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Liar Sentence Mirroring Our Reasoning as Hegel's Quasi-Speculative Sentence

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Abstract. This paper explores parallels between the Liar and various aspects of philosophical reasoning. It begins by analyzing the liar sentence, "This sentence is false", by highlighting its self-referential nature and alternating truth values. The paper then draws connections between the Liar and Hegel's speculative sentence, proposing it as a 'quasi-speculative sentence' that mirrors dialectical reasoning. Subsequent sections examine the logocentric predicament, Zeno's paradox, the realism vs. anti-realism debate, and determinism, illustrating how they embody similar self-negating structures. The analysis sheds light on the underlying structure of our philosophical reasoning.
Keywords: liar paradox, speculative sentence, logocentric predicament, determinism, dialectics.

Melagio teiginys, atspindintis mūsų mąstymą kaip Hegelio kvazispekuliatyvus teiginys

Santrauka. Straipsnyje tiriamos paralelės tarp melagio teiginio ir įvairių filosofinio mąstymo aspektų. Pradedama tiriant melagio teiginį „Šis teiginys yra klaidingas" ir išryškinant jo autoreferentinį pobūdį bei kintančias tiesos vertes. Tuomet straipsnyje atskleidžiamos paralelės tarp melagio teiginio ir Hegelio spekuliatyvaus teiginio bei siūloma melagio teiginį interpretuoti kaip „kvazispekuliatyvų teiginį", kuris atspindi dialektinį mąstymą. Tolesniuose teksto skyriuose tiriami logocentrizmo problema, Zenono paradoksas, ginčas tarp realizmo ir antirealizmo ir determinizmas, parodant, kaip šie įkūnija panašias save neigiančias struktūras. Straipsnyje išryškinama pamatinė filosofinio mąstymo struktūra.
Pagrindiniai žodžiai: melagio paradoksas, spekuliatyvus teiginys, logocentrizmo problema, determinizmas, dialektika

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Introduction

Philosophers have long grappled with the intricacies of paradoxes. Among these, the liar sentence (hereinafter, 'Liar') stands out for its persistent defiance of straightforward resolution. "This sentence is false" encapsulates a self-referential loop that oscillates between truth and falsehood. Several philosophers have treated it as a meaningless statement. For example, Sobel (2008) argues that "it does not say *anything at all*" (emphasis in the original, p. 136).

Nevertheless, no one would deny its significance in philosophy and even mathematical logic. For instance, Gödel notes "a close relationship" between his proof strategy for the incompleteness theorems and the "liar's antinomy" (Gödel, 1992, p. 40). However, instead of delving into its logical intricacies, this paper will focus on the similarities between the alternating appearances of truth and falsity within the Liar and some paradoxical features of our philosophical reasoning. Specifically, this paper will present an audacious claim that the Liar mirrors the structure of our reasoning.

To that end, Section 1 provides the following paraphrase of the Liar: "Affirmation of the falsity of the very affirmation". It will serve as a useful phrase for illustrating paradoxical aspects of our reasoning.

Section 2 investigates Hegel's speculative sentence. As Houlgate (1986) notes, however, "Hegel does not write much about the speculative sentence" (p. 145). Nevertheless, "it is clearly an important idea because it is the kernel of his theory of what constitutes non-metaphysical philosophical language, the mode of language appropriate to dialectical method". This paper proposes that the liar sentence can partially achieve Hegel's aim as a 'quasi-speculative sentence'.

In Section 3, we will discuss the logocentric predicament which was first mentioned by Sheffer (1926). Drawing on an extensive discussion in Chapter 3 of Hanna's (2006) *Rationality and Logic*, the paper derives an analogue to the liar paradox: "logical affirmation of the groundlessness of logic".

Section 4 reveals an apparent paradox in Zeno's 'dichotomy' argument. It discusses two versions of this argument (the 'progressive' versus the 'regressive') in Bathfield (2018). Then, it argues that Zeno's argument can be described as "affirmation of immobility through mobility".

Section 5 briefly touches upon the realism vs. anti-realism debate. Based on Loux's (2006) and Dietrich's (2020) discussions, the section illustrates how realists and anti-realists alike could be making paradoxical arguments.

Finally, in Section 6, we will discuss a particular formulation of a determinist's assertion and how this can bear resemblance to the liar paradox. In parallel with the Liar, the paper derives: "affirmation of the determinacy of the world events including the very affirmation".

By considering the above paradoxical cases, this paper aims to reveal how the feature of the liar sentence is mirrored as a quasi-speculative sentence in our philosophical reasoning.

1. The Liar

In academia, the Liar has been conventionally discussed in the context of dialetheism (i.e., there are statements that are true and false at the same time). It also further inspired other liar-like paradoxes. In line with the spirit of dialetheism, this section will briefly review the *appearance* of alternating truth values generated by the Liar.

