DOI: https://doi.org/10.22201/iifs.18704905e.2025.1676

ÜBERCONSISTENT LOGICS AND DIALETHEISM

GRAHAM PRIEST
Departments of Philosophy
CUNY Graduate Center-United States
University of Melbourne-Australia
Ruhr University of Bochum-Germany
priest.graham@gmail.com

SUMMARY: An überconsistent logic is one where the set of logical truths is inconsistent. Examples of such logics have been known for a long time. However, it has recently been recognized that this is an important new class of logics. Dialetheism is the view that some contradictions are true. Since logical truths are true, it might be thought that these logics provide an important new argument for dialetheism. However, matters are not that straightforward. This paper is an initial discussion of the matter. The first part of the paper provides the background on paraconsistency and dialetheism required for the discussion. The second half is a discussion of three überconsistent logics and their bearing on dialetheism. The first is the logic *LP* with a logical constant for the value *both true and false*; the second is Second-Order *LP*; the third is a certain kind of connexive logic.

KEYWORDS: contradictory theorems, paradoxical constant, second-order *LP*, connexive logic, true contradictions

RESUMEN: Una lógica überconsistente es aquella en la que el conjunto de verdades lógicas es inconsistente. Desde hace mucho tiempo se conocen ejemplos de tales lógicas. Sin embargo, recientemente se ha reconocido que ésta es una clase nueva e importante de lógicas. El dialetheísmo es la posición que sostiene que algunas contradicciones son verdaderas. Puesto que las verdades lógicas son verdaderas, podría pensarse que estas lógicas ofrecen un argumento nuevo e importante a favor del dialetheísmo. Sin embargo, las cosas no son tan sencillas. Este artículo es una discusión inicial del asunto. La primera parte provee los antecedentes sobre paraconsistencia y dialetheísmo necesarios para la discusión. La segunda mitad es una discusión de tres lógicas überconsistentes y su relación con el dialetheísmo. La primera es la lógica *LP* con una constante lógica para el valor *verdadero y falso*; la segunda es *LP* de segundo orden; la tercera es un cierto tipo de lógica conexiva.

PALABRAS CLAVE: teoremas contradictorios, constante paradójica, *LP* de segundo orden, lógica conexiva, contradicciones verdaderas

1. *Introduction*

For many decades now, logics which permit inconsistent but non-trivial theories have been investigated and discussed.[1] However, of

[1] See, e.g., Priest, Tanaka, and Weber 2022.

recent years, we have seen the recognition that there are logics which not only permit contradictions, but which deliver contradictions: the logical truths are themselves inconsistent. As yet, they have no standard name as far as I know. Let us call them *überconsistent logics*.[2]

Dialetheism is the view that some contradictions are true. It might well be thought that these logics which deliver contradictory logical truths provide a slam dunk for dialetheism. After all, as Quine puts it, "if sheer logic is not conclusive, what is?".[3] Matters are not that straightforward, however.

What follows is an initial investigation of the relationship between überconsistent logics and dialetheism. The paper has two parts. In the first, I give the appropriate background for the discussion. In the second, I discuss how three well known überconsistent logics bear on the matter of dialetheism.[4]

2. *Background*

First, the background.

2.1. Pure and Applied Logic

For our purposes, we may take a pure logic to be a structure comprising at least a formal language, $\mathcal{L}$, with a distinguished one-place connective, $\neg$, and a relation, $\vdash$, defined over the language. That is, if $\mathcal{F}$ is the set of formulas of the language, $\vdash$ is a subset of $\mathcal{P}(\mathcal{F}) \times \mathcal{F}$. We assume $\vdash$ satisfies the two familiar Tarski conditions:

Reflexivity: if $A \in \Sigma$ then $\Sigma \vdash A$

Monotonicity: if $\Sigma \vdash A$ and $\Pi \supseteq \Sigma$ then $\Pi \vdash A$

[2] Sometimes they are called "contradictory logics", "inconsistent logics", or "non-trivial negation-inconstent logics". These are accurate descriptions, but not terribly charming. I note that the word *über* is ambiguous. So *überconsistent* could mean "beyond consistent" or "very consistent". Of course, it means the former.

