

False Truths

An Analysis of Dialetheism as a Response to the Liar Paradox and the Realism-Debate



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1. Introduction

You have not just read the first line of this introduction.

But you have. By reading and understanding the sentence, you have inherently acknowledged that you read it. However, the content of the sentence explicitly denies that you have done so. There is only one conclusion left to make: the content of the sentence is false. Denying the truth of the first line of this introduction, is the way out of the paradox it created. However, there are logical paradoxes which entail a self-referential contradiction similar to the one above, which are not that easily solved. A well-known paradox is the one of the Liar:

“This statement is false.”

The content of this proposition is that it is false, but because it claims to be false and it is, it must be true. It is not solvable by denoting its content as false; because that is exactly what makes it true. Consequently, the Liar Paradox creates a logical inconsistency: a statement which is true and false. This paradox is the starting point of this thesis. While the formulation of the contradictory statement above is seemingly simple, its consequences in (philosophy of) logic are immense.¹ This thesis focuses on one of the ways to deal with such paradoxes, namely the *dialetheist* approach, which accepts the existence of propositions that are true and false, and hence of true contradictions. These are called *dialetheia*’s, in other words two-sided propositions or *false truths*; like Janus the double faced god, a *dialetheia* has two sides, true and false. The aim of this thesis is to find out what the implications of the *dialetheist* approach are, not only for the philosophy of logic, but also for the debate between realists and idealists. What happens when we accept that propositions, which could be propositions about facts in the world, can be both true and false?

The Liar Paradox is commonly believed to have originated with the ancient Greek philosopher Epimenides, who, according to tradition, was a Cretan who made the following statement: "All Cretans are liars."² This statement can be found in the New Testament, in a letter of Paulus to Titus: ‘One of Crete’s own prophets has said it: “Cretans are always liars, evil brutes, lazy gluttons.” This saying is true.’ (Titus 1:12-13).³ If Cretan Epimenides was a liar, he was telling the truth with this statement. But the statement should be false coming from a Cretan who is always lying; hence a paradox follows from the prophet’s utterance.

¹ In this thesis, I will use both the terms ‘sentence’ and ‘statement’ to refer to a sentence.

² Quine, “Paradox,” 86.

³ Titus, New Testament, Holy Bible 1:12-13.

The Liar Paradox exists in multiple formulations, but always comes down to the same contradiction: a proposition that is true if and only if it is false. In philosophy and logic, this is considered problematic because contradictions threaten fundamental principles, such as the Law of Non-Contradiction, on which logical systems heavily rely. The Law of Non-Contradiction states that a statement cannot be both true and false. The very meaning of the words 'true' and 'false' seems such that they exclude each other. Paradoxes such as the Liar challenge this principle. Furthermore, the Liar challenges consistency. Consistency is crucial to logical systems: and allowing contradictions can lead to their collapse. As any statement could be proven from a contradiction, a principle known as "explosion" in logic, a system in classical logic is not consistent when it allows contradictions in it. However, some logicians argue otherwise, namely that true contradictions need not lead to inconsistency. Such theorists hang on to paraconsistent logical systems, which offer alternative frameworks where paradoxes can exist without leading to collapse. Dialetheism, as advocated by Graham Priest, posits that some contradictions are true, allowing certain statements to be both true and false. These statements are called *dialetheia*'s, and the Liar Paradox is an example of them.

Priest modified the system of consistent logic into a paraconsistent one, so it would be able to catch the truth – and simultaneously, the falsehood - of contradictions. However, his theory, known as 'Logic of Paradox,' has not remained uncriticised.⁴ In his 1984 article "Priest, the Liar, and Gödel", Charles Chihara raises technical objections against Priest's dialetheism. For one, he argues that Priest's dialetheism is not a well-designed system, and Priest's proof procedures cannot be completely formalized (contrary to what Priest claims). Moreover, he sees no need for replacement of accepted principles of classical logic, because "Priest's argument for the Rejection of the Law of Contradiction is built on a foundation of sand."⁵ Aside from technical objections, dialetheism has been criticised because of its absurdity, especially when applied to the 'real world'.⁶ Frederick Kroon worried that the acceptance of the dialetheist's claim to the existence of true contradictions, leads to a situation in which all contradictions are true, a possibility he does not want to take seriously.⁷ Nevertheless, what follows from Kroon's worry is that dialetheism, since it is a claim about truth, may have metaphysical implications. For one, if we use logic in our descriptions of reality, the what in

⁴ Possati, "Dialetheism: The Power of Contradictions. An Outlook," 2.

⁵ Chihara, "Priest, the Liar, and Gödel," 124.

⁶ Koon, "Realism and Dialetheism," 262.

⁷ Ibid.

reality does a true contradiction represent? What does it mean to speak about an inconsistent world?

Metaphysical realism typically asserts that there is a mind-independent reality that exists objectively, regardless of our beliefs or perceptions. Priest's dialetheism, by permitting true contradictions, challenges the principle of non-contradiction, which is foundational to classical metaphysical frameworks. The assumption that reality is fundamentally non-contradictory, is thus called into question. According to dialetheism, reality can somehow make contradictions true. Truth in metaphysics is found through correspondence: sentences are true if and only if they correspond to something in reality, and false if and only if they do not. Thus, there must be something to which true contradictions correspond. On the other hand, if we embrace true contradictions in logic, but not their existence in a mind-independent reality, this may lead to scepticism about our ability to grasp or represent reality accurately. It follows from the Liar Paradox that inconsistent propositions exist, namely the ones that make the contradiction true.⁸ If there are contradictions in reality and these correspond to a contradictory reality, but such a reality is metaphysically impossible, then the problem must lie within our own perception or conceptualization of reality.⁹ The world is here around us; how can certain pieces of it contradict other parts?

If reality is contradictory, then there is a logical system that we can use to describe it: paraconsistent logic. Paraconsistency is one of the main pillars of dialetheism, the claim that true contradictions exist in reality. The aim of this research is thus to dive deeper into the possible consequences of dialetheism for metaphysical realism, and find out for which side in the realist debate it proves the most fruitful argument. This will be done by using the Liar Paradox as a starting point, because Priest's dialetheism can be studied as a response to the Liar Paradox.

By following the steps Priest takes to account for true contradictions, I aim to provide an answer to the following question: What are the metaphysical consequences of the Liar Paradox, in particular for realism and anti-realism, from a dialetheist perspective?

The following subdivision of questions will be answered:

1. What is the Liar Paradox and how/why does it pose a problem in philosophy of logic?
2. What is the dialetheist response to the Liar Paradox, as theorized by Graham Priest?

⁸ Berto, "Is Dialetheism an Idealism? The Russellian Fallacy and the Dialetheist's Dilemma," 243.

⁹ Estrada-González, "On the Possibility of Realist Dialetheism," 1004.

3. Why does this response pose a potential problem to (metaphysical) realism?
4. How does dialetheism fit in the debate between realists and idealists?

The first part of this thesis will be devoted to the Liar Paradox in its most well-known formulations, and the consequences its contradiction entails. A *contradiction* exists in many forms, but the focus of this thesis will specifically be the contradiction that is a self-referential paradox such as the Liar. The point of the first part of this thesis is not to expand on the importance of the Liar Paradox in the debate among logicians, but to introduce the theory of dialetheism, which will be covered in the second part of this thesis. Because Priest created his Logic of Paradox to account for contradictions such as the Liar, it is essential to first understand what the Liar exactly entails and why the paradox is seen as an unsolvable problem. Hence, I will address the main implications of the Liar Paradox in classical logic in the first chapter, which include not only contradiction, but also *inconsistency* and *triviality*, and explain how dialetheism deals with these. The chapter ends with an overview of literature on solutions to the Liar Paradox. This overview provides the main arguments and conflicting views on solutions to the paradox, with the aim to place dialetheism in this tradition of solutions. It must be noted that this overview is by far not exhaustive; but it illustrates the importance of the Liar Paradox in the philosophy of logic and draws a connection between the different proposed solutions throughout history, of which one of the most recent will be studied in this thesis: Priest's dialetheism.

Dialetheism as a response to the Liar Paradox will be studied in the next chapter. I will sketch the main ideas of dialetheism as voiced by Graham Priest in his main work on this theory *In Contradiction: A Study of the Transconsistent* (1987). I will explain how Priest does away with certain principles of traditional logic, such as the *Law of Non-Contradiction* (LNC). In this chapter, I will take a neutral stance towards dialetheism, and not argue for or against it. Because the aim of this thesis is to discover the impact of dialetheism on metaphysical realism, I will from thereon take the perspective of the dialetheist and apply this perspective to the realist debate in the next section.

In the third part of this thesis, the theoretical frameworks of both dialetheism and metaphysical realism will be put next to each other. The implications of dialetheism for realism, to the notion of truth, and to the objective structure and composition of the outside world will be examined. In this chapter, I will first describe metaphysical realism and the arguments supporting this view, such as the existence of *universals* and the *correspondence*

theory of truth. Then I will counter this view by describing anti-realism and specifically idealism and its arguments, which include a *coherence theory* of truth. Subsequently, I will analyse the role of logic in describing and unfolding reality, and go over applications of dialetheism besides formal logic. I will use the findings of this chapter to build my final argument, namely that a believer of dialetheism is better off by accepting a form of metaphysical realism than anti-realism, since dialetheia's are a sound argument for the existence of an objective and independent reality.

To provide a complete outline of the theory of dialetheism is thus also not the goal of this thesis. Dialetheism exists in multiple variations, of which Priest's dialetheism is the most well-known and the best developed.

To recapitulate, for the sake of feasibility and preciseness, the first half of this thesis remains limited to the case study of Priest's dialetheism as a response to the Liar Paradox. In the second half, I will take a stance on the consequences of dialetheism to metaphysical realism, for which I conclude that dialetheism is a better fit for the realist side in the realist versus anti realist debate.

2. The Liar Paradox

In this chapter, I will go into three formulations of the Liar Paradox: the Simple Liar, the Strengthened Liar and the Liar Cycle. I will do so in section 2.1, which starts with a short summary on these formulations, after which a more detailed analysis of each formulation follows. This analysis shows that every formulation of the Liar boils down to the same problem: that which is stated is true if and only if it is false. As I show at the end of the section, by linking the Liar to Tarski's T-schema, the problem is that inconsistency follows from this contradiction. Thus, section 2.2. is dedicated to contradiction and answers the question what a contradiction is exactly and how it follows from the Liar Paradox. I do so by analysing multiple definitions of a contradiction from the history of philosophy, such as those of Aristotle, Sainsbury and Brody, because even though some of these definitions are very similar, even slight differences show that these authors did not build whole theories on the exact same Law of Non-Contradiction. After establishing the most suitable conception of the LNC and the definition of a contradiction, it is time to go further into the problematic consequences of contradictions in logic, namely *triviality* and *inconsistency*. This will be done in section 2.3. In the last section of this chapter I will describe the most well-known solutions to the Liar Paradox and argue why they are not convincing (enough). The aim of this section is to provide some context to the long-lasting tradition of solutions to the liar Paradox, before I continue with the solution that is at focus in this research: *dialetheism*.

2.1. Formulations of the Liar

Due to its name and formulation, Eupimenides' version of the Liar Paradox seems to deal with lying, but that is not the cause of trouble in this paradox.¹⁰ Liars are people who frequently (but not always) say the negation of what they think is true. What is of importance in the Liar Paradox is mentioning truth.¹¹ This does not need to be in the form of a lie; it can also be formulated differently. The simplest form of the Liar Paradox can be formulated as: "I am lying". A similar formulation, but without the presence of a liar, is: "This sentence is false." The contradiction at the heart of these propositions is a self-referential one. The self-reference makes the statement both true and false. "This sentence is false" is the Simple Liar, but there are also other forms of the Liar Paradox, for example the Strengthened Liar and the

¹⁰ Gareth Southwell, *Paradoxes*, 72.

¹¹ Ibid.

Liar Cycle.¹² The Strengthened Liar is formulated as “This statement is not true”, which seems very similar to the Simple Liar, but there is a slight difference. The Simple Liar directly claims its own falsehood, from which a contradiction follows directly. The Strengthened Liar claims its not-trueness, which covers both the possibility of the proposition being false and any other condition that might preclude it from being true. Thus, it avoids solutions that are merely aimed at statements explicitly claiming falsehood, which makes it a stronger formulation than the Simple Liar.

The Liar Cycle on the other hand differs from the first two because it does not consist of one proposition but of more, which refer to each other. An example is the following:

Statement 1: “Statement 2 is true”

Statement 2: “Statement 1 is false.”

All of these are self-referential paradoxes that lead to the same antinomy: a statement that is true if and only if it is false.¹³ I will not go further into detail about these three versions of the Liar Paradox, to see why they are considered problematic, and what the most important differences are between the three formulations.