1.1. Rules

Before analyzing the Liar, we shall establish the following rules:

(1) The principle of bivalence
There are only two *truth values* available for any proposition: T (true) and F (false). That is, there is no such thing as 'only half true'. These truth values are mutually exclusive.

(2) Copula and affirmation
The copula 'is' in the propositional form "S is P" is used to indicate affirmation of the property P.

(3) Quotation
S can exist as a lower-level sentence (e.g., "A is B") within "S is P". For instance, we can state: "'A is B' is P."

(4) Disquotation
"A is B" is true → A is B.[1]
"A is B" is false → A is not-B.

1.2. The Liar's infinite loop

In "This sentence is false", we note:
"This sentence" refers to "This sentence is false".

Based on (3), we get: "'This sentence is false' is false".
Now, let us assign parameters to the two predicates on the rightmost-hand side of the equation:
"'This sentence is false$_2$' is false$_1$."[2]

The first predicate "is false$_1$" negates the lower-level proposition. This negation is satisfied in one of the two ways:
(i) "This sentence is [not false$_2$]."
(ii) "This sentence [is not] false$_2$."

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[1] Tarski's Convention T defines: 'Φ' is true ↔ Φ. 'Φ' is a proposition, while Φ represents its actual corresponding case. For details, see Horsten, L. and Leigh, G. E. (2017, p. 197).

[2] This analysis aligns with a 'context-sensitive approach' (Juhl, 1997, p. 202). This approach "assigns 'levels' to occurrences of 'true' in particular sentence tokens." For instance, "the ordinary liar, say, may be false$_0$ but true$_1$." These levels feature a 'quasi-Tarskian hierarchy'.

In the first instance, the property of falsity has been negated. Under Rule (1), "not false$_2$" is equivalent to "true$_2$". Thus, it is rendered into: "This sentence is true$_2$". In the second instance, the copula has been negated. Should our interpretation of (ii) differ from (i)? According to McNulty (2023), "Heidegger cites the logical copula 'is'" as "a clue to the discovery of this connection […] between logic and what he maintains is the central question of metaphysics, the question of being" (p. 21). In line with this view, (i) can be interpreted to mean "This sentence exists as a not-false$_2$ sentence". Meanwhile, (ii) can mean that "This sentence does not exist as a false$_2$ sentence". However, this entails multiple interpretations. "This sentence" might exist as a sentence that simply does not fall under the category of falsity. Or it might not exist at all. But, if we stick to (i), under Rule (1), this ambiguity disappears. Therefore, we choose Option (i). This supports Rule (4): "A is B" is false → A is not-B.

Thus, we find:

"'This sentence is false$_2$' is false$_1$." => "This sentence is not-false$_2$." => "This sentence is true$_2$."

However:

"This sentence is true$_2$." => "'This sentence is false$_3$' is true$_2$".

Thus:

"This sentence is false$_3$."

This line of reasoning shows:

"This sentence is false$_1$." (Level 1)
"'This sentence is false$_2$' is false$_1$."
"This sentence is true$_2$." (Level 2)
"'This sentence is false$_3$' is true$_2$."
"This sentence is false$_3$." (Level 3)
"'This sentence is false$_4$' is false$_3$."
"This sentence is true$_4$." (Level 4)
...

The predicates of Fs and Ts alternate as we move through the lower levels:[3]

F_1 -> T_2 ->F_3 -> T_4 -> ...

A true/false predicate at a particular level is decided by affirmation of its antithesis at a higher level. For example, the property of falsity$_3$ at Level 3 is decided by the predicate "is true$_2$" at Level 2. Similarly, the property of truth$_2$ is decided by the predicate "is false$_1$." Thus, F and T are inextricably linked. All these alternating Fs and Ts are contained within the single liar sentence, which can be indefinitely developed as follows:

[[[[...] is false$_4$] is false$_3$] is false$_2$] is false$_1$.

[3] Level 1 is the highest level, and there is no limit as to how low the levels can go.

We paraphrase this as:
"affirmation of the falsity of affirmation of the falsity of …"

How does the phrase follow? In "This sentence$_1$ is$_1$ false$_1$," the copula "is$_1$" serves to indicate affirmation.

Therefore, it can be changed to:
affirmation$_1$ of the falsity$_1$ of this sentence$_1$. …①

Meanwhile:
this sentence$_1$
= This sentence$_2$ is false$_2$.
= affirmation$_2$ of the falsity$_2$ of this sentence$_2$.

Thus:
① = affirmation$_1$ of the falsity$_1$ of affirmation$_2$ of the falsity$_2$ of this sentence$_2$.