[3] Quine 1997, p. 81.

[4] The contents of this essay appeared as parts of talks given at the *First Workshop on Contradictory Logics*, Ruhr University of Bochum (December 2023), an occasional *Logic Workshop at the Saul Kripke Center*, CUNY Graduate Center (April 2024), the *2nd International Conference on Logic and Philosophy*, Vilnius University (May 2024), the *7th World Congress on Paraconsistency*, Instituto de Investigación en Humanidades, Universidad Benito Juárez de Oaxaca (September 2024), *True Contradictions—a Workshop with Graham Priest*, Frankfurt University (February 2025), and the Inaugural Symposium on Logic in the Arab World, University of Kuwait (February 2025). I am grateful to many members of the audiences for their helpful comments and suggestions.

 DOI:https://doi.org/10.22201/iifs.18704905e.2025.1676

The third Tarski condition is:

Transitivity: if $\Sigma \vdash A$ for all $A \in \Pi$, and $\Pi \vdash B$ then $\Sigma \vdash B$

We will return to this in a moment.

A pure logic is simply a mathematical structure, and it can have many quite different applications—or none.[5] For example, in one application of classical propositional calculus the formulas denote logic gates, that is, configurations of electrical circuits, and $\vdash$ means that if current flows through all configurations to the left hand side, it flows through the configuration on the right hand side.

But pure logics have always had what one may call a *canonical application*, where the formulas of the language represent (in some sense) statements of natural language, $\neg$ represents negation—whatever grammatical configuration expresses this—and $\vdash$ represents entailment—however one should understand this. The pure logic then delivers a theory of entailment; that is, of what follows from what (and maybe, if the structure is sufficiently rich, why). Different logics (e.g., classical, intuitionist, paraconsistent) can then give different verdicts on whether an argument in the natural language is valid. In what follows, we will be concerned solely with this canonical application.

2.2. Paraconsistency

A *theory under* $\vdash$, Σ, is a subset of $\mathcal{F}$ closed under the consequence relation. That is, if $\Sigma \vdash A$, $A \in \Sigma$. A theory, Σ, is *inconsistent* if for some A, $\{A, \neg A\} \subseteq \Sigma$. It is *trivial* if $\Sigma = \mathcal{F}$. *Explosion* is the inference:

- for all A and B: $A, \neg A \vdash B$

The standard definition of "paraconsistency" is that $\vdash$ is *paraconsistent* if:

D1 Explosion is not valid

The definition is first given explicitly (as far as I am aware) in Priest and Routley 1983, p. 108. There is another plausible definition:

D2 There are inconsistent but non-trivial theories under $\vdash$

[5] On this paragraph and the next, see Priest 2023, 4.2.

DOI:https://doi.org/10.22201/iifs.18704905e.2025.1676

Given Transitivity, the two definitions are equivalent (as we go on to note).

D2 obviously implies **D1**. Let Σ be a non-trivial theory such that $\{A, \neg A\} \subseteq \Sigma$. If Explosion were valid, we would have, for any B, $\Sigma \vdash B$. So Σ would be trivial. Given Transitivity, **D1** entails **D2**. Suppose that for some A and B, $A, \neg A \nvdash B$. Let $\Sigma = \{C : \{A, \neg A\} \vdash C\}$. Then Σ is inconsistent, but non-trivial. It is also a theory. For suppose that $\Sigma \vdash D$. For every $C \in \Sigma$, $\{A, \neg A\} \vdash C$. By Transitivity, $\{A, \neg A\} \vdash D$. So $D \in \Sigma$.