The Paradox of Epimenides is a captivating tale, yet because of this, there are loopholes.¹⁴ Maybe Epimenides was a liar who *sometimes* told the truth, or maybe *most* Cretans were liars – of which Epimenides was one – but *others were not*; these possibilities make the contradiction disappear. Nevertheless, the simplest form of the Liar Paradox is at the heart of Epimenides’ story, and can be formulated the following way:

“I am lying.”

The statement “I am lying” is not problematic if it refers to another sentence.¹⁵ For example, I could say: “I am not hungry. No, actually, I am lying.” There is nothing paradoxical about this. The paradox arises with the *self-referentiality*. The self-reference causes the contradiction that my utterance is true and false. Namely if my utterance is true, I am lying and therefore it is false, because lying is telling a falsehood; if it is false, I am not lying, which makes the utterance true, because if I am not lying, then I am telling the truth.

¹² Clark, *Paradoxes from A to Z*, 99-100.

¹³ Quine, “Paradox,” 87.

¹⁴ Quine, “Paradox,” 86.

¹⁵ Clark, *Paradoxes from A to Z*, 99.

“I am lying” is not the best way to phrase the Liar Paradox, because “I” refers to the speaker of the proposition, which makes the formulation liable to solutions on the identity of the speaker, like the loopholes of most Cretans being liars. Thus, it can be better formulated as:

L: This statement is not true.

L leads to the same difficulties as “I am lying”, but it does not require any extra context. If we assume *L* is true, then the content of the sentence is true, i.e. the statement is not true.

Reversely, if we assume *L* is false, the content of *L* must be false, which makes it true. What has now been shown is that *L* is true if, and only if, it is false. In classical logic, it is assumed that a proposition is what a person uses a sentence for to say, and that a proposition has its truth-value independently of the sentence used to express it.¹⁶ Thus, the sentences “This statement is false” and “What this statement says is false” end in the same contradiction.

L is an example of the Strengthened Liar (or Strong Liar Paradox). It has been given this name, because some solutions to the Simple Liar fail when applied to the Strengthened Liar.¹⁷ The difference with the simple form of the Liar “I am lying” is that the principle of bivalence is needed to derive a contradiction from this statement.¹⁸ This principle holds that every statement is either true or false. From the Strengthened Liar *L*, a contradiction follows because the statement is true and not true at the same time, which is a contradiction that exists regardless of the principle of bivalence. The concept of falsehood does no longer appear.

The Liar also exists in a circular form, which is called the *Liar Cycle*. In this case, there are two or more sentences referring to each other, from which a contradiction follows. An example of a Liar Cycle is the following:

Jip: (J1) “What Janneke is saying is false.”

Janneke: (J2) “What Jip is saying is true.”

J1 and J2 are only true if and only if they are false. Suppose (J2) is true; then (J1) is not true, and so what Janneke is not false. Since Janneke only says (J2), (J2) is not true. But if (J2) is true (as supposed), then it is not true.

¹⁶ Dowden, “Liar Paradox,” (Introduction).

¹⁷ Ibid.

¹⁸ Clark, *Paradoxes from A to Z*, 99.

Suppose (J2) is not true; then Jip said something that is not true. Since Jip only said (J1), (J1) is not true, that is, Janneke is saying something that is false, so what she is saying must be true. This includes (J2), so (J2) is true. Thus if (J2) is not true, it is true.

The Liar Cycle shows that *self-referentiality* is not, at least not the only, cause of contradiction in the Liar Paradox. J1 and J2 are not self-referential, but they refer to each other and still end in a contradiction. It is thus possible to formulate the Liar Paradox without self-reference. Moreover, it is also possible to come up with two sentences which have circular reference and do not end in a paradox. An example:

- (1) Sentence (2) is written in English.
- (2) Sentence (1) mentions a language.

Therefore, neither self-referentiality nor mutual referentiality necessarily is the source of the paradoxical nature of the Liar.¹⁹

The Liar Paradox can be formulated in many ways, but its essence remains the same: that which is stated is true if and only if it is false. A language that can formulate a Liar sentence, needs to meet three requirements: self-reference, a negation operator and a truth-predicate.²⁰ Firstly, it must contain a form of self-reference. The English language obviously meets this requirement. Secondly, it must also contain an operator to sentences to indicate negation (or contradiction, which we will come to later). In the English language, this operator is equal to: “it is not the case that” preceding a sentence. Thirdly, the language must contain a truth-predicate meeting certain requirements. This means that it must be possible to say about things whether they are true or not, which we and everybody else wants to do. These things that may be true or not are always expressed in sentences; thus, the truth predicate applies to sentences. To check whether the application of the truth predicate is valid, Tarski's T-schema is used ('A' is the name of the sentence abbreviated to A):

'A' is true if and only if A.

In other words, the T-schema claims that a truth predicate is satisfied by a sentence if and only if that sentence is the case. For example: “Bananas are yellow” is true if and only if bananas are yellow. The combination of the analytical truth of Tarski's T-schema and our

¹⁹ Sainsbury, "Classes and Truth," 137.

²⁰ Finley, "Defending a Dialetheist Response to the Liar's Paradox," 2.

own experience, makes it so that we can assume that true sentences correspond to reality (while false sentences do not). First, we observe that bananas are yellow and express this with the words ‘yellow’ and ‘banana’, of which we know what they mean. Tarski’s T-schema can capture this empirical truth analytically, thus capturing the meaning of the truth-predicate.

While it is not necessary for creating a Liar sentence, the T-schema must be fulfilled to derive inconsistency from the Liar.²¹ It is formally derived in the following way:

First, let S be the statement “This statement is false.”

By Tarski's T-schema, it follows that $T(\langle S \rangle) \Leftrightarrow \neg S$

Where $\langle S \rangle$ is the name of the sentence S .

Now, we must consider the truth status of S :

Start with assuming $T(\langle S \rangle)$ (in other words, S is true)

According to T-schema: $T(\langle S \rangle) \Leftrightarrow \neg S$. So, S being true implies $\neg S$.

Now assume $\neg T(\langle S \rangle)$ (in other words, S is false)

According to T-schema: $T(\langle S \rangle) \Leftrightarrow \neg S$. So, $\neg S$ being true implies $T(\langle S \rangle)$.

In both cases, whether S is true or false, we end up with a contradiction:

$T(\langle S \rangle) (S \text{ is true}) \Leftrightarrow \neg S (S \text{ is false})$ and $\neg T(\langle S \rangle) (S \text{ is false}) \Leftrightarrow T(\langle S \rangle) (S \text{ is true})$.

Therefore, $T(\langle S \rangle) \Leftrightarrow F(\langle S \rangle)$ and $F(\langle S \rangle) \Leftrightarrow T(\langle S \rangle)$.

Tarski's T-schema is essential for deriving this inconsistency, because it formalizes the relationship between statements and their truth conditions. It allows the application of logical reasoning to the Liar statement by translating the Liar into a form of which we can analyse its truth value. Without the T-schema, we would not have a formal method to relate the statement to its own truth condition, making it impossible to derive the precise nature of the

²¹ Ibid.

paradox and the resulting inconsistency. Contradiction, which is part of this precise nature, is the next step in unfolding the Liar's challenges.

2.2. At the Heart of the Paradox: Contradiction

The Liar Paradox ends in a contradiction. But what exactly is a contradiction? Before we continue to the consequences of the Liar, it is vital to clarify the notion of contradiction at the heart of this paradox.

One of the most important principles in classical logic, and in Aristotle's words "the most certain of all," is the of *Law Non-Contradiction* (LNC).²² This law entails that a contradiction has two sides and not both can be true at the same time.

LNC1 ...the most indisputable of all beliefs is that contradictory statements are not at the same time true.

—Aristotle, *Metaphysics* Γ (c 350 BC), 1011b13-14

So: Either $\text{Tr}(p)$ or $\text{Tr}(\neg p)$.

This formulation contains multiple negations, which makes it a difficult one to translate into logical predicates. The following formulation is more apt:

LNC2 ... It is impossible for the same thing to belong and not to belong at the same time to the same thing and in the same respect.

—Aristotle, *Metaphysics* Γ (c 350 BC), 1005b19–20

So: For every x and P : not $P(x, t)$ and $\neg P(x, t)$.

Or:

LNC3 ... It is impossible to hold (suppose) the same thing to be and not to be.

—Aristotle, *Metaphysics* Γ (c 350 BC) 1005b24

Since Aristotle's version of the LNC, many authors in philosophical literature have given definitions of the concept of contradiction, most of which similar to the LNC1 above.

²² Grim, "What is a Contradiction?" 49.

Nevertheless, there are subtle differences, which can be of greater importance in a discussion on the relevance of logical contradictions.

There are – at least – four approaches to the concept of contradiction in the literature: semantic, syntactic, pragmatic, and ontological.²³ The semantic approach relies on an appeal to truth and falsity. An example of such a definition is given by Sainsbury in (1991, 369): "Two propositions are contradictories if and only if it is logically impossible for both to be true and logically impossible for both to be false."²⁴ This definition assumes the presence of two propositions, but can also be applied to a single proposition, for example in the following definition given by Bonevac (1987, blz. 25); "A sentence is contradictory if and only if it is impossible for it to be true."²⁵

The syntactic approach defines contradictions merely by form. A well-known one is the following: a statement of the form "A and not A", or "A & $\sim$ A."²⁶ This form always consists of a proposition and the negation of that proposition.

The pragmatic approach defines a contradiction in terms of assertion and denial. For example, Brody defines a contradiction as the joint assertion of a proposition and its denial.²⁷ According to Kahane (1995, 308), a contradiction consists of the making of a claim and the denial of it.²⁸ Strawson (1952, 21) argued that it is impossible to assert something and deny it without this leading to contradiction.²⁹ These definitions are similar to the semantic approach, but they rely on acts of assertion and denial instead of terms of content such as truth and falsity.

The fourth approach, the ontological one, differs the most from the first three, because it defines a contradiction as a state of affairs instead of a statement or a pair of statements. A contradictory state of affairs would occur when something possesses a specific property while simultaneously possessing an incompatible property, or when something exhibits both having a particular property and lacking it at the same time.³⁰

²³ Grim, *What is a Contradiction?* 59.

²⁴ Sainsbury, *Logical Forms: An Introduction to Philosophical Logic* 369.

²⁵ Bonevac, *Deduction: Introductory Symbolic Logic*, 25.

²⁶ Haack, *Philosophy of Logics*, 244.

²⁷ Brody, "Logical Terms, Glossary of," 61.

²⁸ Kahane, *Logic and Contemporary Rhetoric: The Use of Reason in Everyday Life (Philosophy)*, 308.

²⁹ Strawson, "Logical Appraisal," 21.

³⁰ Grim, *What is a Contradiction?* 59.

These four approaches – semantic, syntactic, pragmatic, and ontological – are not exhaustive, but they do give a good representation of the notion of contradiction in the literature. It seems that many authors use a slightly different notion, and thus also rely on a slightly different LNC.³¹ In the current investigation, the semantic approach suits the Liar the best, since it is a semantic paradox. Because I want to find out what truth claims can be derived from the paradox, and from the dialetheist response to it, it is most logical to employ a definition of contradiction which includes truth and falsity. Thus, I will follow Sainsbury's account of a contradiction, but adapt it to being applicable to a single proposition as well:

p is *contradictory* iff there is no valuation that makes *p* true, and
every valuation makes *p* false.

Now that the definition of a contradiction has been established, it becomes necessary to understand when a contradiction constitutes a paradox. Paradoxes find their origin in classical philosophy; hence it is no surprise that the term paradox is derived from the Ancient Greek para- ‘contrary to’ and doxa- ‘opinion,’ from dokein ‘to appear, seem, think’.³² A paradox describes a statement of more statements that, despite following from a line of reasoning that seems valid, appear to be a self-contradictory or logically unacceptable result. As we have seen in the earlier sections, the Liar is an example of such a sequence.

It starts with the statement *S*: "This statement is false."

Thus, $S \rightarrow \neg S$ (If *S* is true, then *S* is false).

From Bivalence it follows that if $\neg S$ is true, then $F(S)$.

And $\neg S \rightarrow S$ (If *S* is false, then *S* is true). Thus, $F(S) \rightarrow S$.

Combining these two steps above, leaves us with this conclusion:

$S \rightarrow \neg S$ (If *S* is true, then *S* is false) and $\neg S \rightarrow S$ (If *S* is false, then *S* is true).

From this and the principle of Bivalence, we derive $Tr(S) \Leftrightarrow F(S)$ (*S* is true if and only if *S* is false).

³¹ Grim, *What is a Contradiction?* 88.

³² "Paradox (n.)," Online Etymology Dictionary.

