

An interpretation for the language is a map, v, from the set of propositional parameters, P, into V. This is extendable to all the formulas of the language by applying truth functions recursively. This extension is done through the following conditions:

$v(\neg A) = 1 - \ v(A)$

$v(A \wedge B) = \min\{v(A), \ v(B)\}$

$v(A \vee B) = \max\{v(A), v(B)\}$

The notions of logical truth and semantic consequence are defined as follows:

$\Sigma \vDash A$ *iff* there is no interpretation, v, such that for all $B \in \Sigma$, $v(B) \in D$, but $v(A) \notin D$.

A is a logical truth *iff* for every interpretation $v(A) \in D$.

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42 For more about FDE, see Graham Priest, *Non-Classical Logic*, *An Introduction to Non-Classical Logic: From If to Is*, 2nd ed. (Cambridge: Cambridge University Press, 2008), chapter 8.
43 For more about LP, see Priest, chapter 7.

It can easily be checked that LP is not explosive; that is, ECQ is not a valid argument in LP.

$$P \wedge \neg P \vDash Q$$

For a counter-model, suppose:

$$v(P) = 0.5$$

$$v(Q) = 0$$

Thus, contradictions can be true in LP without making the system trivial.

Two comments are in order here. LP has the simplest semantics among all the paraconsistent logics. In fact, LP is a minimal revision to classical logic and classical logic is a proper extension of LP. These make LP a good choice for the desired paraconsistent logic.

Now let us return to the theory of states. As already seen, states both are and are not objects. Hence, for every state, we have the following sentence: $P \wedge \neg P$. LP handles such contradictions without falling into triviality. Moreover, one important aspect of the theory of states is the middle between existence and non-existence. We saw that this is usually seemingly uttered as a truth-value gap. There are three values in LP, none of which is neither true nor false. Therefore, we should explain how to understand "a state is neither existent nor non-existent" without appealing to the truth value of "neither true nor false." This can easily be done via the following inference from double negation:

$$\neg P \wedge \neg\neg P \vDash \neg P \wedge P$$

One can easily check that this argument is valid in LP. In section 1, we saw the same argument from Avicenna, demonstrating that any gappy sentence results in a contradiction. Thus, to say that states are neither existent nor non-existent is another form of saying that states are both existent and non-existent. Therefore, we can preserve the truths of the theory of states in LP, especially about the claims critical to the LNC and the LEM. This is also true of *the impossible* and *becoming*, which we met in the discussion of arguments against the LNC.

As already mentioned, at the beginning of this section, we chose LP over FDE. Now we know the reasons for this choice. In addition to the merits of LP due to its simplicity and its relation to classical logic, seeming truth-value gaps in the theory of states can be paraphrased as truth-value gluts by applying LP.

Before finishing this section, I should say more about the use of contemporary logical apparatus which we saw in this paper. It is obvious that the theory of states and the context in which it was stated are very far away from modern logic. Thus, I do not claim that Abū Hāšim and his followers would accept this methodology or that they would confirm the brief formalisation of the theory of states which we have seen here. The aim of applying LP to some aspects of the theory of states is nothing more to show that it is possible to have a model of the theory—or to be

more precise, a dialetheic reading of the theory—without losing its coherency. It is also obvious that a model of a theory is merely an abstraction which only grasps some aspects of the theory in question. Here, we have only provided a sketch of the idea, which I think suffices for the purposes of this paper.

5 Conclusion

After discussing the arguments against the LNC, Rāzī says:

> These objections are only a drop of the sea of objections which have been raised against our saying that an object either is or is not. And if this is the state of the strongest self-evident [assent], what do you think about the weaker ones?[44]

Rāzī seems to be exaggerating about the number of objections to the LNC, but his discussion of the LNC shows that there were ongoing debates about it which were driven by the proponents of the theory of states. Unfortunately, none of Abū Hāšim's works has survived and most of the works of his followers are no longer extant. Hence, it is not possible to trace back the arguments discussed above to their advocates. As already mentioned, Rāzī himself is not an opponent of the LNC. He is well known to have enjoyed rejecting different views only for the sake of argument. However, it seems unlikely that the arguments that we discussed in this paper are his. For one thing, he explicitly talks about *others* who hold this view, at various points in the text, though with all that said, we do not know who posed those arguments first. Let us leave it to historians and scholars to decide. Moreover, we saw that the theory of states, understood as a theory which violates the LNC, can, by applying modern logical apparatus, be coherently uttered within the contemporary metaphysical scene.

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44 Rāzī, *Muḥaṣṣal*, 35.

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