Without Transitivity, the entailment fails however. Non-trivial inconsistent theories without Transitivity (that is, in a proof-theoretic context, Cut) are now well known. Indeed, they have been advocated as solutions to the paradoxes of semantic self-reference and sorites paradoxes.[6]

I am not inclined to revise the standard definition, however, since I think that Transitivity should be built into the definition of a consequence relation. The reason is that if Transitivity fails, the closure of a set under $\vdash$ need not be a theory. For suppose that Transitivity fails. Then, for some Σ and Π: $\Sigma \vdash A$ for all $A \in \Pi$, $\Pi \vdash B$, but $\Sigma \nvdash B$. Let $\Sigma^{\vdash} = \{C : \Sigma \vdash C\}$. Then for all $A \in \Pi$, $A \in \Sigma^{\vdash}$. That is, $\Pi \subseteq \Sigma^{\vdash}$. By Monotonicity, $\Sigma^{\vdash} \vdash B$, but $B \notin \Sigma^{\vdash}$. Now, “theory” is a logician’s term of art. But it signals the importance of the fact that as long as we accept some things, we are committed to what one can deduce from them. This, I take to be one of the central functions of the notion of (deductive) validity.

2.3. Dialetheism

Dialetheism is the view that there are some dialetheias. What are these? If I may quote myself (since I coined the term), the definition of a dialetheia is as follows:[7]

> The notion of true contradiction is at the heart of this book. Awkward as neologisms are, it will therefore be convenient to have a word for it. I will use “dialetheia”. So to avoid any confusion, let me say, right at the start, that a dialetheia is any true statement of the form: α and it is not the case that α.

Note that no particular theory of truth is presupposed here. It can be whatever account of truth the reader takes to be most plausible.[8]

[6] For discussion and references, see Priest 2024.

[7] Priest 1987, p. 4.

[8] See Priest 2006, ch. 2.

 DOI:https://doi.org/10.22201/iifs.18704905e.2025.1676

In particular, it does not have to be realist in any sense. It might be some verificationist or deflationist notion, for example.

Though a paraconsistent $\vdash$ allows for inconsistent but non-trivial theories, paraconsistency itself does not commit one to the *truth* of any such theory; but if such a theory is true (that is, every member is true) then we have dialetheism. (Presumably, triviality rules out the truth of the theory.)[9]

Given standard paraconsistent logics, the set of logical truths is a theory. However, it is a consistent one. So the logic itself does not commit one to dialetheism. Matters change when one ventures into the land of überconsistent logics. For, it would seem, logical truths are true, and some of these are contradictions.

3. *Three Überconsistent Logics*

There are now many known überconsistent pure logics. Wansing has compiled a list of several such.[10] The theories of validity delivered by many of them are not particularly plausible. For example, one of these is Abelian logic. The characteristic axiom schema of this is:

- $((A \rightarrow B) \rightarrow B) \rightarrow A$

This has virtually no plausibility, at least if $\rightarrow$ has a meaning anything like a natural-language conditional. For example, take $A \rightarrow B$ for B. Then we have:

- $((A \rightarrow (A \rightarrow B)) \rightarrow (A \rightarrow B)) \rightarrow A$

The antecedent is the contraction principle. Many people find this plausible, even though A is not true. And whether an instance fails or not, this fact seems to have absolutely nothing to do with the truth of A.

If we are looking for a true theory, then, only some of these pure logics would seem to be relevant to dialetheism. This is not the place to consider all the known examples of überconsistent logics, in this regard. In what follows, I will discuss three that have a clear bearing on dialetheism.

3.1. A Paradoxical Constant

The logic *LP* is standardly formulated as a 3-valued logic.[11] It is a paraconsistent logic, but not an überconsistent logic. However, we

[9] See Priest 2006, ch. 3.
[10] Wansing 202+, p. 9.
[11] See, e.g., Priest 2008, ch. 7.

may add logical constants, t, b, f, to the language such that in an interpretation each of these takes the corresponding semantic value. If this is done, then $\models b \wedge \neg b$ and the logic is überconsistent.[12]

The case that *LP* delivers a credible theory of validity has been argued at length.[13] And there can hardly be an objection to adding to the language such logical constants. So *LP* augmented with b would seem to provide an argument for dialetheism.

It might be objected that since the argument presupposes the correctness of *LP*, the logic adds nothing to the case for dialetheism. However, this is not quite right. In *LP*, validity is defined as preservation of truth over all interpretations, and without the logical constants, some of these do not validate any contradictions.