Even though each step in this sequence is logically valid, the conclusion is contradictory, as there is no valuation that makes S true and every valuation makes S false.

Indeed, no valuation makes S true: If S were true, it would imply S is false. This contradiction means S cannot be true under any valuation.

Moreover, every valuation makes S false: Since $S \rightarrow \neg S$ must hold, the only way to avoid contradiction is if S is false. Thus, S must be false in every possible valuation.

Willard Van Orman Quine distinguished between three types of paradoxes: veridical paradoxes, falsidical paradoxes and antinomies.³³ He applied them to arguments; an argument being a sequence of propositions ending in a conclusion obtained validly from the premises, that is, by applying only the specified rules of inference.

A *veridical paradox* is a situation in which the conclusion seems absurd but can be proven to be true. In other words, the conclusion seemed to be a contradiction based on intuition, but after a deeper look at the propositions, it appears not to be. A famous veridical paradox is the Monty Hall Problem. In this problem, a game show contestant is facing 3 doors, behind one of which is a car, behind the others a goat. The contestant chooses door number 1, and the game show host opens door number 2, which reveals a goat. The host asks if the contestant wants to switch or stay on the same door. The correct conclusion is that switching will increase the chances of winning the car. Intuition suggests that the contestant has a 50/50 chance anyway, so switching would not impact this chance. However, if the contestant switches, he has a higher probability of winning the car ($2/3$ chance), whereas if he sticks with his original choice, he only has a $1/3$ chance of winning. Thus, the conclusion that the contestant should switch, seems absurd to begin with but appears to be true. The verification follows from the fact that the show host has provided the contestant with additional information, which (counterintuitively) does change the initial chance of winning. This conclusion has been supported by probability theories after its initial publication.

A *falsidical paradox* on the other hand produces a conclusion which seems absurd, but there is a fallacy in the propositions or reasoning. A famous example is the invalid proof that $1 = 2$. We arrive at this paradox with following argument:³⁴

³³ Quine, "Paradox," 88.

³⁴ Spencer, "Classic Fallacies- $1=2$: A Proof using Beginning Algebra."

Let $x = y$. Then, multiply both sides with x : $x^2 = xy$.

Now, subtract y^2 from both sides: $x^2 - y^2 = xy - y^2$.

Then, factor both sides: $(x - y)(x + y) = y(x - y)$.

Divide both sides by $(x - y)$: $x + y = y$.

Since $x = y$, $y + y = y$, thus $2y = y$. Divide both sides by y gives $2=1$.

The flaw in this "proof" occurs at the step where we divide both sides by $(x - y)$. The first assumption $x = y$ leads to $x - y = 0$. Division by zero is undefined in mathematics and leads to invalid results. Therefore, the reasoning used contains a hidden fallacy, and the conclusion $2=1$ is false.

Veridical and falsidical paradoxes can thus be properly explained: the source of their absurdity can be found, either in the phrasing of the conclusion or the fallacy in its proposition(s). Accordingly, these kinds of paradoxes are not that problematic in philosophy of logic. The problems arise with the third category, which falls outside of these two categories: the antinomy. An *antinomy*, according to Quine, produces "a self-contradiction by accepted ways of reasoning".³⁵ There is no problem with the reasoning as such, as is the case for veridical and falsidical paradoxes. This is where a crisis of thought arises; a trusted way of reasoning leads to a contradiction, hence it must either be revised or avoided. If in the process of revision, a fallacy is found, it appears that the paradox was a falsidical one, and there is no reason to worry. The antinomy is solved, probably because new knowledge has reached the surface. However, if the antinomy cannot be solved, we are left with a problem with the name of a *paradox*.

Why is this so problematic? Languages are expected to contain contradictions, but not paradoxes.³⁶ The phrase "Donald Trump is president of the U.S.A, and he is not president of the U.S.A." is just another false sentence in the English language. But a paradox such as the Liar is not expected to exist. Why should a contradiction follow from apparently true and convincing premises?

³⁵ Quine, "Paradox," 85.

³⁶ Dowden, "Liar Paradox" section 1.b.

2.3. Consequences of the Liar: Triviality

The Liar Paradox demonstrates how contradictions lead to triviality, and consequently, the logical system is undermined. *Triviality* means that from a contradiction, anything follows, hence all contradictions are true.³⁷ If all contradictions are true, then the truth-predicate is trivial. There is no distinction anymore between sentences that are true and sentences that are not true.

The Liar Paradox is an example of inconsistency in logic. Inconsistency refers to a situation where a set of premises leads to a contradiction, such as “A and not A.” A and the negation of A cannot be true at the same time, which means that the premises “A” and “not-A” are inconsistent. The relation between inconsistency and triviality is explained by the Law of Pseudo-Scotus, also known as the principle of explosion: *ex contradictione [sequitur] quodlibet* (from contradiction anything follows). The Pseudo-Scotus is obtained by first a negation of a premise and then the introduction of the conditional: $\neg p \rightarrow (p \rightarrow q)$. To arrive here, the following steps are taken:

Premise 1: p (the Earth is flat). p is assumed to be true.

Premise 2: $\neg p$ (the Earth is not flat). $\neg p$ is assumed to be true.

Disjunction: p or q (either the Earth is flat, or aliens exist)

Disjunctive syllogism: $\neg p$, so q (the Earth is not flat, so aliens exist)

The disjunction p or q is true, since we know from premise 1 that p is true, and the use of “or” means that if only one part of the disjunction is true, the whole statement (“Either the Earth is flat, or aliens exist”) is true. However, we also know that $\neg p$ from the second premise. For the statement to be true, it follows that the latter part (q) is true.

Thus, the premise “aliens exist” is true, and this is inferred from the premises p and $\neg p$, which constitute a contradiction, as the Earth is flat and not flat at the same time. It does not matter what q stands for; anything can be derived, since the contradiction makes the truth value of any statement irrelevant.

³⁷ Possati, "Dialetheism: The Power of Contradictions. An Outlook," 1.

Similarly, the Liar Paradox ends in contradiction and triviality. If we accept the statement "this statement is false" as both true and false, it means that any statement can be considered true or false. Then, the truth value of any statement becomes irrelevant when faced with a contradiction. Consequently, triviality ensues: if any statement can be true and false, then any conclusion can be reached from a contradiction. The Pseudo-Scotus is called *the principle of explosion* for a reason, namely, to denote the destructive power a contradiction can have on a formal logical system: the system explodes, and it has become useless.³⁸

It seems crazy to accept that aliens exist merely because of the earth being both flat and not flat. It would be less crazy to look for a fault in the line of reasoning, or for an underlying assumption that appears convincing but it in fact false. In the next section, I will go into the most well-known 'solutions' to the Liar Paradox.

2.4. Solutions to the Liar

When Paulus wrote to Titus: 'One of Crete's own prophets has said it: "Cretans are always liars, evil brutes, lazy gluttons." This saying is true,' and the first formulation of the Liar was derived from this letter, it was likely that Paulus was unserious in the matter and did not attempt to supply logical criticism. Nevertheless, the paradox has stirred up a philosophical and logical debate, encouraging many to solve it. In classical times, the paradox was discussed by the Megarians and mentioned by Aristotle and Cicero.³⁹ In the late-twelfth century, a discussion on "*insolubilia*" arose, a trend in which many authors tried to solve (semantic) paradoxes such as the one proposed by Eupimenides.⁴⁰ These were variations of the Liar Paradox and sometimes other paradoxical statements, which were all studied under the name of *insolubilia*. This discussion lasted until the late Middle Ages. The medieval authors who wrote on this topic were prominently motivated by the argumentative value of paradoxes; they wanted to find a way to deal with paradoxes when they came up in disputation.⁴¹ Modern discussions about the Liar Paradox are motivated differently. Semantic paradoxes such as the Liar Paradox form a threat to traditional notions of truth and falsehood, and thus to the foundations of logical reasoning. Whereas the medieval authors' inquiry into

³⁸ Possati, "Dialetheism: The Power of Contradictions. An Outlook," 2.

³⁹ Beall, Glanzberg and Ripley, "Liar Paradox," (Introduction).

⁴⁰ Spade and Read, "Insolubles," section 1.4.

⁴¹ Ibid. section 5.

the *insolubilia* was quite informal, the debate around semantic paradoxes that gained popularity in the late twentieth century has a distinguished place in the field of systematic (modern) logic and mathematics.⁴² Since the start of the scholarly tradition on *insolubilia*, different solutions to the Liar Paradox have been proposed. In the medieval discussion, authors followed Aristotle's suggestion that the Liar Paradox constituted a fallacy *secundum quid et simpliciter*.⁴³ They argued that the paradox, as uttered by Eupimenides, is false *simpliciter* (universally, without qualification) but can be true *secundum quid* (in a certain respect). This means that the utterer of a self-referential paradox is ignoring qualifications and thus making an unfounded generalization. Eupimenides could have said; "Apart from me, all Cretans are liars." Such a qualification solves the paradox. However, this is not a solution to the Liar Paradox in its simpler form. It is an argument against the argumentative power of the Liar Paradox in Eupimenides' formulation. It is not a solution to the contradiction itself: the Liar Paradox as a fallacy *secundum quid et simpliciter* can be solved by adding qualifications that were previously ignored, but that is because the paradox is changed into a solvable form. It smells like 'changing the subject,' leading the attention away from the original sentence to another one. Such a solution is unsatisfactory and does not do away with the contradiction at the heart of: "This statement is false" (The Strengthened Liar, but neither the Simple Liar for that matter).

From the fourteenth century and onwards, more sophisticated treatments began to emerge in the medieval discussion of *insolubilia*, starting with Thomas Bradwardine's theory of signification.⁴⁴ His theory can be seen as the first form of a theorized logical solution to self-referential paradoxes, forming a basis for later modern responses. For this reason, he is by some called the 'prince of modern philosophers of nature.'⁴⁵ Bradwardine's theory is built upon the idea that sentences can signify different meanings. The Liar sentence signifies truth and falsehood, and thus signifies different meanings.⁴⁶ More authors followed his example and used Bradwardine's theory in their own variations and adaptations and after 1350, there is no record of any new, original, and differentiating works on this topic.⁴⁷

⁴² Ibid.

⁴³ Ibid. section 2.1.

⁴⁴ Ibid. section 1.4. and 2.1.

⁴⁵ Spade, "Insolubilia and Bradwardine's Theory of Signification," 116.

⁴⁶ Spade and Read, "Insolubles" section 3-3.1.

⁴⁷ Ibid. section 3.

A new genre of solutions to the Liar Paradox has emerged more recently, starting with Tarski's analysis of semantical paradoxes, first dating back to 1929, a prime time for Polish mathematics and set theory.⁴⁸ Tarski introduced the notion of a hierarchy of languages or levels of metalanguages. The key idea is to distinguish between the language in which statements are made and the language used to evaluate their truth.⁴⁹ In the 'object-language', which is at level 0, a statement is made. In the 'metalanguage', which is at the next level (1), the truth of the statement is considered. In the case of the Liar Paradox, the phrase "This statement is false" does not work well in metalanguage. It creates a self-referential loop that cannot be evaluated. Tarski's solution is to recognize that statements about truth and falsity can only be made at a higher level in the hierarchy, and statements in the object language must be evaluated from that higher level without allowing self-reference to lead to paradoxes.⁵⁰ This means that the predicate 'true', and related terms for that matter (like reference), have no place in the object language. The truth predicate belongs to the successive level of language and can then be applied to sentences in the lower level. In this way, no sentence can be used to refer to itself. Since, in this hierarchy of languages, truth for a given level is always expressed by a predicate of the next level, the Liar sentence can appear only in the harmless form 'This sentence is false-in-object language', which must itself be a sentence of the metalanguage, and is simply false instead of paradoxical.⁵¹

Tarski's hierarchy of languages as a solution to semantic paradoxes has received support as well as criticism. What is mostly accepted about his theory, is that it shows that the ordinary notion of truth is incoherent, and in need of replacement with a coherent one.⁵² The most profound criticism on this solution is that Tarski's hierarchy avoids semantic paradoxes but seems to lack intuitive justification.⁵³ It is seen as a formal solution, but not as a philosophical one. Saul Kripke aimed to provide a more satisfying account of the origin of paradoxes, and subsequently to develop a formal theory based on this explanation. Kripke tried to do away with the objections to Tarski by formulating a theory on '*groundedness*'; only sentences that receive a truth-value in a certain step by step process, are grounded, and others are not.⁵⁴ The statement "This sentence is false" is ungrounded, and the Liar sentence is therefore neither

⁴⁸ Cantini and Bruni, "Paradoxes and Contemporary Logic," section 5.2.

⁴⁹ Clark, *Paradoxes from A to Z*, 101.

⁵⁰ Ibid.