This goes on indefinitely as follows:
affirmation$_1$ of the falsity$_1$ of affirmation$_2$ of the falsity$_2$ of … ②

This can be succinctly put into our key phrase:
affirmation$_1$ of the falsity$_1$ of the very affirmation$_1$ …③

But how is ③ justified?

In ③:
the very affirmation$_1$ = [affirmation$_1$ of the falsity$_1$ of the affirmation$_2$ of …]

Therefore:
③ = affirmation$_1$ of the falsity$_1$ of [affirmation$_1$ of the falsity$_1$ of the affirmation$_2$ of …]

In:
"affirmation$_1$ of the falsity$_1$ of affirmation$_2$ of the falsity$_2$ of … ②", and
"③ = affirmation$_1$ of the falsity$_1$ of affirmation$_1$ of the falsity$_1$ of …"

If we remove the subscripts entirely, they become equal. This justifies the key phrase: "affirmation of the falsity of the very affirmation."

Moreover, in the clausal form "This sentence$_n$ is$_n$ false$_n$", this sentence$_n$ is just a placeholder for the copula "is$_n$" to function. Since this sentence$_n$ carries minimal intrinsic meaning, we omit it from the key noun phrase. This will illuminate an important aspect of our reasoning. Before exploring this further, we must first discuss its significance by placing it in the context of Hegel's speculative sentence.

2. Speculative Sentence

2.1. What is a speculative sentence?

The *Phenomenology of Spirit* introduces speculative sentences such as "God is being" and "The actual is the universal" (Hegel, 1807/2018, § 62, p. 39). In these sentences,

the "difference between subject and predicate[4] … is destroyed[5] by the speculative judgment". Furthermore, "[t]hinking loses its fixed objective basis which it had in the subject, when, in the predicate, it was thrown back to the subject, and when, in the predicate, it returns not into itself but into the subject of the content".[6] Hegel also says:

> "In this movement, the motionless subject itself breaks down; […] The solid basis in the motionless subject thus begins to totter, and it is only this movement itself which becomes this object […] Since the nature of representational thinking consists in making advances with accidents or predicates […] it is impeded in its course by what in the proposition has the form of a predicate being the substance itself. It suffers, to picture it in this way, from a *counter-punch*" (§ 60, p. 38) (emphasis added).

The speculative movement amounts to more than a mere one-dimensional pairing of the subject and the predicate, where the predicate is treated as a secondary appendage to the subject. This movement is initiated by the 'counter-punch' (*Gegenstoss*). After 'suffering' the counter-punch, the subject is transformed through its encounter with the predicate.

For example, in "God is being", we would normally take the subject (God) and the predicate (being) as separate. However, through a speculative judgment, these two come to reflect and transform into each other. In other words, God is not merely associated with being – She is being itself, and being itself is inseparable from Her. They are interdependent and establish a greater dialectical whole.

Additionally, the speculative proposition "evokes the common opinion" that learns that "[the proposition] means something other than what it took itself to have meant, and this correction of its opinion compels knowing to come back to the proposition and now grasp it in some other way" (§63, p. 40). In other words, the speculative judgment forces us to rethink the subject-predicate pair in a way that supersedes our superficial understanding. In sum, we observe:

Speculative sentence

(1) The existing separation between the subject and the predicate vanishes through a speculative judgment.
(2) The subject and the predicate do not collapse into an empty identity but establish interdependence within a dialectical whole.
(3) This dialectical whole is not a static fusion but a process of further conceptual development.

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[4] Regarding "S is P," we say that "is P" is a predicate in classical logic. Meanwhile, in Hegel's speculative philosophy, only P is a predicate. For details, see Houlgate (1986, p. 146).

[5] This does not mean that the distinction is completely erased. Rather, he meant that their *conventional* separation becomes invalidated. Hegel notes that "in the philosophical proposition, the identity of subject and predicate does not abolish their difference […] Instead, their unity emerges as a harmony" (Hegel, 1807/2018, § 61, p. 39). He likens this relationship to the "rhythm between meter and accent".

[6] Hegel aims to demonstrate that a speculative sentence "has within itself the dialectical motion necessary to present consciousness as alive and self-developing through its determinate shapes to the organic whole of spirit as 'absolute knowing'" (Verene, 2007, p. 10).

(4) The speculative judgment compels us to rethink the sentence in a way that moves beyond our initial understanding.

However, Bowman (2013) notes that a single proposition is "not able to express the dialectical, internally self-reverting movement of the grammatical subject to the predicate and from the predicate […] back to the grammatical subject" (p. 252). Hence, "there cannot actually be a speculative sentence as a sentence". In a similar vein, Houlgate (1986) notes that "the *Logic* cannot be expressed by one speculative sentence alone, even if that sentence is the most concrete definition of reason as dialectical self-determination" (p. 150). Then, is the Liar a speculative sentence? Does it satisfy the four features?