If an interpretation is such that the values assigned to sentences (considered as having some pre-given meaning) are in accord with actuality, call it *veridical*. There is nothing in the semantics of *LP* which requires a veridical interpretation to validate a contradiction. Validity preserves truth over a variety of situations—some actual, some possible, and some, maybe, impossible. For all that the logic itself tells you, there is nothing that requires a veridical interpretation to be inconsistent.

However, the addition of the constant b changes matters. The addition of b therefore takes us to dialetheism simply from the recognition of inconsistent situations as legitimate domains about which to reason—something which does not presuppose dialetheism.[14] In terms of the slippery slope in degrees of paraconsistency,[15] the addition of b takes us from the second degree (full-strength paraconsistency) to the third (industrial strength paraconsistency).

3.2. Second-Order *LP*

The next logic we will look at is second-order *LP*. This is obtained from first-order *LP* in the natural way. There is a domain of individ-

[12] One might note that in any überconsistent logic one can define a b-like constant. If A is any contradictory logical truth, b can be defined as $A \wedge \neg A$. I note, in particular, that if one adds the T-Schema in an appropriate way to *LP*, one can prove the liar sentence and its negation, $L \wedge \neg L$. It is not, of course, normal to take the truth predicate to be a logical constant; but personally, I think that there is as good a ground for doing so as there is for the identity predicate.

[13] E.g., Priest 1987.

[14] One might suggest that none of the interpretations is veridical, due to the presence of b. However, to suppose that the mere addition of a logical constant to a language turns a veridical interpretation into a non-veridical one would appear to be an act of desperation.

[15] See Priest 2000.

 DOI:https://doi.org/10.22201/iifs.18704905e.2025.1676

uals, D_1, over which first-order quantifiers range, and a second-order domain, D_2, over which the second-order quantifiers range. (In what follows we need consider only monadic second order quantifiers. I will use upper case letters for these.) Technically, members of D_2 are extension/antiextension pairs of the form $\langle E, A\rangle$, where $E \cup A = D_1$.

A crucial question is, then: which such pairs are in D_2? The simplest answer is "all such pairs". That is, $D_2 = \{\langle E, A\rangle : E \cup A = D_1\}$. Call this the *full* D_2. As is easy to check, both $\forall X\forall y(Xy \vee \neg Xy)$ and $\exists X\exists y(Xy \wedge \neg Xy)$ are then logically valid. But the latter is equivalent to $\neg\forall X\forall y(Xy \vee \neg Xy)$. So the logic is überconsistent.[16] Such an extension of first-order *LP* is a very natural one. This being the case, we have a new argument for dialetheism.

It is not clear that full D_2 is the correct choice, however. If we think of each pair in D_2 as giving the extension and anti-extension of a property, full D_2 postulates an awful lot of properties![17] This suggests that interpretations should be allowed to contain less than the full D_2. But which extension/antiextension pairs should it contain?

There is a standard distinction between *sparse* and *abundant* properties.[18] Sparse properties are ontologically serious, not including gerrymandered properties such as (perhaps) disjunctive properties and *grue*. An abundant property is merely the extension/antiextension of some linguistic condition.

Given that second-order logic is usually taken to be governed by the comprehension principle:

- $\exists X\forall x(Xx \leftrightarrow A)$

where A is any condition not containing X, it is natural to suggest that we take the domain of D_2 to contain just abundant properties. If we do this (and b is not in the language), the logic is no longer überconsistent. For as is well known, there are consistent classical—and *a fortiori LP*—models of comprehension with less than full D_2. These are the so called *Henkin models*. In this case, second-order *LP* is not überconsistent

Another option is to restrict D_2 to containing just sparse properties, so limiting the comprehension principle further. Of course, exactly what is in D_2 is a question that then looms. However, any

[16] As far as I know, this is first observed in Priest 2002, p. 339.

[17] Some further objections against requiring interpretations to contain the full D_2 are to be found in Hazen and Pelletier 2018.

[18] See Orila and Paoletti 2020, §3.2.

Henkin model is also a model of the limited version of the comprehensions principle, so the logic, thus restricted, is again not überconsistent.