⁵¹ Haack, *Philosophy of Logics*, 143.

⁵² Beall, Glanzberg, and Ripley, "Liar Paradox" section 3.

⁵³ Haack, *Philosophy of Logics*, 144.

⁵⁴ Ibid.

true nor false: it falls into a truth-gap. Kripke held onto a hierarchy of levels, but with limited levels, whereas Tarski's hierarchy has transfinite levels.⁵⁵

Kripke's solution is a 'paracomplete approach' to the Liar Paradox. Paracomplete means that a theory does not satisfy the principle of the excluded middle, whereas paraconsistent means that a theory does not satisfy the law of non-contradiction. The law of the excluded middle states that for every proposition, either it is true, or its negation is true. As it is possible in Kripke's hierarchy to have a proposition that is neither true nor false; his theory does not adhere to this law. Paracomplete logic is a non-classical logic, as it deviates from the standard logical systems, such as propositional logic and predicate logic. Non-classical logics relax or even reject certain principles that are central to classical logic. For example, Aristotelian logic is based on the three laws of thought, namely: (a) the law of identity; (b) the law of contradiction; and (c) the law of the excluded middle.⁵⁶ Paracomplete logic, particularly Kripke's approach, recognizes the failure of the last law (c).⁵⁷

A second solution to the Liar Paradox which finds itself outside classical logic is *paraconsistency*.⁵⁸ Paraconsistency does away with the principle of explosion, which holds that 'from a contradiction, anything follows' or in other words: anything can be proven from a contradiction. Graham Priest is known as one of the leading promoters of paraconsistent logic as a solution to the Liar Paradox.⁵⁹ His paraconsistent logic, LP (Logic of Paradox), allows for contradictions to be true. He had to abandon the principle of explosion, but he has kept the law of the excluded middle in the system of LP. Priest's approach is called the *dialetheist* approach. Dialetheism is the theory of dialetheia's, which are propositions that are both true and their negation is true.⁶⁰ Dialetheism thus rejects the traditional law of contradiction, which is mostly known in the following formulation by Thomas Reid: "No proposition is both true and false."⁶¹ In Priest's paraconsistent logic, a proposition such as the Liar provides evidence that contradictions can be *provably* true, and thus such contradictions do not create such 'big problems' as in classical logic.

⁵⁵ Haack, *Philosophy of Logics*, 148.

⁵⁶ Reisel, "Modern Science and Non-Aristotelian Logic," 102.

⁵⁷ Beall, Glanzberg, and Ripley, "Liar Paradox" section 4.1.1.

⁵⁸ Ibid. section 4.1.2. ("Paraconsistent").

⁵⁹ Ibid.

⁶⁰ Ibid. section 4.1.2 ("Dialetheism").

⁶¹ Priest, Berto, and Weber, "Dialetheism," (Introduction).

Throughout the whole tradition of solutions to the Liar Paradox, a fallacy in the line of reasoning has not (yet) been discovered. It seems that the solution must be sought somewhere else than in the paradox itself. As Bradley Dowden puts it: "The very existence of the Liar Paradox and other semantic paradoxes is evidence that there are principles we use which we have been taking to be obviously valid or obviously correct, but which are not."⁶² Therefore, we must continue the endeavour into the Liar Paradox by questioning basic principles. The *dialetheist* approach does this; it accepts the existence of true contradictions, by dropping the basic logical principle of explosion. Hence, the following chapter is dedicated to the next step of this research: an investigation into Dialetheism.

⁶² Dowden, "Liar Paradox" section 1.b.

3. Dialetheism

In this chapter, I will go into *dialetheism* as a solution to the Liar Paradox, theorized by Graham Priest. The dialetheist response in a nutshell is: "Some contradictions are true." This formulation is a short summary that does not do justice to the underlying changes that must be made to a logical theory that can accept this phrase. For one, a paraconsistent logic is adopted instead of a classical consistent one. Paraconsistent logics allow some inconsistency, without it leading to incoherence of the whole system. Moreover, the Law of Non-Contradiction (LNC) is rejected and the meaning of negation is altered into carrying surplus content. I will go into these changes in the second section of this chapter, after giving a short description of the origins of dialetheism in section 3.1. In the third section, I will go into truth values in dialetheism, which is yet another change as compared to classical logic. Since dialetheism is a study of *dialetheia*'s, propositions that are true and their negation is true, there was a need to create a truth-value: as such, Priest welcomes *truth-gluts*. In section 3.4, I am to find out if all these changes imply a certain meaning of truth. Priest believes that dialetheism does not commit itself to a certain conception of truth, however, it is relevant to find out what the role of truth is in dialetheism. This chapter provides an elaborate overview of what dialetheism is, what rules it adheres to and how it works as a solution to the Liar Paradox.

3.1. Origins of Dialetheism

Whilst *dialetheism* as a philosophical movement is a trend that started in the twentieth century, the underlying idea has occurred in earlier works, albeit mostly implicitly.⁶³ The idea of true contradictions can be traced back to ancient Greek philosophy; Heraclitus famously suggested that "we step and do not step into the same rivers; we are and we are not."⁶⁴ However, the ancient philosophers did not recognize the importance and necessity of explosion from contradiction, which was recognized in classical logic. Paraconsistency was rediscovered during the second half of the twentieth century and was from thereon elaborated on by logicians such as Newton Da Costa, Sylvan and Routley. Dialetheism as a formal philosophical position also experienced a revival in the 20th century. Priest, whose work "In

⁶³ Priest, Berto, and Weber, "Dialetheism" section 2.

⁶⁴ Robinson, *Heraclitus: Fragments*, 35.

Contradiction" (1979) provided a comprehensive defence of dialetheism, explaining not only *that* contradictions may be true, but also *how* contradictions can be true.

Before we dive into the realms of dialetheism, a few remarks need to be made. First, the distinction between inconsistency and incoherence must be clear. As explained earlier, inconsistency is when a set of premises leads to a contradiction. Incoherence on the other hand is not about a set of premises or sentences but refers to a lack of consistency within a system of thought or argumentation. Incoherence is inadvertent and unwanted inconsistency that any human agent would want to avoid, as opposed to the explicit inconsistency of the Liar Paradox, with which logicians like to taunt their readers.⁶⁵

In classical logic, both inconsistency and incoherence are unacceptable. In dialetheism – and other paraconsistent logics – some inconsistency is allowed, without it leading to incoherence of the whole system. Paraconsistency is the solution for accepting (some) contradictions without accepting triviality. By adopting a paraconsistent logic, a dialetheist can support some contradictions without being committed to support everything. Priest's dialetheism adopts a paraconsistent logic; however, it must be noted that paraconsistency does not imply dialetheism, since there are other paraconsistent logicians who employ it for other reasons than to avoid triviality.⁶⁶

3.2. Paraconsistency, Negation and the Pseudo-Scotus

Paraconsistency is usually defined as a feature of a (theory of) logic in which contradictions do not entail everything because of the Pseudo-Scotus.⁶⁷ A paraconsistent logic contests the necessity of the link between this principle and contradiction; contradictions exist, but they need not be explosive. There are two degrees of paraconsistency: *weak paraconsistency* and *strong paraconsistency*. The latter affirms the existence of true contradictions, the first does not. *Weak paraconsistency* is still compatible with the thought that if a contradiction were true, then everything would be true.⁶⁸ Thus, the weak paraconsistent approach does not adhere to true contradictions; only to the fact that in order to prevent falling into incoherence, we must acknowledge human fallibility, and paraconsistent logic can be used for this

⁶⁵ Margolis, "The Locus of Coherence," 4.

⁶⁶ Priest, Berto, and Weber, "Dialetheism" section 1.

⁶⁷ Berto, "Is Dialetheism an Idealism? The Russellian Fallacy and the Dialetheist's Dilemma," 235.

⁶⁸ Zach Weber, "Paraconsistent Logic," (Introduction).

purpose. Dialetheism on the other hand entails *strong paraconsistency*, because it admits true contradictions to its theory and it acknowledges their inevitability. The dialetheist still believes that all contradiction are false, even though some are true.⁶⁹

Dialetheism does not discard of negation ($\neg$). In Priest's dialetheism, negation has the same role as in classical logic, namely an operator of contradiction.⁷⁰ It is different however in the sense that in classical logic, every contradiction is false. So, the negation symbol should still lead to contradiction in Priest's paraconsistent logic (like in classical logic), but it should not prohibit contradictions from being true (not like classical logic). More specifically, Priest describes negation as the operator that expresses the relationship of contradiction. It does not, as one would expect, express the theory of the English particle 'not'.

These examples show that we have a grasp of negation that is independent of the way that 'not' functions, and can use this to determine when 'notting' negates. But what is it, then, of which we have a grasp? We see that there appears to be a relationship of a certain kind between pairs such as 'Socrates is mortal' and 'Socrates is not mortal'; and 'Some man is mortal' and 'No man is mortal'. The traditional way of expressing the relationship is that the pairs are contradictories, and so we may say that the relationship is that of contradiction. Theories of negation are theories about this relation.

Priest, *Doubt Truth to be a Liar* (2006) 77.

According to Priest, negation shows that two premises or statements are contradictory to each other, which is not the same as expressing what the English particle 'not' means. In the English language, one can also express negation without 'not', for example by saying 'No man is mortal' or by replying with an opposite claim (for example, when asked "Do you like seafood?" one may say; "I hate it"). Moreover, the word 'not' has other functions besides expressing negation, such as rejecting connotations of a phrase earlier said without denying its truth, in other words, implicature (for example: "I am not *his* wife; he is *my* husband").

The relationship of contradiction as expressed by negation is of importance to understand dialetheism, because dialetheism contests the classical view of this relationship. Specifically, the classical view holds that contradiction is symmetrical: it is a dichotomy between two parts that are each other's symmetrical opposites. The absence of the first part implies the presence

⁶⁹ Ibid.

⁷⁰ Possati, "Dialetheism: The Power of Contradictions. An Outlook," 4.

of the other and vice versa. "Snow is white" and "Snow is not white" cannot both be true. Therefore, two symmetrical opposites undermine each other's possibility. Moreover, in the classical view this relationship is not only symmetrical, but also unique: for each 'body' there is only one symmetrical inverse, namely its contradictory.⁷¹ The sum of a body and its contradictory is everything, it is the totality of possibilities ($A \wedge \neg A$). Consequently, if there were anything extra added to this sum, it would add up to the total content of everything since $A \wedge \neg A \vdash B$, leading to triviality.

Priest questions this characterization of the relationship of contradiction. According to Priest, negation presents a 'surplus content,' which means that there is more to negation than previously thought. Yet, even though more is added to the sum, triviality does not follow from $A \wedge \neg A$. The idea of surplus content allows Priest to separate what he sees as essential to negation from the non-essential: cutting the connection between the Law of Non-Contradiction and the Law of the Excluded Middle on the one side, and the Pseudo-Scotus on the other. The dialetheist does not only reject the Law of Non-Contradiction (LNC), but he does reject the link between the LNC and the Pseudo-Scotus. Contradictions exist, and some are true; and these true contradictions do not imply explosion.

Priest explains surplus content as the idea that negation allows for contradictions to be true without triviality, whilst still respecting traditional features, such as its being a contradictory-forming operator.⁷² In this sense, a contradiction does not always entail an inverse complementarity: the presence of the first part of the dichotomy does not necessarily imply the absence of the other part, they can exist together. Priest argues the set of sentences in a paradox can be subdivided into the set of true sentences and the set of false ones. Opposing the classical view that such subsets are exclusive, he argues that some statements can belong to both. These statements are called dialetheia's.

3.3. Dialetheia's and Truth Values

A dialetheia is a proposition of which both its affirmation and its negation are true. It is any true statement of the form: a and it is not the case that a . In classical logic, these sentences exist, but as we have seen they are considered problematic. That is the case because they

⁷¹ Possati, "Dialetheism: The Power of Contradictions. An Outlook," 7.

⁷² Humberstone, "Priest on Negation," 292.

challenge fundamental principles, such as the Law of Non-Contradiction (LNC), the Law of Identity and the *semantic principle of Bivalence*.

The *semantic principle of Bivalence* holds that every proposition is either true or false:

Bivalence. For every proposition p : either $\text{Tr}(p)$ or $\text{Fa}(p)$.

It should not be confused with the Law of the Excluded Middle (LEM), a basic principle in classical logic, which states that for every proposition either it is true or its negation is true:

LEM. For every proposition p : either $\text{Tr}(p)$ or $\text{Tr}(\neg p)$.

This principle, together with the LNC and the Law of Identity, form the three laws of thought. Though very similar to the principle of bivalence, the LEM is different. Bivalence always implies the LEM, granted that negations of false propositions are true; but not the other way around. Most semantics in classical logic are bivalent. They are called 2-valued logics, because they employ two truth values: true and false.