2.2. Is the Liar a speculative sentence?

Feature (1) seems irrelevant to the Liar. Its subject "This sentence" (or "This sentence is false.") is semantically subjugated to the predicate 'false'. Since "This sentence" already contains the word 'false', there was no 'rigid separation' at all between the subject and the predicate. In this regard, the Liar falls short.

Furthermore, unlike in (2), the Liar's subject-predicate pair establishes no interdependence. Rather, the predicate 'false' is merely encapsulated in the subject. Nevertheless, the false/true predicates that alternate through different levels within the Liar form a certain type of interdependency. In F_1 -> T_2 ->F_3 -> T_4 -> ..., we saw that a predicate at a particular level would not exist without its preceding antithesis at a higher level.

In short, while the Liar reveals back-and-forth alternations along the different levels of true/false predicates, a speculative sentence focuses on a dialectical tension between the subject and the predicate. Then, do these alternations achieve a dialectical whole where further 'conceptual development' is apparent as stated in (3)? Some may raise a concern that these continual oscillations embody a 'bad infinity'. Hegel defines bad infinity as "the perpetual movement back and forth from one side of the persistent contradiction to the other, from the limit to its non-being, and from the latter back again to the other, the limit" (Hegel, 2010b, p. 192). Then, what was Hegel's view on the Liar?

In *Lectures on the History of Philosophy* (1892), Hegel discusses the Liar as one of the Megarian paradoxes (pp. 458–459). This issue was studied in detail by d'Agostini and Ficara (2021). They state that, "given the Liar's sentence 'μ' that says ''μ' is false', Hegel's idea is that the conjunction 'μ and not μ' is true, while the two conjuncts 'μ and 'not μ', separately taken, are untrue" (p. 1). Hegel "presents the paradox in the Megarian way: 'if a man acknowledges that he lies, does he lie or speak the truth?'" (p. 6). "In Hegel's view, no other answer except 'yes and no' is possible" (p. 6). Specifically: "the separate 'yes' and 'no' are both untrue, as they correspond to partial and hence untrue accounts of the situation. This view is typical of Hegel's theory of inconsistencies, normally interpreted as a form of epistemic dynamism, whereby 'the consciousness' first postulates that p, and then discovers that in fact not p, and so assumes that p and not p" (p. 9).

d'Agostini and Ficara also provide the following dialectical triad: "First, the consciousness (the epistemic agent, the questioned person) realizes that 'p' ('yes') as such

cannot be true. Then it realizes that 'not p' ('no') cannot be true either. Finally, it concludes that this is because what is true is the contradiction: 'yes' and 'no' is the true answer" (p. 9). These "three steps perfectly correspond to the phenomenology of the Liar's case". Therefore, the Liar does not exemplify Hegel's bad infinity. It exhibits bad infinity only when we attempt to ascertain a singular truth value through endless predication. If we embrace both F and T as a dialectical whole, the movement ceases to be bad infinity. It instead becomes a productive dialectical progression, forcing a reevaluation of the nature of truth itself. For example, their interdependence teaches us that dialetheism is possible, thus generating new conceptual development. Therefore, the Liar satisfies (3).

Finally, the Liar meets (4). Obviously, we have to come back to the sentence again and again to seek its definitive truth value. Our initial judgment on its truth value is repeatedly betrayed by a predicate hidden at a deeper level.[7] This feature reinforces our thesis that the Liar resembles a speculative sentence.

To summarize, the Liar does not satisfy (1), but partially matches (2) in an unconventional way. In addition, we saw how d'Agostini and Ficara helped to strengthen the case that the Liar satisfies (3). Lastly, it clearly exhibits (4) by compelling ongoing reinterpretation. These observations justify the paper's proposal to call the Liar a 'quasi-speculative sentence'. Especially, the speculative moment arises when we encounter the 'counter-punch' with the Liar. The endless oscillation of opposite truth values baffles us, ultimately leading us to a transition to a higher-level viewpoint where the oscillation is grasped as the essence of the Liar itself. We cannot undergo this 'counter-punch' through pure formalisms. Hegel himself said:

> "The habit of making progress in representational thought finds interruption by the concept irksome: likewise, so does formal thinking in the way it employs non-actual thoughts to argue cleverly for this or that thing" (Hegel, 1807/2018, § 58, p. 36).