Note that to make the logic überconsistent, it suffices that every interpretation contains *just one* pair $\langle E, A\rangle$ such that $E \cap A \neq \emptyset$. So, to make a case for dialetheism one might try to argue that every interpretation should contain at least one such pair. However, it is hard to see how one might do this without appealing to dialetheism, and so begging the question if one is trying to give an argument for dialetheism.

3.3. Connexive Logic

The third case I will consider is a certain approach to connexive logic.[19] Connexive logics are logics which validate certain principles concerning the conditional. The principles are venerable; and though now unorthodox, they have been endorsed by many over the history of Western logic. They can be formulated in somewhat different ways, but the following will do for our purposes:

Aristotle: $\neg(A \to \neg A)$

Boethius: $A \to B \vdash \neg(A \to \neg B)$

Obviously, **Boethius** entails **Aristotle**, given that $A \to A$, so we may focus on **Boethius** here.

A connexive logic is not necessarily an überconsistent logic. But if the logic contains a very standard kind of conjunction, it is. Specifically, if the logic also contains Conjunctive Simplification:

- $(A \wedge B) \to A$
- $(A \wedge B) \to B$

the logic is then überconsistent.[20] For Simplification gives $(A \wedge \neg A) \to A$ and $(A \wedge \neg A) \to \neg A$. The first of these and **Boetheius** then give $\neg((A \wedge \neg A) \to \neg A)$.[21]

[19] On connexive logics, see Wansing 2023.

[20] In fact, given just the conditional/negation fragment of R (and so without conjunction), the connexive principles deliver contradiction. See Weiss 2022.

[21] Those who hold a dialetheic account of the semantic paradoxes of self-reference will hold that for some A, $A \to \neg A$ is true—for example, where A is the liar sentence. Or again, where T is the truth predicate, $\forall x Tx \to \neg\forall x Tx$. It might be thought that this problematises **Aristotle** (and so **Boethius**). But it does not: in a dialetheic landscape one can (plausibly) have both $A \to \neg A$ and $\neg(A \to \neg A)$. Of course, this does not give an independent argument for dialetheism.

 DOI:https://doi.org/10.22201/iifs.18704905e.2025.1676

For this fact to constitute a case for dialetheism, the connexive principles must be acceptable—or at least plausible. (And, of course, the conjunction principles as well; but these are orthodox and natural enough to pass over here.) The naturalness of the principles and the fact that they have appealed to so many, speak in their favour. But this can be at best a *prima facie* consideration. The principles must be considered in the context of an overall theory of validity, and in particular of an account of meaning which justifies its principles. And it must be said that most of the semantics which deliver connexive principles have been complex and contrived.

By far the simplest and most natural semantic idea has been advocated by Wansing.[22] It can be deployed in any semantics where truth and falsity conditions are specified independently. In such a semantics we may take the falsity conditions of a conditional to be given by:

Wansing: $A \to B$ is false in [a world of] an interpretation iff $A \to \neg B$ is true

For then, suppose that $A \to B$ holds. Assuming Double Negation, so does $A \to \neg\neg B$. *Wansing* then tells us that $A \to \neg B$ is false. That is, its negation holds.[23]

To give a concrete example of such semantics, consider the system Δ.[24] This is LP extended by a conditional connective with world semantics. The set of worlds is W. There is a base world, G, and a binary accessibility relation, R, such that for all $w \in W$, GRw. At any world, the semantics of the extensional connectives are as for LP. For the conditional, think of t, b, and f as, respectively, $\{1\}$, $\{1, 0\}$, and $\{0\}$. Then if the value of A at w is ν_w:[25]

[22] E.g., Wansing 2005. In fact, these falsity conditions for the conditional were anticipated by Cooper 1968, in a paper which did not get its due recognition. He uses it to construct a 3-valued logic. A finitely many valued logic of conditionals is problematic for other reasons. See Priest 202+, 2.2.

[23] I note that there is also another simple and natural semantics for a connexive conditional, which is given in Priest 1999. Essentially, $A \to B$ can be defined as $\Diamond A \wedge (A \dashv B)$, in some modal logic, say, $S5$. It is simple to see that **Aristotle** and **Boethius** hold. This connexive logic is not überconsistent (or even paraconsistent). In particular, $(A \wedge \neg A) \to A$ and $(A \wedge \neg A) \to \neg A$ fail. I think these semantics provide a less plausible account of the conditional, simply because we do take some conditionals with impossible antecedents to be true—e.g., "if intuitionist logic is correct, Explosion fails".