The underlying idea of bivalence is that any representation of how things are, must be either correct or incorrect.⁷³ Either something in the world is like this or it is not; snow is white, or it is not white. There is no third way of snow being something else than white and not white. However, some sentences may be meant to represent the world but fail in doing so. They are semantically defective, because they cannot represent truth or falsity in the way they are supposed to. An example is a sentence which refers to something that is not there and has never been: "Froukje has stopped smoking cigarettes." Suppose Froukje has never smoked a cigarette in her entire life. To say the above sentence is true, implies that she has at some point smoked at least one cigarette and stopped, which is not true. But to say that it is false, and thus its negation is true, so "Froukje has *not* stopped smoking cigarettes," implies that she is still smoking.

The logical response is to accept that the sentence is neither true nor false; the same goes for the Liar Paradox. This could mean that such a statement is semantically defect. It could also mean that there is a 'truth-value gap' or 'truth-gap', in which such paradoxes fall, as they cannot be put in either of the true truth values. The existence of truth gaps expresses the failure of the LEM.⁷⁴ Paradoxes are neither true nor false, and they are not given any semantic value, which means that they are meaningless. But there are valid arguments against

⁷³ Sainsbury, "Classes and truth," 129.

⁷⁴ Graham Priest, *In Contradiction*, 16.

the meaninglessness of paradoxes, and against the existence of valueless sentences in general, and thus truth-gaps are not a fulfilling solution to the Liar. For example, a critique on Kripke's truth-gaps is that this solution has difficulty with the Strengthened Liar because of the meaning of truth predicate *T* in Kripke's theory. I will not go further into this critique, for now it suffices to say that the Strengthened Liar is not solved by Kripke's hierarchy of levels.

However, there is a way to include paradoxes without denoting them as truth-gaps or as semantically defect, namely by adopting a 3-valued logic. A famous example of such a logic is Łukasiewicz logic, which is suitable for undecided or vague cases. It has the following three values: "true," "false," and "neutral."⁷⁵

Priest's paraconsistent logic (Logic of Paradox) is also 3-valued: sentences can be assigned the values "true," "false," and "true and false" (tralse). Sentences or statements that get assigned the third value are called "truth-gluts."⁷⁶ A truth-glut is not the same as a truth-gap; a gap shows that a proposition has no truth value, and thus falls outside of the sets of true or false sentences, whereas a glut shows that a proposition is both true and false. In the latter case, this means that the theory is not consistent, but for Priest that is not a problem, since his theory is paraconsistent. Theories that include truth gaps accept that the Liar is meaningful but truth-valueless, as it falls into the truth-gap. Theories that include truth-gluts accept that the Liar is meaningful *and* does have truth-value.⁷⁷ As shown earlier, there are good reasons to believe that the Liar is a truth-glut. Every paradox constitutes a seemingly sound and valid set of premises (or singular statement), which leads to a contradiction. In cases that are not paradoxical, one is supposed to believe that the conclusion that follows from a sound and valid argument. In the case of the Liar's paradox, it means that there is good reason for accepting that the Liar is true, and that it is false. This is not a problem, these two need not be exhaustive; they constitute the third truth value, the truth-glut. In this way, triviality is avoided, the T-schema's truth and the self-referentiality in the English language are kept, and the intuitive conclusion of the Liar sentence (that it is both true and false) is preserved.

Priest's truth predicate "is true" is characterized by Tarski's T-Schema, and his notion of false means "has a true negation."⁷⁸

⁷⁵ Dowden, "Liar Paradox" section 3.e.

⁷⁶ Finley, "Defending a Dialetheist Response to the Liar's Paradox," 6.

⁷⁷ Dowden, "Liar Paradox" section 2.a.

⁷⁸ Priest, "Logic of Paradox Revised," 158.

If p is false, then $\neg p$ is true.

$\neg p$ represents the negation of p , and thus asserts that p is false. If p has a true negation, i.e. $\neg p$ is true, p is not true, i.e. p is false.

This can be displayed in a truth table:

p	$\neg p$
True	False
False	True

When p is true, $\neg p$ is false. When p is false, $\neg p$ is true.

It must be noted that these predicates attribute truth (or not) to sentences. As Priest points out in *In Contradiction*, there is a difference between saying something is true, and knowing how or why it is true. Similarly, there is a difference between what truth means in formal language and what it means outside of that. What dialetheism indicates for the latter meaning of truth, will be discussed in the next section.

3.5. The Meaning of Truth in Dialetheism

We have now arrived at accepting that dialetheia's exist, and thus some contradictions are true. The next question that arises is: what does this tell us about the meaning of truth? If contradictions can be true, how do we know what is true and what is not? According to Priest, truth in dialetheism can mean "pretty much anything one likes."⁷⁹ He recognizes multiple accounts of the notion of truth, and argues that each of them is compatible with dialetheism. For example, one can be a deflationist, a semantic, a correspondentist, a coherentist or a constructivist, and accept that some contradictions are true. Thus, the dialetheist is not committed to any specific account of truth.⁸⁰ Because, as Priest argues, there is a difference between believing that true contradictions exist, and believing in that which makes it so that they can be true.⁸¹ A correspondentist dialetheist may hold that inconsistent facts exist (for which I cannot explain how that would exactly work), a verificationist may hold that some contradictions are justified by evidence. It does not matter to which specific

⁷⁹ Priest, *Doubt Truth to be a Liar*, 2.

⁸⁰ Priest, *In Contradiction*, 67.

⁸¹ Priest, *Doubt Truth to be a Liar*, 299.

meaning of truth a dialetheist is committed, for they can all agree that some contradictions are true, regardless of the ‘reason.’

Even though dialetheism as a theory does not adhere to a specific notion or meaning of truth, it is nevertheless a claim about truth. Dialetheism is the claim that true contradictions exist. Thus, dialetheism implies that truth is not binary in the classical sense, in other words that a proposition is either true or false. Because a dialetheia embodies both truth and falsity, truth can be dualistic according to the dialetheist. But it need not be, since sometimes a proposition is simply true or simply not. In this sense, dialetheism itself is a dialetheia: the claim that there are true contradictions is both true—there are some—and false—because all contradictions are false.⁸²

Dialetheism does not force us to accept any contradiction. In the case of an argument about the truth of ‘A’ and ‘ $\neg A$,’ dialetheism does not provide the answer simply because it provides the possibility that ‘A and $\neg A$ ’ is true. Not all contradictions are equal and only some of them are true.⁸³ Whether something is true, according to Priest, is a matter of rationality. In *Doubt Truth to be a Liar*, Priest adopted a Rationality Principle (Priest 2006, 109):

(RP) If you have good evidence for the truth of A, you ought to accept A.

Acceptance always has a point. So does assertion; people assert things with the aim of saying something true.⁸⁴ This is what Priest calls the teleological account of truth. Truth is the *telos*, in other words the point, which one wants to reach through assertion. Because dialetheism claims that certain contradictions are true, and truth is the *telos* of assertion, it follows that contradictions are assertible.⁸⁵ Priest spends a chapter in *On Contradiction* on arguing in favour of not only the possibility to assert contradictions, but also to believe them as a rational being. An often suggested criticism to dialetheism is that it could not possibly be rational to accept a contradiction.⁸⁶ To counter this, Priest argues that it may be a rare case in which it is rational to accept a contradiction, but it is nevertheless a possible one. For one, logical paradoxes such as the Liar, are a good example of a rationally acceptable

⁸² Weber, “Paraconsistent Logic,” section 3.f.

⁸³ Priest, Berto, and Weber, “Dialetheism” section 5.1.

⁸⁴ Priest, *In Contradiction*, 77.

⁸⁵ Ibid. 117.

⁸⁶ Priest, Berto, and Weber, “Dialetheism” section 5.1.

contradiction. But also inconsistent scientific theories, in which I will not go into detail, are examples of contradictions that rational people dare to believe.⁸⁷

For the sake of this research, it is not particularly relevant to prove that contradictions can be accepted and asserted, but it is important to hold on to the notion of truth as the *telos* of assertion. Because, if we want to dive deeper into the possible consequences of dialetheism for metaphysical realism, and find out for which side in the debate between realists and anti-realists it proves the most fruitful argument, it is necessary to follow Priest's dialetheist principle of RP to know whether or not a contradiction must be accepted.

⁸⁷ Priest, *In Contradiction*, 126-127.

4. Dialetheism and Metaphysics

The term 'metaphysics' originates from the collective title of the fourteen books by Aristotle that are now recognized as Aristotle's *Metaphysics*.⁸⁸ Metaphysics is a comprehensive notion, that includes not only the old science of being and subject (what Aristotle wrote about), but also the new metaphysics, which concerns modality, space, time, causality, grounding, and mereology. It includes many philosophical ideas and theories that unfortunately fall outside of the scope of this research. My interest for this thesis lies with metaphysical realism and anti-realism. Anti-realism that denies the existence of an objective reality, is not a philosophical position defended by many. However, metaphysical idealism, which is less extreme than the 'old anti-realism,' is still a relevant theory. Therefore, this chapter is about the realism debate of metaphysical realism versus metaphysical idealism, concerning the question whether reality has a structure objectively and independent of what human beings make of it, or that we structure and construct reality with concepts and categories our mind invented. The contemporary *realism-debate* is between the following two pairs of theses, which are accompanied by the appropriate epistemological theses:

- (1) **Metaphysical Realism:** reality has a structure and composition objectively, of and in itself, independent of what we, human beings, do, believe, know, construct, make up, imagine, and even of our very existence.

Epistemological Realism: we can find this all out, by means of scientific inquiry, which, in the end, will reveal which structures and which compositions.

- (2) **Metaphysical Idealism.** we, human beings, project structure and composition on reality, by means of concepts and categories that we invent and project onto reality; they depend on us, human beings, and on our languages, expressing concepts and categories.

Epistemological Idealism: we cannot find out whether reality has structure and composition of and in itself objectively, independently of us; science is in the projection business, and therefore does not and cannot ever reveal this even if true.

Metaphysical realism-idealism debates are about the metaphysical theses; philosophy of science is mainly about the epistemological theses.

⁸⁸ van Inwagen, Sullivan and Bernstein, "Metaphysics," section 1.

The metaphysical theses of both realism and idealism are the starting point of this chapter. After consideration of these two and the arguments in favour of them, I will establish how we can derive conclusions from logic and apply them to the ‘real world,’ in order to link Dialetheism to this debate.

In the first section, I will discuss metaphysical realism in its most well-known forms, namely *Extreme* or *Platonic Realism* and *Strong Realism*, and argue why I chose the latter for the continuation of my research. After discussing the realism part, I will go into the opposite view of idealism in section 4.1. I will explain how both theses are related to a certain conception of truth, so I can later analyse what this means for dialetheism, as that is claimed to not be committed to any particular account of truth. Before I come to that point in this chapter, I will first discuss how we can derive knowledge from language and logic to the real world in section 4.3. When I have established whether this is possible and if so, in what manner, it is time to go into the metaphysical implications of dialetheism in section 4.4, I will discuss three implications that touch upon three different contexts: an empirical, social and normative, and moral context. Lastly, I will place dialetheism in the realism-debate, thus coming to a conclusion to my main research question: What are the metaphysical consequences of the Liar Paradox, in particular for realism and idealism, from a dialetheist perspective?

4.1. Strong Metaphysical Realism: What We Ought to Know About Reality for Sure

The oldest variant of Realism, now known as extreme realism, originates in Plato. Plato argued that to explain the qualitative identity of things, we must acknowledge the existence of an additional entity beyond the resembling things. This was known as a universal, a shared property of things. For instance, if two bananas are both yellow, this is because yellow as a property is a universal. Plato explained universals by his *Form theory*: according to Plato, there was a higher, sublime Form or everything, from which other things that we encounter are derived.⁸⁹ Thus, in the case of two yellow bananas, there is a Form of Yellow from which a derived property yellow manifests itself in both bananas simultaneously, making them both yellow at the same time, but not the same banana. Thus, the Platonic realist holds that not only the individual thing exists (the banana), but also the yellow of the banana (which exists

⁸⁹ MacLeod and Rubenstein, “Universals,” Section 2.a.

in the banana), and a higher Form of Yellow which manifests itself in the yellow of the banana (and the other banana for that matter).

Extreme realism or Platonic realism has been rebutted by the *Third Man Argument*, which Plato already came up with himself. The objection goes as follows (originally, with the example of men; I took the liberty to make it a *Third Banana Argument*). According to Plato, a banana is a banana because it is derived from the sublime Form of a Banana. If the Form of a Banana exists, it must be a banana itself; it must have the property of banana-ness. Even though the Form of Banana is Banana-ness, it must also have this property of banana-ness, to make it a banana. Since the whole point of Forms – and universals – is to explain that things have properties, even the highest Form must be explainable in this way. Forms are needed to explain what is derived from them, and thus a Form must always be explained by a second Form, and a second Form by a third Form, and so on. You need infinite Forms of Bananas to explain why the Form of Banana from which it was derived, also qualifies as a banana.