It is through this 'concept' – in its budding form, where our reasoning begins to rise above the flat plane of formalism – that we draw a non-trivial lesson (e.g., *the affirmation of the falsity of the very affirmation*) from the Liar. In short, we come to see that the Liar is not the expression of a fixed truth or falsehood, but the movement of contradiction itself. Hegel also said:

> "[I]f truth were nothing more than the lack of contradiction, the first thing that would have to be considered for every concept is whether it did not of itself contain such an internal contradiction" (Hegel, 2010a, § 33, p. 73).

Therefore, the Liar has to be taken more seriously than as a meaningless proposition.

Let us conclude this section by summarizing the following details of the quasi-speculative sentence.

[7] Žižek (2012) describes "the mad self-referential play of the Absolute Idea" (p. 77). He further describes the absolute immanence of a criterion for the 'Hegelian truth', where "a statement is compared with itself, with its own process of enunciation".

(1) It presents a paradox forcing us to confront an infinite loop.
(2) The quasi-speculative sentence presents opposites that establish a dialectical pair; however, this pair differs from the subject-predicate relation found in Hegelian scholarship.
(3) Nevertheless, by embracing an apparent dichotomy within the quasi-speculative sentence, we achieve conceptual development.

This paradoxical structure, where each level of interpretation forces a reassessment of the previous one, is not unique to the Liar. A similar pattern arises in the foundational justification of logic itself.

3. Logocentric Predicament

3.1. Carroll questions modus ponens

According to Sheffer (1926), "the attempt to formulate the foundations of logic is rendered arduous" by a 'logocentric predicament' (p. 228). He explains that, "[i]n order to give an account of logic, we must presuppose and employ logic".[8] Hanna (2006) points out that Sheffer assumes that "epistemic noncircularity is a necessary condition of all legitimate explanations and justifications" (p. 55). However, Carroll (1895) questions whether logic can ever achieve non-circularity. Specifically, he believes that a *modus ponens* argument faces a regressive problem. The details of his discussion can be briefly reconstructed as follows:

P obtains.	Premise 1
P->Q obtains.	Premise 2
Thus, Q.	Conclusion

Carroll deems the above argumentation insufficient. He asserts that we need the following additional premise to reach the conclusion.

"If Premises 1 and 2 obtain, then Q."

Essentially, he is suggesting that we must accept the entire existing argument process (Premises 1 and 2 leading to the Conclusion) as a premise in order to reach the conclusion. Upon adding Premise 3, the argument becomes:

P obtains.	Premise 1
P->Q obtains.	Premise 2
If Premises 1 and 2 obtain, then Q.	Premise 3
Thus, Q.	Conclusion

[8] McNulty (2023) argues that 'Subjective Logic' (the traditional logic) depends on 'Objective Logic' (ontology), and that this provides "Hegel's resolution of the logocentric predicament" (p. xi). For the 'presuppositionless' foundation of logic by Hegel, see Hentrup (2019).

However, Carroll still believes that the above process is incomplete, and that it requires yet another premise – namely, that if Premises 1, 2, and 3 obtain, then Q. This leads to an infinite regress, where each step demands a further premise, and we never actually arrive at a conclusion.

His argument is based upon the following implicit assumptions:

> "(1) Every valid deductive advance from the premises of an argument to its conclusion can be explained only by appeal to a principle of valid inference.
> (2) That principle of valid inference must therefore itself be included as a true premise in the very same argument" (Hanna, 2006, p. 56).

Philosophers took issue with the second assumption. They held that "principles of valid deductive inference *for* a proof are not the same as true or logically true conditional premises *in* a proof" (emphasis in the original, p. 57). That is, Carroll failed to see the distinction between the 'object language' (logical premises) and the 'metalanguage' (logical inference rules). However, despite acknowledging the plausibility of this critique, Hanna argues that "it is not at all clear that the philosophical problem [Carroll] was trying" to get us to notice was solved (p. 58). Hanna asks, "by virtue of what logical resources are valid *metalogical* deductions to be explained or justified?" (emphasis in the original, p. 58). If we justify them through meta-metalogical proof(s), then these would require meta-meta-metalogical proof(s). This, again, traps us in an infinite regress.

3.2. Analogue to the Liar

Let us observe the following argument:

> We cannot resolve an infinite regress in *modus ponens*. (Premise 1)
> If we cannot resolve an infinite regress in *modus ponens*, *modus ponens* is groundless. (Premise 2)
> Thus, *modus ponens* is groundless. (Conclusion)

This argumentative process exactly employs *modus ponens*. In other words, *modus ponens*$_2$ was used to prove the groundlessness of *modus ponens*$_1$.

This can be further extended to:

> "Logic$_1$ is groundless on the ground of logic$_2$."