[24] Priest 1987, ch. 6.

[25] Actually, these are the semantics for the connective written there as $\Rightarrow$. The connective written there as $\to$ has an extra clause in its truth condition stating that

- $1 \in \nu_w(A \to B)$ iff for all w' such that wRw', if $1 \in \nu_{w'}(A)$ then $1 \in \nu_{w'}(B)$

- $0 \in \nu_w(A \to B)$ iff for some w' such that wRw', if $1 \in \nu_{w'}(A)$ and $0 \in \nu_{w'}(B)$

The connexive modification simply replaces the falsity conditions with:

- $0 \in \nu_w(A \to B)$ iff for all w' such that wRw', if $1 \in \nu_{w'}(A)$ and $0 \in \nu_{w'}(B)$

Note that, given these falsity conditions, it no longer follows that either $A \to B$ or $\neg(A \to B)$ holds at a world. Thus, Excluded Middle, $A \vee \neg A$, holds only when A contains no conditional connective.[26]

The question now becomes: how plausible are the Wansing falsity conditions for negation? (Of course, one might reject them precisely on the ground that they deliver contradictions. But in the context where we are considering arguments for dialetheism, this obviously begs the question.) To implement the conditions, we must first accept that truth and falsity (in an interpretation) are to be treated even-handedly. This happens in any of the many logics which invalidate Explosion or its dual, Implosion ($A \vdash B \vee \neg B$); and there are standard reasons for doing so.

Having got this far, what of the falsity conditions themselves? The truth conditions of conditionals themselves are fraught. Indeed, I think it fair to say that the conditional connective has generated more disagreement in the history of logic than any other connective. Various considerations seem to pull in different directions. The falsity conditions of conditionals are perhaps even worse. But the problem here is not one of over-determination, but one of under-determination. Conditionals figure everywhere in reasoning; their negations much less so.[27] However, there is nothing intrinsically

falsity is also preserved from consequent to antecedent. This could be added here, but would make no difference to the present matter.

[26] Though we can avoid this by changing the conditions to:

- $0 \in \nu_w(A \to B)$ iff (for all w' such that wRw', if $1 \in \nu_{w'}(A)$ then $0 \in \nu_{w'}(B)$) or (for some w' such that wRw', $1 \in \nu_{w'}(A)$ and $0 \in \nu_{w'}(B)$).

[27] Carroll 1894 is one little-known place where they occur centrally, and they do so connexively!

 DOI:https://doi.org/10.22201/iifs.18704905e.2025.1676

implausible about Wansing-style falsity conditions. So given the attractiveness of the connexive principles, we do seem to have a novel case for dialetheism.[28]

4. *Conclusion*

The existence of überconsistent logics has been known for some time now. Their recognition as a significant class of non-classical logics, with distinctive properties and applications is, however, a relatively recent phenomenon. Much remains to be done to think through all the issues that they engender. I have been addressing but one of these—though an obvious one: what, if anything, does the existence of such logics tell us about dialetheism?

As we have seen, the issue is far from straightforward. However, one might summarise the upshot of the reflections of this essay by saying that, on balance, their existence appears to strengthen the case for dialetheism.

BIBLIOGRAFÍA

Carroll, Lewis, 1894, "A Logical Paradox", *Mind*, vol. 3, no. 11, pp. 436–438.

Cooper, William, 1968, "The Propositional Logic of Ordinary Discourse, *Inquiry*, vol. 11, pp. 295–320.

Hazen, Allen, and Jeffry Pelletier, 2018, "Second-Order Logic of Paradox", *Notre Dame Journal of Formal Logic*, vol. 59, no. 4, pp. 547–558.

McCall, Storrs, 2012, "A History of Connexivity", in Dov Gabbay, Jeffry Pelletier, and John Woods (eds.), *Handbook of the History of Logic*, vol. 11, North Holland, Amsterdam, pp. 415–449.