Because of this objection, the idea of the independently existing Forms had to be rejected.⁹⁰ The result was *Strong Realism*; which is called strong, because it does not fall prey to the Third Man Argument. According to the strong realist, the banana and its yellow quality exist without a third independent Form of Yellow. To explain why it is so that the banana is yellow, the strong realist accounts for yellow as a *universal*. A universal is that which is universally present, a thing that is in some mode present in each of the many members of classes of things and relations.⁹¹ Universals are necessary to account for two physical objects to share the same property: the property exists in both objects, but these objects do not exist in two places at the same time. In the case of the bananas, the universal yellow is in the two bananas, but also in all other yellow bananas. The universal exists in many bananas at once, but not independently outside of them. Because strong realism does not depend on an independent Form to explain certain qualities, it does not fall prey to the Third Man Argument. The yellow of the bananas is explained by the existence of the universal present in each banana, which is yellow and thus explains why each banana is yellow.

Universals are repeatable, as opposed to *particulars*, which are unique.⁹² The yellow banana that I have in my hand is a particular: it only exists in my hand and not anywhere else, there is only one version of it. However, the yellow of my banana is universal, since it exists in

⁹⁰ MacLeod and Rubenstein, "Universals," Section 2.b.

⁹¹ van Inwagen, Sullivan and Bernstein, "Metaphysics," section 2.2.

⁹² MacLeod and Rubenstein, "Universals," Section 1.a.

multiple places at the same time, making it repeatable. The difference between universals and individuals explains why different objects can share the same qualities.

Since Strong Realism has thus proven to be the realism least liable to objections, I will from hereon only use this notion of realism, and refer to it as: *realism*. Realism is the claim that universals exist (or in less strict terms, that they *are*, they subsist). There is no consensus between realists of what universals *constitute*. Most realists believe that universals are a category of being.⁹³ The class of beings is the universal class that encompasses all other classes, of which universals could be one class. However, it could also be so that there exists a natural class encompassing all universals along with other entities (but not all entities). For instance, numbers and propositions might not be universals, yet they, along with universals, could belong to a broader category of "abstract objects," a class that excludes concrete objects. Alternatively, there might be an entity such as "the yellowness of bananas" which, along with the universal "yellow"—but not the banana itself—belongs to the class of "properties." Nevertheless, besides what universals constitute, realists agree on what they can *be* ; they are most common as qualities and relations, though other things than qualities or relations could be universals too.⁹⁴

Universals are used to argue for two aspects of realism: *existence* and *independence*.⁹⁵ The first aspect is the claim that things exist, and the second one that they exist independently from us. The independence claim is hence (ironically) dependent on the existence claim. The yellow banana exists and regardless of what I think or what others think, it is a yellow banana. According to the realist, a banana on a table will still exist after the person perceiving the banana has left the room; it will still be yellow. The latter claim is built on the idea that universals exist, since the universal yellow is present in every banana, independently from what humans have to say or think about it. Thus, the realist will argue that an objective reality exists and that this is the case because of universals. The Realist Claim hence is:

RC: the objects *a*, *b*, and *c* and so on exist, and the fact that they exist and have properties such as *F*, *G* and *H* is independent of anyone's beliefs, linguistic practices, conceptual schemes, and so on, since *F*, *G* and *H* are universals.⁹⁶

⁹³ Ibid.

⁹⁴ Ibid.

⁹⁵ Miller, "Realism," (Introduction).

⁹⁶ Ibid.

Metaphysical realism is often associated with the *correspondence theory* of truth, which suggests that statements or beliefs are true if they accurately describe reality.⁹⁷ A correspondence theorist must assume the existence of an objective reality, because truth cannot correspond to reality if reality does not exist. This account of correspondence theory is metaphysical, but correspondence theory can also be semantic. Thomas Aquino's version of the metaphysical account is formulated as: "A judgment is said to be true when it conforms to the external reality".⁹⁸ Similar to this formulation, but also quite different, is the *deflationary* conception of truth, according to which a sentence is true if and only if it is. Both accounts rely on a connection (a correspondence) between that which is said and that which makes it true. The difference is that the metaphysical version assumes that an external reality is that which makes something true, whereas the semantic version does not make this assumption. Understanding this difference, but also the overlap in these two accounts is necessary for understanding how logical or semantic truth can translate to (meta)physical truth.

At this point, it is worth mentioning that anti-realism is associated with different theories of truth, which we will arrive at in the next paragraph, and worth recalling that dialetheism is – according to Priest – not committed to any particular account of truth. Even though Priest states in *In Contradiction* that dialetheism can accompany any account of truth, it seems that it cannot commit to any meaning of truth that makes truth and falsehood exclusive.

4.2. Metaphysical Anti-Realism: Why We Cannot Know These Things at All

The anti-realist denies or questions the objective structure and composition of reality independent of our minds. Whereas the realist claim is that reality exists objectively and independently, the anti-realist claim is the denial of this claim. The anti-realist may deny the realist claim because they do not think an objective reality exists at all. Or, they may think it exists, but it does not exist independently of our minds, because some objects in the outside world are mentally construed.⁹⁹ The anti-realist argument can thus be divided into two forms: the first one questions the *existence* claim of realism, the second one questions the *independence* claim. We can distinguish these two anti-realist accounts as the views of the

⁹⁷ David, "The Correspondence Theory of Truth," section 1.1.

⁹⁸ Ibid.

⁹⁹ Miller, "Realism," section 6.

existential anti-realist and the *subjective* or *creative anti-realist*.¹⁰⁰ *Creative* because according to this view, objects in the outside world owe their existence at least partly to our creativity. It must be noted that, with respect to the same domain, one cannot be both an existential anti-realist and a creative anti-realist. Because in order to believe the creative anti-realist's claim, it is assumed that the existence part is fulfilled, but this is denied by the existential anti-realist. However, it is possible to be an existential anti-realist towards one thing and a creative anti-realist towards the other: for example, someone could deny the existence of a deity, but assert the existence of everyday objects such as tools, though denying that they exist mind-independently. But, one cannot believe that numbers do not exist and that numbers exist only intellectually, since this is contradictory.¹⁰¹

The Anti-Realist Claim can be formulated as such:

ARC: the objects *a*, *b*, and *c* and so on may or may not exist, if they do, the fact that they have properties such as *F*, *G* and *H* is mind-dependent, i.e. dependent on our beliefs, linguistic practices, conceptual schemes, and so on.

Both the existential anti-realist and the creative anti-realist do not commit to the existence of independent universals. In the debate about universals, there are two anti-realist solutions to the problem of assigning properties to particulars without relying on universals: *nominalism* and *conceptualism*.¹⁰²

Nominalism denies the existence of universals as independent entities and instead argues that only individuals exist. According to the nominalist, what we call "universals" are merely names (hence "nominalism", derived from the Latin for 'name:' *nomen*), or labels we use to group things that are similar to each other. Thus, words like "yellow" and "banana" are just names used for categorizing individual objects that share similar properties, such as being yellow and banana-shaped. Nominalism entails that properties do not exist beyond particulars. There is no abstract entity "yellowness," but there are just yellow things. The nominalist thus accounts for properties of individuals by referring to the individuals and linguistic expressions (predicates) that can be truly said of the individuals.¹⁰³ Nominalism is criticized for its simplicity, because it does not explain why some predicates apply to certain

¹⁰⁰ Plantinga, "How to be an Anti-Realist," 48-49.

¹⁰¹ Ibid. 49.

¹⁰² MacLeod and Rubenstein, "Universals," Section 3.

¹⁰³ Ibid. section 3.a.

individuals and others do not. In other words, it claims that bananas are yellow, but does not explain why they are yellow and not blue, or round, and so on.

Conceptualism on the other hand accounts for common properties in individuals by making commonality not a feature of reality, but a feature of our minds.¹⁰⁴ Thus, the conceptualist holds that universals exist, but only as mental concepts or ideas. Two bananas are yellow because the concept of yellow applies to both. The concept yellow is general, because there are many individuals that conform to it, not because it is a universal feature of reality.

Conceptualism is liable to criticism because it cannot account for the existence of independent truth such as natural laws or mathematical truths.¹⁰⁵ Because we commonly understand these, we must have some knowledge of universals and they cannot be purely mental constructs.

Whereas metaphysical realism is linked to a correspondence theory of truth, anti-realism, and its denial of the existence of an independent objectively structured reality, is often linked to *the coherence theory of truth*.¹⁰⁶ As we have seen, a correspondence theorist would argue that truth is established with correspondence to objective features of the world. According to the coherence theory, the truth of propositions is established by coherence with other propositions.¹⁰⁷ This idea is based on the view that it is impossible to look beyond our belief system and measure propositions against objective facts. Because reality is constructed through our perceptions, language, and social practices, we can only focus on the coherence of propositions inside this system, not outside of it. Therefore, something is said to be true when it fits in the system and coheres with other things believed to be true, instead of correspondence to a mind-independent reality, of which we cannot prove or know it exists. The coherence theory of truth allows the anti-realist to rely on knowable consistency of beliefs and knowledge rather than the existence of an objective and independent reality.

Since Kant's take on metaphysics, anti-realists do not deny the existence of reality. They defend the idealist thesis that human beings project structure and composition on reality, by means of concepts and categories that we invented mentally. Such concepts and categories depend on the human mind, and on our languages expressing them. Thus, according to the contemporary anti-realist, reality exists, but we cannot make any claims about an objective

¹⁰⁴ Ibid. section 3.d.

¹⁰⁵ Miller, "Realism," section 6.

¹⁰⁶ David, "The Correspondence Theory of Truth," section 8.1.

¹⁰⁷ Young, "The Coherence Theory of Truth," (Introduction).

structure in it, since we constructed and projected this structure ourselves.¹⁰⁸ Consequently, reality is a collection of beliefs. Contrarily to the correspondence theory, a belief cannot be considered true based on its correspondence with something outside the realm of beliefs (since everything we know of reality is through a projection of concepts). Instead, an idealist argues that the truth of a certain proposition or belief is determined by its coherence with other propositions/beliefs. An idealist *coherence theory of truth* typically leads to the notion that truth is a matter of degree. A belief is true to the extent that it coheres with other beliefs. However, a coherence theory of truth need not be idealist. In the non-idealist version, coherence within a system of beliefs is crucial for determining truth, but it does not preclude the existence of an objective reality. Instead, it highlights that this reality may not be independent from us, and thus correspondence to this cannot be a condition for truth.¹⁰⁹ Verification of reality can only be done “internally,” in other words by determining the coherence inside the belief system.

Even though the correspondence and coherence theories of truth oppose each other, they both present a substantive notion of truth, meaning that truth is a property of propositions.¹¹⁰ This means that truth as a property can be analysed in terms of truth-conditions. The truth conditions in the coherence theory are other propositions, whereas the truth conditions in correspondence theory are aspects of an objective reality.

4.3. The Relationship between Logic and Reality

Is reality logical and is logic real? Hegel posited this question two centuries ago. Answers differ.¹¹¹ According to Hegel, who is known to be an idealist, logic is the form taken by the science of thinking in general. In *The Science of Logic*, Hegel tried to do away with the distinction between the content of cognition (the objective world) and the forms of cognition (thoughts about the objective world). In Hegel’s time, formal logic was different from the mathematical role that is nowadays ascribed to formal logic, but his question and his own answer to it are nevertheless still relevant.

¹⁰⁸ Young, “The Coherence Theory of Truth,” section 2.1.

¹⁰⁹ Ibid.

¹¹⁰ Young, “The Coherence Theory of Truth” (Introduction).

¹¹¹ Trobok, Mišcevic, and Žarnic, “Chapter 1: Introduction,” 2.

Logic is the study of reasoning, mostly the kind of reasoning that guarantees true conclusions from true premises. Logic can be applied to any science or any field, albeit mathematics, physics, law, politics and so, because all theories of science revolve around reasoning. Everywhere a human being is involved, reasoning is involved for that matter. However, what exactly is the relationship between logic and the science it is applied to, is a question difficult to answer. For example, in the field of mathematics, there is no agreement on the superficial features of logical insights.¹¹² Classics in the field of logical insights and arithmetical intuition, such as Frege, Russell and Wittgenstein, disagree more than they have reached consensus. Frege and Russell believed that Mathematics can be reduced to Logic plus classes, which Wittgenstein II opposed.