When a reader first considers Carroll's argument, she sees logic as logic$_1$. However, her reasoning process that led to the conclusion is based on logic$_2$. Thus, the thesis that logic is groundless on the ground of logic holds. This can be paraphrased as "logical affirmation of the groundlessness of logic". This feature of our reasoning bears resemblance to the Liar. They are similar in that they are both self-defeating.

In Section 1, we saw a paradoxical situation where F_1 led to T_2, T_2 to F_3, F_3 to T_4, and so on. Similarly, when logic$_2$ is used to prove the groundlessness of logic$_1$, logic$_2$ will also be proved to be groundless by logic$_3$. Specifically:

$Logic_1$ is grounded.
$Logic_1$ is rendered groundless by the groundedness of $logic_2$.
$Logic_2$ is rendered groundless by the groundedness of $logic_3$.
…

In parallel with the Hegelian understanding that a conjunction of F and T is true for the Liar, it is reasonable to conclude that the alternation of the two antithetical features of logic – its groundedness and groundlessness – exemplifies a transcendental nature of logic. By embracing these two contrasting features, we can dialectically progress beyond a mere infinite regress. That is, logic is transcendental and cannot – and need not – be justified on its own ground within our epistemic domain.

While Carroll hinted at potential infinite intermediate steps missing in *modus ponens*, the ancient Greek philosopher Zeno suggested that there might be infinite segments within a physical distance. Let us examine this case more closely.

4. Zeno's Paradox

4.1. Two versions of Zeno's dichotomy argument

Zeno devised four paradoxes to defend his argument that motion is illusory. Among these, we will focus on his 'dichotomy' argument. According to Bathfield (2018), there are two versions of this argument: the 'progressive' and the 'regressive' (p.12). The 'progressive' version is a case where one cannot reach a destination because there is always half a distance remaining *after* covering the first half. But this 'progressive' version is somewhat weak, as it at least concedes that the first half of the distance can be traversed. The 'regressive' version is more radical: it asserts that motion cannot even begin. To reach the destination, one must first traverse half the distance. But, *before* that, one must cover half of that half, and so on. This is an infinite regress. That is, she cannot locate an immediate subsequent point from the starting point. Therefore, no motion can begin. Since reaching the destination requires us to infinitely halve intermediate distances up to the destination *in advance* before motion begins, it is *a priori* impossible to begin moving.

4.2. Analogue to the Liar

However, if motion is illusory simply because we cannot find the next point from the origin, shouldn't the existence of space also be questioned? But Zeno's argument precisely begins from assuming that continuous space exists. This assumption is an indispensable element in proving the illusory nature of motion through *reductio ad absurdum*. So shouldn't we rather imagine that the manifestation of a spatial extension (which is contextually synonymous with 'movement') as well as an assumption thereof is in fact a *proto*-ontological truth (a higher-level truth that is apparently absurd from a lower-level viewpoint) that justifies immobility as a surface-level ontological truth discovered through logic? In other words, Zeno could have unknowingly proved that mobility is

even more ‘real’ than immobility. This point is constructed in the following Liar-like manner:

Movement manifests.
Logic_1 disproves the ontology_1 of movement.
Movement $\text{proto-ontologically}_2$ justifies logic_1.
Logic_2 disproves the proto-ontology_2 of movement.
...

This tension is apparent in the phrase: “affirmation of immobility through mobility”. However, Zeno was far from wrong. Within the Liar-like hierarchy, logic can disprove any level of alleged proto-ontology of movement. A key takeaway from this is that Zeno’s defense of Parmenidean monism is as much significant as Heraclitus’ doctrine of flux, which later influenced Hegel.[9]

Kant was also deeply puzzled by whether space is continuous or discrete. In the *Critique of Pure Reason*, Kant contemplates which one of the following theses holds.

> “Every composite substance in the world consists of simple parts, and nothing exists anywhere except the simple or what is composed of simples.”
> “No composite thing in the world consists of simple parts, and nowhere in it does there exist anything simple” (Kant, 1998, pp. 476–477).

This is one of the four antinomies that led him to conclude that the ultimate truths of reality lie in the noumenal realm beyond human reason. Kant forever changed the landscape of philosophy by arguing that we perceive reality through a conceptual framework and cannot have direct knowledge of things-in-themselves. This principle is relevant to the following section, which deals with whether we can claim objective truths about the world as a mind-independent reality.

5. Realism vs. Anti-Realism

5.1. Realists

According to Loux (2006, p. 259), realists argue that:

(1) There is a mind-independent world about which we form beliefs and make statements.
(2) The statements are true if they correctly correspond to the world they are about.
(3) The correspondence that is truth is a property that can transcend our ability to determine whether or not it obtains.