Orilia, Francesco, and Michele Paoletti, 2020, "Properties", *Stanford Encyclopedia of Philosophy*, in Edward N. Zalta (ed.), available at: https://plato.stanford.edu/entries/properties/.

Priest, Graham, 202+, "Interpretations of the Third Value", to appear.

[28] I note that, given Double Negation and Transitivity, the *Wansing* falsity conditions for negation for conditionals deliver also Converse Boethius: $\neg(A \rightarrow \neg B) \vdash A \rightarrow B$. For suppose that $\neg(A \rightarrow \neg B)$. Then $A \rightarrow \neg\neg B$. Given $\neg\neg B \rightarrow B$, and Transitivity, we have $A \rightarrow B$. Converse Boethius is less plausible. Suppose I have a fair coin, c. Then very plausibly:

[C] It is not the case that (if I toss c, I will not get heads)

But by Converse Boethius, it follows that if I toss c, I will get heads. It seems that one must reject [C]. For a criticism of Converse Boethius, see also McCall 2012.

DOI:https://doi.org/10.22201/iifs.18704905e.2025.1676

Priest, Graham, 2024, "Substructural Solutions to the Semantic Paradoxes: a Dialetheic Perspective", in Mattia Petrolo and Giorgio Venturi (eds.), *Paradoxes Between Truth and Proof*, Springer, Berlin, pp. 165–192.

Priest, Graham, 2008, *Introduction to Non-Classical Logic*, Cambridge University Press, Cambridge.

Priest, Graham, 2006, *Doubt Truth to be a Liar*, Oxford University Press, Oxford.

Priest, Graham, 2002, "Paraconsistent Logic", in Dov Gabbay and F. Guenthner (eds.), *Handbook of Philosophical Logic*, 2nd edn, vol. 6, pp. 287–393, Kluwer Academic Publishers, Dordrecht.

Priest, Graham, 2000, "Motivations for Paraconsistency: the Slippery Slope from Classical Logic to Dialetheism", in Diderik Batens, Chris Mortensen, Graham Priest, and Jean-Paul Van Bendegem (eds.), *Frontiers of Paraconsistent Logic*, Research Studies Press, London.

Priest, Graham, 1999, "Negation as Cancellation, and Connexivism", *Topoi*, vol. 18, pp. 141–148.

Priest, Graham, 1987, *In Contradiction*, Martinus Nijhoff, Dordrecht; 2nd edn, 2006, Oxford University Press, Oxford.

Priest, Graham, and Richard Routley, 1983, *On Paraconsistency*, Department of Philosophy, RSSS, ANU, Canberra. This appeared as the introductory chapters of Graham Priest, Richard Routley, and Jean Norman, 1989.

Priest, Graham, Richard Routley, and J. Norman, 1989, *Paraconsistent Logic: Essays on the Inconsistent*, Philosophia Verlag, Munich.

Priest, Graham, Koji Tanaka, and Zach Weber, 2022, "Paraconsistent Logic", *Stanford Encyclopedia of Philosophy*, in Edward N. Zalta (ed.), available at: https://plato.stanford.edu/entries/logic-paraconsistent/.

Quine, Willard, 1970, *Philosophy of Logic*, Prentice Hall, Englewood Cliffs, NJ.

Wansing, Heinrich, 2005, "Connexive Modal Logic", in R. Schmidt, *et al.* (eds.), *Advances in Modal Logic*, vol. 5, King's College Publications, London, pp. 367–383.

Wansing, Heinrich, 2023, "Connexive Logic", *Stanford Encyclopedia of Philosophy*, in Edward N. Zalta (ed.), available at: https://plato.stanford.edu/entries/logic-connexive/.

Wansing, Heinrich, 202+, "Beyond Paraconsistency. A Plea for a Radical Breach with the Aristotelian Orthodoxy in Logic", to appear.

Weiss, Yale, 2022, "Semantics for Pure Theories of Connexive Implication", *Review of Symbolic Logic*, vol. 15, pp. 591–606.

Received: February 28, 2025; accepted: June 3, 2025.

 DOI:https://doi.org/10.22201/iifs.18704905e.2025.1676