Leaving here the complex theories on formal logic and mathematics, I turn again to the question at the start of this section; what is the relationship between logic and reality? Is logic only a study of reasoning that can be applied to ontology or metaphysics as sciences that have something to say about reality? Or is logic also a way of discovering what the outside world hides from us, things we can (only) find out by expressing them formally?

To answer these questions, we must look at the conclusions that were derived from The Liar Paradox, and their applicability to reality. The Liar Paradox has shown us that, in the eyes of the dialetheist, true contradictions exist. Contradiction was the consequence of a valid line of reasoning. The question arises whether formal logic is merely a tool to describe the real world and more so, whether it is up to the task, or if logic has a function beside this, namely as a tool to unfold reality and reveal new knowledge.

A contradiction is a proposition which is inconsistent. Assuming formal logic can aptly describe reality, one might conclude that true contradictions exist in reality. This means that reality contains inconsistencies. However, one could also conclude that formal logic cannot aptly describe reality, because there is a discrepancy between language and that which language aims to express.

Now let us turn back to the debate between metaphysical realists and idealists and their conceptions of truth. According to the correspondence theory of truth, a sentence is true if it accurately reflects the real world. Conversely, under the coherence theory of truth, truth is not

¹¹² Ibid.

contingent upon aligning with reality; rather, it relies on how well it fits into a coherent network of other sentences.

Our thoughts often have the shape of subject-predicate. For example, "The cat is fat" involves a subject ("the cat") and a predicate ("is fat"). Factual statements about objects and their properties also follow a similar structure. For instance, "the cat has diabetes" states a fact about the cat (the subject) having the property having diabetes (the predicate). This correspondence between the structure of our thoughts and the structure of facts implies that our cognitive framework (how we think and reason) aligns neatly with how we describe and understand the world around us. The structure of our thoughts mirrors the structure of factual statements or propositions about reality.¹¹³ Either because reality explains the structure of our thoughts (realism and correspondence theory) or because the structure of our thoughts explains reality (idealism and coherence theory). Nevertheless, the resemblance between the structure of our thoughts and the structure of facts is comparable to the correspondence between propositions in logic and reality. Propositions are merely sentences expressing thoughts or facts. As such, it would be unreasonable to rely on the argument that logistic language cannot describe reality because of linguistic barriers. The fact that propositions describe things as they are, makes them reliable descriptions of the world. Thus, I do not see a reason why logic would not be able to describe reality. Logic enables us to draw true conclusions from a valid line of reasoning. When logic is used to describe the world, it can draw true consequences from knowledge, because knowledge is true, and thereby teaches us new things about the world.

Moreover, logic enables us to derive *new* truths from established premises. By applying logical rules, we can discover consequences that were not immediately apparent, such as the existence of true contradictions that can be derived from the Liar paradox. In this case, formal logic shows the presence of laws and rules of reality, and provides a way to explore the implications of our assumptions and beliefs about reality (and overcome these when they are proven wrong).

Logic can also have a normative role, in the sense that it can guide how we ought to reason.¹¹⁴ Logic tells us that if you believe *A* (with good reason), and if *A*, then *B*, you have a reason to believe *B*. Because we adhere to certain rules of reasoning such as deductive

¹¹³ Hofweber, "Logic and Ontology," section 4.6.

¹¹⁴ Hofweber, "Logic and Ontology," section 2.1.

validity, logic ensures that our reasoning about reality — whether in science, law, philosophy, or everyday life — is consistent. For example, logic can help with upholding consistency in scientific theories so that they remain valid. Since science consists of explanations about natural phenomena, and logic teaches us how to reason validly by providing deduction-rules, logic assists in drawing true conclusions about the way the world works. Logic as a tool for describing reality thus provides a framework to reason about the world. If reality is inconsistent, as dialetheists propose, then traditional logical systems may struggle to accurately model or describe such a reality. For example, if a logical system cannot handle true contradictions, it may fail to parse aspects of reality that dialetheists argue are inherently contradictory. The obvious solution as proposed by dialetheism is a paraconsistent logic. Since this rejects fundamental principles of traditional logic such as the LNC, it can be argued that classical logic cannot assist in guiding our reasoning about reality: only a paraconsistent logic can.

4.4. Applications of Dialetheism

Priest ‘radicalised’ his dialetheism by defending its position not only in the field of (paraconsistent) logics, but also in reality, by claiming that reality includes facts or events that can only be described by a contradiction.¹¹⁵ Since Aristotle, the Law of Non-Contradiction has gone largely unchallenged. The LNC was self-evident; anyone practicing reasoning could tell. Hence, Priest’s claim is quite controversial, challenging the orthodox view that inconsistencies are intolerable and truth is consistent.¹¹⁶ Moreover, it is commonly accepted that the world cannot be described by contradictions and inconsistent theories, because, as logic teaches, contradictions and inconsistent theories are *false*. By revising logic, to include Dialetheism, Priest opens the possibility that some facts or events can be described by contradictions. In the preface of *In Contradiction*, Priest acknowledges that “dialetheism is outrageous, at least in the spirit of contemporary philosophy.”¹¹⁷ What happens when contradictions can be true? This means that inconsistencies exist in reality, and thus reality is inconsistent.

¹¹⁵ Ferguson and Başkent, “Introduction to Graham Priest on Dialetheism and Paraconsistency” 2.

¹¹⁶ Priest, *In Contradiction*, 166.

¹¹⁷ Priest, *In Contradiction*, xv.

The Liar Paradox as the ‘main dialetheia’ arose in the realm of logic and semantics. However, assuming that inconsistencies exist in reality, there should be more dialetheia’s than merely the Liar Paradox. Priest recognized multiple dialetheia’s in the Part Three of *In Contradiction*, namely in the philosophy language, philosophy of mathematics, philosophy of law and the metaphysics of change. I will now go into examples of the latter two, to illustrate how Priest proves that dialetheia’s exist in reality. Furthermore, I will also propose a third field in which dialetheia’s exist, namely in moral philosophy. I chose these three distinct examples, because the first one is empirical, the second one is social and the third one is mentioned by Priest in *In Contradiction*, but not explained any further.

4.4.1. Dialetheia’s at the Instant of Change

Priest has recognized a dialetheia in the old problem of the instant of change, which dates back to Zeno’s paradox of the Tortoise and Achilles. He describes the question as follows:

As I write, my pen is touching the paper. As I come to the end of a word, I lift it off. One time it is on; at another it is off (that is, not on). Since the motion is continuous, there must be an instant at which the pen leaves the paper. At that instant, is the pen on the paper or off? (Priest 1987, 201)

Priest formulates this problem as such: Before a time, which we call t_0 , a system s is in a state s_0 , described by a . After t_0 it is in a state s_1 , which is described by $\neg a$. t_0 is the instant at which the pen is lifted from the paper. Now, is s at t_0 in state s_0 or s_1 ? There are four possibilities:

Possibility A: s is in s_0 and s_0 only.

Possibility B: s is in s_1 and s_1 only.

Possibility C: s is in neither s_0 nor s_1 .

Possibility D: s is in both s_0 and s_1 .

If there are any changes that can be in the last class of possible answers, namely D, they are dialetheia’s or dialetheic changes.¹¹⁸ In the traditional view, meaning only classical logic is assumed to be correct, all changes must be either type A or B. The problem with this is that

¹¹⁸ Priest, *In Contradiction*, 201.

there is no reason to think one is better than the other, since the pen seems to be as much on as off the paper. It is thus better, argues Priest, to go for the symmetrical option D. Note that possibility C can be discarded, because one of a and $\neg a$ must always hold.

Priest substantiates his argument for the symmetry of the change by comparing the situation to walking through a door. At some point, when your centre of gravity is above the line separating the room from the hall, you are either in the room or not. In such cases, you are free to specify whether you are in or out the room, because not one option surpasses the other. You are neither determinately out rather than in nor the other way around. Therefore, instead of choosing an asymmetrical option that unjustifiably rules out another, we can accept that change is symmetrical and the dialetheic answer is the most plausible.

In this sense, Priest's solution is aimed at picking the least wrong answer. For to choose either option A or B, you have to have good reason to discard either A or B. In the context of change, there is no or at least not enough good reason to do so. That does not necessarily mean that only option D is the right one in every situation. But, it does argue in favour of dialetheia's, especially in situations where one cannot be a 100 percent sure, and the answer is dependent on stipulations.

This problem of the pen and the paper is based on the idea that there are instants of time. Some might argue that there are no instants of time, and consequently no instants of change, and that time is composed of intervals instead of instants.¹¹⁹ However, even if that were the case, that does not prove that dialetheism is not the case. Intervals are subdivisible, and an interval may exist where a holds in a subdivision of that interval and $\neg a$ holds in another. This only brings us back to the paradox of Zeno, without avoiding the dialetheist solution to the above problem of the pen on the paper.

4.4.2. Dialetheia's in Legal Norms and the Philosophy of Law

The dialetheia at the instant of change was an example of a dialetheia in natural phenomena. However, dialetheia's may also arise in a social context, for example in the legal system. In this field that is built on norms and rules, there is no – or at least has not been yet –

¹¹⁹ Priest, *In Contradiction*, 203-204.

much room for contradiction. However, Priest argues that legal systems are bound to produce dialetheia's. I will present a short version of his argument below.

Priest uses hypothetical examples of legal dialetheia's in order to show the possibility of legal dialetheia's.¹²⁰ Many nations have a legal system that traffic includes priority laws to determine which vehicle has priority to proceed first. Suppose country Z has the following priority law:

At an unmarked junction at which two vehicles arrive simultaneously:

- (1) Any female driver shall have priority over any male driver
- (2) Any older person shall have priority over any younger person

It is clear that these laws contradict when a female who is of a younger age than a man, arrives at the junction simultaneously with that man. In such a case, they both have priority based on a law. However, they both also do not have priority, based on the meaning of priority.¹²¹ Therefore, Priest argues, a legal dialetheia has arisen.

Priest mentions several objections to his argument, of which the most convincing one is that law by nature contains exceptive clauses which prevent contradiction and inconsistency. There are legal principles and legal designs in force for this purpose. For one, not all laws are equal and hierarchy in laws determines whether a law prevails or not. *Lex posterior derogat priori*, the later law repeals the earlier one, is another safeguard against contradiction. When these cannot not apply, a judge will analyse the preambles of a legislative instrument to make clear what the intentions of the legislator were and decide upon those. Now, Priest makes his argument more compelling by stating that undoubtedly, these exceptive clauses *sometimes* resolve apparent contradictions, but a person claiming that dialetheism in law does not exist, must claim that this can *always* be done. Now that seems even less likely than the hypothetical examples Priest came up with to underline his point.

I do not believe that such hypothetical examples are at all likely to happen, which in my opinion indeed does render the argument less convincing. However, I do believe that the same argument could be made by referring to historical situations in which laws were contradictory, for example after moments of regression or revolution. If there is any proof

¹²⁰ Priest, *In Contradiction*, 230.

¹²¹ Priest, *In Contradiction*, 231. Priest also notes that this example counters the Pseudo-Scotus (*ex contradictione quodlibet*), because the contradiction does not mean that the law is inconsistent.

such a situation has occurred, this substantiates the hypothetical cases, because the aim of using them is to show that legal dialetheia's are *possible*, not that they are *plausible*.

Besides, I believe that the point is, at a moment where two laws conflict and a judge decides which one prevails, the laws themselves remain to exist and be in force outside of that conflict. This makes them both true: both the man and the woman in the example have priority. But in the specific conflict, they cannot both be true because one rules out the other, hence "both the man and the woman have priority" is false. Thus, reality, in the sense of specific circumstances, makes it so that the legal system in general can produce dialetheia's. In court, a judge can resolve the contradiction by ruling, sometimes even by going outside of the law, by or creating new law (not literally, but by ruling, creating precedent). This would be necessary in the hypothetical situation in which there are no legal grounds to rule on, since they contradict. Maybe the ruling was required to make the law consistent again, but that does not mean that the dialetheia did not exist before the ruling.

4.4.3. Dialetheia's in Moral Philosophy

Priest does not go into the existence of moral dialetheia's. Though, he believes that inconsistent moral obligations exist and that dialetheia's cannot be ruled out *a priori* (since, similar to his previous arguments, someone would have to prove they never exist).¹²² These two beliefs amount to the existence of moral dialetheia's.

The question whether moral judgments can be true or false is a tricky one. True or false in this sense could translate to true or false in relation to (objective) moral facts (if they exist). One could argue that a moral judgment expresses a belief, which in turn can be true or false. An objection to this would be that moral judgments are expressions of emotions and attitudes, which are not truth-apt. Let us for now follow the first account, given that moral disagreements do exist, which indicates that people need to argue about their truth and falsity in order to overcome them. What is the most interesting question here is if there are moral disagreements, contradicting each other, which are both true and false?