[9] Hegel says: “continuity is […] the destruction of all difference, of all negation, of being for self; the point, on the contrary is pure being-for-self […]” (Hegel, 1892, p. 266) However, ‘both of these’ are “in space and time, placed in one”. He concludes: “Movement is just the reality of time and space, and because this appears and is made manifest, the apparent contradiction is demonstrated, and it is this contradiction that Zeno notices”.

In other words, there *are* several true statements about the world that are linguistically identified and understood by us but cannot be proven to be true. But what verifies this claim? How could we know this claim to be true when the 'true' statements are not verifiable? Aren't the realists claiming a dogmatic view of the world?

Goldberg (2008) takes a step further and interprets the realist view to be such that "[s]ome empirical truths are not knowable through even ideal human inquiry" (p. 149).[10] This view is described by Dietrich (2020) as a "'non-omniscience' principle" (p. 134). Simply speaking, it means that "some truth is not known". However, he concludes: "[H]owever plausible the non-omniscience thesis seems, it cannot be *known* to be true" (emphasis in the original). He does not argue that realism must be false. Instead, he states that the realists' stance is 'awkward', because they are essentially saying that "realism is itself a true but unknowable fact" (pp. 134–135).[11]

To sum up, realists claim knowledge of a fact that there exist unknowable/unprovable truths of a mind-independent reality. But, from an anti-realist[12] view, this could be enunciation of a particular system of beliefs and knowledge rather than reference to an objective fact about the 'mind-independent reality'. Hence, they could be making "anti-realist affirmation of realism".

5.2. Anti-realists

According to anti-realists, reality is "constituted in part by our conceptual activities" (Loux, 2006, p. 287). This view is influenced by the Kantian thesis that the world as we understand it is *necessarily* mediated by our mental frameworks. This view appears to eliminate the necessity of positing true statements about a mind-independent world, as we only need to discuss the validity of particular statements according to whether they successfully cohere with our frameworks. However, one problem remains. The anti-realist view suggests that we would have no understanding of the world at all if these mental frameworks did not work the way they do. But "[h]ow is it possible to know that you can't get outside the mind? If it's impossible to know anything except as it is, say, mentally represented, then one of the things you can't know is that it's impossible to know anything except as it is represented" (Dietrich, 2020, p. 146).[13] In other words, under the anti-realist scheme, we are supposed *not* to know the fact that our knowledge is constricted within the realm of mental representations.

Additionally, anti-realists argue that "word-world relations […] do not obtain" (Loux, 2006, p. 287). They argue that realists have no *a priori* basis to make references to objective truths. But "if the anti-Realist can make talk about reference intelligible by

[10] Goldberg's (2018) thesis that some truths are unknowable is subtly different from the thesis that the truths of some known statements about the world are unverifiable.

[11] He demonstrates this point through logical analysis. For more details, see Dietrich (2020, p. 134).

[12] The term 'anti-realism' was introduced by Michael Dummett, which is sometimes "imagined by many to be a form of old-fashioned idealism […] that reality runs no deeper than sense data, and so is, […] 'mind-dependent'" (Dietrich, 2020, p. 123).

[13] Likewise, one may ask if Zeno's argument could be held at all if no motion ever existed.

taking certain referring expressions at face value, why cannot the Realist do the same thing?" (p. 287). This question suggests that when the anti-realists attack the realists for taking referentiability for granted, they may not be aware they are complicit in making reference to an 'objective' fact – namely, that realists cannot make references to objective truths. Thus, the anti-realists' position can be described as "realist affirmation of anti-realism". The more legitimate their position is, the more paradoxical it becomes.

5.3. Analogue to the Liar

The following construction illustrates in a liar-like manner the dispute between realists and anti-realists:

> Anti-realists$_1$: Realists$_1$ have a system of beliefs for claiming 'objective truths'.
> Realists$_2$: Anti-realists$_1$ purport to make a realist claim about realists$_1$.
> Anti-realists$_2$: Realists$_2$ have a system of beliefs for rebutting anti-realists$_1$.
> Realists$_3$: Anti-realists$_2$ purport to make a realist claim about realists$_2$.
> ...

It is worth noting that Dietrich (2020) observes: "Anti-realism is the negation of realism, and since anti-realism is self-refuting, anti-realism is its own negation. Therefore, anti-realism is identical to realism" (p. 146). He thereby arrives at a radical conclusion that they are "in fact dialetheic, identical theses".

Of the various metaphysical objects/statements that a realist or even an anti-realist can refer to, there is the thesis of determinism. In the following section, we will investigate how making a reference to determinism may create a paradoxical situation, akin to the Liar.

6. Determinism

6.1. The determinist's dilemma

The determinist's assertion of determinism[14] can be formulated as follows:

> "[T]he determinist refers$_1$ to:
> The determinacy of all the events of the universe comprising the very event of referring$_2$ to the determinacy of all the events" (Lee, 2024, p. 20).

It reveals two discrepancies:

(1) While referring$_1$ occurs dynamically, referring$_2$ exists within a static realm.
(2) The mind engaged in referring$_1$ differs from the mind engaged in referring$_2$.

(1) points to the tension between the dynamicity of an understanding that actively determines the rigid determinacy of all events and the staticity inherent in the 'under-

[14] Causal determinism asserts that "every event is necessitated by antecedent events and conditions together with the laws of nature" (Hoefer, 2023, Section 0).

standing' itself as one among those deterministic events. This naturally leads to (2). The mind engaged in referring$_1$ is actively targeting the mind engaged in referring$_2$. However, the dynamicity of the former is absent in the latter. In addition, the former *as a subject* has to separate itself from the latter *as an object*. But no subject can ever achieve full self-identity with itself as an object.

6.2. Analogue to the Liar

When one asserts determinism, this suggests that her act of assertion has also been determined. However, when she is involved in the act of assertion, there must be a moment where her mind separates from the objects of the world that are within her scope of determinism. When she realizes that the briefly separated mind was also part of the deterministic world, the state of mind where this realization takes place must be different from the briefly separated mind. Therefore, she cannot achieve total identity between the mind engaged in referring$_1$ and the mind engaged in referring$_2$. In parallel with the Liar, this endless momentary cognitive separation reveals:

The subject$_1$ declares determinism.
The subject$_2$ encapsulates the subject$_1$ within determinism.
The subject$_3$ encapsulates the subject$_2$ within determinism.
...

As in "F_1 -> T_2 ->F_3 -> T_4 -> ...", the determinist oscillates between her subjective viewpoint and objectification of her subjective agency. Although the subject attempts to achieve full subject/object equivalency, she fails.[15] This reveals an epistemic-level limitation in certifying a supposed ontic-level[16] truth of determinism. Let us put this in a Liar-like manner:

"Affirmation$_1$ of the determinacy of the world events including the very affirmation$_2$."

This raises several questions. If 'affirmation$_1$' was a predetermined event, why would it stand out from the other predetermined world events? Additionally, if affirmation$_1$ and affirmation$_2$ were indeed identical, wouldn't this create an infinite loop from which there is no escape? Most importantly, what conceptual development do we dialectically achieve in light of this infinite loop?

The point is not so much that determinism is incorrect or flawed as that a finite agent's *inability* to justify determinism on a subjective level is a *necessary* condition for her to exist as a philosophical subject within a supposedly deterministic world as well as to legitima-

[15] Hegel says: "Absolute Spirit implies eternal self-identical existence that is transformed to another and knows this to be itself" (Hegel, 1894, p. 377). Unlike Absolute Spirit, where the subject and object achieve full equivalence, the determinist is a finite agent within spacetime.

[16] Atmanspacher (2002) states that "it is considered a serious fallacy to confuse" ontology and epistemology (p. 50). By ontology, he refers to "the structure and behavior of a system as such" (p. 49). By epistemology, he refers to "the knowledge of information gathering and using systems, such as human beings". He concludes that "[d]eterminism in the basic sense […] is the most ontic [concept]" (p. 68).

tize its determinacy on an ontic level. Without any subject to confirm/verify determinism in a deterministic system, a potential ontic truth of determinism would be insignificant. Besides, if she were truly capable of justifying determinism on an epistemic level, she would no longer be a subject imposing a perspective on the system. In this context, Žižek (2012)'s following remark is all the more apt:

> "[O]ne cannot look 'objectively' at oneself and locate oneself in reality; and the task is to *think this impossibility itself as an ontological fact*, not only as an epistemological limitation. In other words, the task is to think this impossibility not as a limit, but as a positive fact – and this, perhaps, is what at his most radical Hegel does" (p. 239).

Conclusion

This paper's main ideas can be illustrated as follows:

Liar sentence
- Affirmation of the falsity of the very affirmation

Logocentric predicament
- Logical affirmation of the groundlessness of logic

Zeno's paradox
- Affirmation of immobility through mobility

Realism/anti-realism
- Anti-realist affirmation of realism/Realist affirmation of anti-realism

Determinism
- Affirmation of the determinacy of the world events including the very affirmation

The Liar is one of the oldest paradoxes that have perplexed philosophers to date. Simultaneously, it is the simplest paradox illustrating an unending reversal of opposites – which mirrors Hegel's dialectics. However, the Liar does not culminate in mere 'bad infinity'. This paper has shown that the Liar can beget new conceptual development through a speculative process. This 'quasi-speculative' structure is not unique to the Liar; it is mirrored across a range of philosophical paradoxes.

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