The most straightforward example that comes to mind is the trolley problem. Imagine a classic trolley problem where a runaway trolley is heading towards five people tied to a track.

¹²² Priest, *In Contradiction*, 246.

You can pull a lever to divert the trolley onto another track, where it will kill one person instead.¹²³

There are two moral judgments at stake:

M: Pulling the lever is the right.

$\neg M$: Pulling the lever is wrong.

Both judgments are based on differentiating moral stances. *M* is true according to a utilitarian approach, because killing one person is better than killing five people, since it results in the greatest amount of good (or the least amount of harm) for the greatest amount of people possible in this situation. Following Bentham's maxim, *M* is true and $\neg M$ is thus false.

However, $\neg M$ is considered true from the perspective of the deontologist, who claims that certain actions are inherently right or wrong as a matter of fundamental principle.¹²⁴ In the Trolley Problem, this means that one should never pull the lever, even if it can save five lives, because it is still intentionally harming one innocent person.

Both of these arguments are founded on substantiated moral theories. *M* is true and $\neg M$ is false according to utilitarianism (and other theories) and $\neg M$ is true and *M* is false according to deontology (and other theories). Thus, the contradiction *M* and $\neg M$ follows from two premises that follow from two broadly rationalized and accepted theories: $M \wedge \neg M$. I argue that this is not just a difference in opinion on the matter, because both premises can be asserted by a rational being. Following Priest's rationality principle RP: If you have good evidence for the truth of *A*, you ought to accept *A*, it follows that I ought to accept *M* and $\neg M$. For both premises I have good evidence, albeit found in different philosophical theories. Yet they imply each other's falsehood, and they are thus both true and false, a moral dialetheia.

Some would suggest that all moral conflicts can be resolved. Others might suggest that no moral conflicts can be resolved. The latter option is dark and unreasonably negative: of course some moral conflicts can be resolved after careful consideration. I would rather suggest that not all moral conflicts can be resolved, but that some are dialetheia's, which, since they are both true and false are by definition unresolvable. It is in their nature as a moral dialetheia that they are symmetrical, and neither side is better than the other – or worse.

¹²³ Brian Duignan, "Trolley Problem."

¹²⁴ Reamer, "The Trolley Problem and the Nature of Intention," 46.

Accepting that a moral conflict is a *dialetheia* means accepting that both sides are true and false. Dialetheism is hence not a solution to moral conflicts; practically speaking it provides no help. It merely shows that morality is not consistent.

4.5. Dialetheism: in Favour or Against Realism?

Logic, as the study of reasoning, can describe reality and the way it works by translating reality to propositions. Paraconsistent logic accounts for propositions that contradict each other (or themselves) and can thus even describe inconsistencies in reality. The Liar Paradox and the dialetheist response have shown that true contradictions exist. They are real, even though they counter our intuition, which tries to tell us that contradictions cannot be true. Thinking of a contradiction is easy, whereas thinking of a true contradiction is quite hard. This suggests that true contradictions are not the product of our mind. We have to work against our mind to understand and accept true contradictions. If true contradictions are not products of the mind, this suggests that they exist in an external reality, independent of our minds. Thus, dialetheism can be seen as an argument for the existence of an objective reality, aligning with metaphysical realism.

If an independent objective reality indeed exists, it follows from the Realist Claim that universals exist. Because, as previously argued, universals account for existence and independence. Assuming that *dialetheia*'s are real, there must be a universal that can assign the property of a true contradiction to a *dialetheia*, one of the form $a \wedge \neg a$. True contradictions exist, which are made up of premises with contradictory properties, their properties (universals) must also exist objectively. Because *dialetheia*'s are part of an objective reality, they exist regardless of whether we conceptualize them. A universal property of the form $a \wedge \neg a$ then again explains that *dialetheia*'s are possible and moreover, that we can all accept them. Since *dialetheia*'s exist and are instantiated by a universal property that is both mind-independent and objective, this suggests that the objective reality which contains this contradictory universal, is inconsistent.

The assumption that *dialetheia*'s exist in an objective reality and that a universal exists that makes them so, is countered by the criticism that reality cannot be inconsistent, because consistency is something that can be assigned to propositions, not to (material) objects in

reality or reality itself.¹²⁵ Ascribing inconsistency to the world is a category mistake, since the world cannot be contradictory. Anti-realists and especially idealists pose the question: how can the world ever be inconsistent? The world does not contradict itself, it merely exists subjectively. The fact that we project structure and composition on reality, by means of concepts and categories that we invent and project onto reality, explains the existence of *dialetheia*'s; they are products of the human mind that depend on our languages, expressing concepts and categories. The Liar Paradox does not prove that reality contains inconsistencies, merely that we project true contradictions and thus inconsistencies onto reality.

However, this objection can in turn be countered by referring back to the three examples of applications of *dialetheia*'s in reality: empirically, in the instant of change; socially and normatively, in legal systems; and ethically in moral judgments. These examples show that *dialetheia*'s arise in reality. They arise from situations, not just from linguistic riddles. Of course they are expressed through language, but so is any problem. Moreover, a *dialetheist* could accept a mild form of metaphysical realism without claiming the whole world is inconsistent. For instance by claiming that inconsistency can be ascribed to (pieces of) the world in a *derived* sense, namely that an inconsistent world means that there are true sentences describing the world, which have true negations.¹²⁶ In this view, *dialetheism* is not metaphysical but only semantic. As such, *dialetheia*'s can still reflect an objective reality, but this reality need not be inconsistent in itself. The inconsistency is between the true descriptions of the world, which implies that either the world is so that we cannot always accurately describe it, or descriptions of the world can contradict themselves because they are at some instant true and at some instant false, and the better option is to accept their truth and falsehood in this state, than to rule out either of them (as seen in the example of the instant of change).

Nonetheless, an anti-realist could argue that *dialetheia*'s are mind-dependent, and that the Liar Paradox and other *dialetheia*'s are artifacts of language, not reflections of reality. *Dialetheia*'s may still exist, but their property of being both true and false is assigned to them by our minds, and does not exist outside it. This means that contradictions arise from our cognitive frameworks rather than the world itself. This view would explain how *dialetheia*'s exist yet the world is consistent; the contradiction stems from linguistic practices and

¹²⁵ Priest, Berto, and Weber, "Dialetheism," section 6.

¹²⁶ Ibid.

conceptualization, not from an external reality. As such, dialetheism is in favour of an anti-realist approach and aligns with the coherence theory of truth. Dialetheism may imply that what matters is the coherence of our beliefs rather than their correspondence to an objective reality, since true contradictions as artifacts of language are not convincing proofs of an external reality, but they still can exist within a coherent system of beliefs. This it supports the anti-realist view that truth is about coherence within a framework rather than an objective reality.

Yet a realist may object to this by stating that if one follows a correspondence theory of truth, and truth of propositions is established when they accurately describe reality, dialetheism is in favour of metaphysical realism. However, one must first accept that reality contains true contradictions. As we have seen, there is good reason to believe this, as they arise not only in logical paradoxes, but also in physics, in law and in morality. Like Janus, the two-faced God of passage, some things – albeit moments, rules or situations – have two sides. In the case of dialetheia's, these two sides are true and false. Is it really so counter-intuitive to believe that true contradictions exist? I think not, especially in the context of moral philosophy, a context that is prone to disagreement and contradiction. Besides the presence of dialetheia's in reality, the Liar Paradox has shown that there is good reason to believe true contradictions exist, because they follow from a valid line of reasoning. Subsequently, the overall presence of dialetheia's and their logical proof are in favour of the existence of a universal that manifests itself in true contradictions. Even though an idealist would attribute this property to our own projections of structure on reality, we could also accept that this is just the way reality works. The world has many different characteristics: according to this thesis, one of them is the dialetheia, which exists objectively and independently from ourselves.

5. Conclusion

I started my research with an analysis of the Liar Paradox, with the aim to find out what makes it a paradox and why it is considered problematic. I chose to go over three well-known formulations of the Liar: The Simple Liar, similar to Eupimenides' version; the Strengthened Liar, which is not liable to the some solutions to the Simple Liar and hence stronger, and a Liar Cycle, in which the paradox follows from multiple propositions referring to each other. This analysis showed that every formulation of the Liar boils down to the same problem: that which is stated is true if and only if it is false. Moreover, a language that can formulate a Liar sentence, needs to meet three requirements: self-reference, a negation operator and a truth-predicate. This combination itself is not such a bad thing, unless the relationship between statements and their truth conditions is formalized, which means that a contradiction results in inconsistency. This formalization can be done by using Tarski's T-schema, which I did to show how the Liar Paradox leads to inconsistency. I then went over the definitions of contradictions and chose the most suitable one for the Liar Paradox to show how a contradiction leads to inconsistency in logic. Inconsistency refers to a situation where a set of premises leads to a contradiction. As such, the statement: "This statement is false" is contradictory, because there is no valuation that makes it true, and every valuation makes it false. From this inconsistency, triviality follows, by applying the Law of Non-Contradiction and the Pseudo-Scotus, otherwise known as the principle of explosion. This is a problem in classical logic, because triviality undermines the logical system; the truth value of any statement becomes irrelevant when faced with a contradiction. Luckily, there is a way out of this troublesome situation, which was therefore the topic of the next inquiry: Dialetheism.

The third chapter revolves around Dialetheism. I started this section with a short introduction on dialetheism as theorized by Graham Priest, and continued with inquiring what dialetheism is and how it is a solution to the Liar Paradox. For dialetheism to work, a paraconsistent logic is required, in which some contradictions and hence some inconsistency is allowed. By working with a paraconsistent logic, Priest does away with an important principle of classical logic, the LNC, to show that contradictions need not lead to explosion. He does so by allocating surplus content to a negation, meaning granting it more than its bivalent function in traditional logic: the presence of the first part of a contradiction does not necessarily imply the absence of the other part, they can exist together. Therefore, contradictions can be both true and false. To explain that a dialetheia's, which are both true and false, can still have meaning, Priest assigns them truth-gluts; a third truth value besides true and false. A truth-

glut is not to be confused with a truth-gap, where a proposition falls in when it is neither true nor false. I ended this section with an analysis of the meaning of truth in dialetheism, from which became clear that any notion of truth can be combined with dialetheism. Nevertheless, Priest sees truth as the *telos* of assertion, and believes that if you have good evidence for the truth of *A*, you ought to accept *A*.

This knowledge forms a bridge to the last section of this thesis, which is concerned with the role of dialetheism in the realism-debate. This debate is between metaphysical realism and anti-realism, in the form of idealism. Whereas a metaphysical realist believes that reality has a structure and composition objectively, of and in itself, independent of what human beings think of it, the idealist believes that we invent concepts and ideas to project unto reality and construct it as such, subjectively rather than objectively. I started chapter 4 with elaborating on these divergent views and linking them to theories of truth, namely the correspondence theory to realism and the coherence theory to idealism. In order to find out if dialetheism as a response to the Liar Paradox is more in favour of one of the metaphysical theses, I first needed to find out what the relationship between logic and reality is. I concluded that we can derive knowledge from one to the other and vice versa, because logic as the study of reasoning can describe reality in the form of propositions and premises, and from these descriptions we can acquire new knowledge. The Liar Paradox exemplifies this: it has shown that true contradictions exist.

Therefore, I continued with several applications of dialetheism in real life, to show that there are other dialetheias besides the Liar Paradox. I chose a selection of three examples, two as explained by Priest in *In Contradiction*, one proposed by myself. Then, I used these examples in the last section of this chapter, in which I link dialetheism to both metaphysical realism and idealism so see where the dialetheist's stance fits best in the debate. I conclude that dialetheism can be used to argue for both sides in this debate (ironically, since dialetheias are two-sided truths). For one, the idealist can use dialetheism in its favour by arguing that the existence of dialetheias can be explained by the way we impose structure and composition on reality using concepts and categories that we created. These true contradictions are products of the human mind and depend on our languages, which express these concepts and categories. The Liar Paradox, for instance, does not demonstrate that reality itself contains inconsistencies; rather, it shows that we project these contradictions and inconsistencies onto reality through our conceptual frameworks. The metaphysical realist may counter this by stating that firstly, dialetheias exist in reality independently from the mind, let us say

regardless of what humans think of them; this is proven by universal existence of the Liar Paradox, but also by the presence of dialetheia's in other contexts. Moreover, truth of propositions is established when they accurately describe reality and thus dialetheism is in favour of metaphysical realism. The latter position is the stronger one, because idealists use the idealist thesis to account for dialetheia's, whereas the realists use dialetheia's to account for the realist thesis. To answer the main question of this research: dialetheism is welcome on both sides of the realist debate, but is most fruitful when applied as an argument for the existence of an objective and independent reality.

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