Could Every Statement Be True? Trivialism and The Bankruptcy of Analytic Philosophy of Logic

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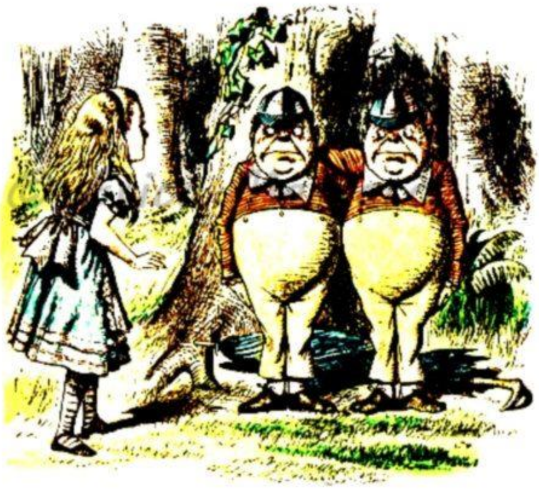

> "Contrariwise, if it was so,
> it might be; and if it were so,
> it would be, but as it isn't,
> it aint. That's logic."

(Carroll, 1871/1988: p. 61)

1. Introduction

In this essay, we'll critically discuss the thesis of trivialism, i.e., that every statement is true. Trivialism has been argued for by Paul Kabay in his PhD thesis (Kabay, 2008) and the revised version of that thesis, his book *On the Plenitude of Truth: A Defense of Trivialism* (Kabay, 2010). We will oppose Kabay, but more importantly, these types of questions, which keep Analytic philosophers of logic busy, busy, busy, illustrate the essential bankruptcy of Analytic philosophy of logic. That's what we'll argue for in this essay, and a good place to start is with the problems that non-classical logicians have seen with the classical logic account of validity.

2. Problems with Classical Validity

Graham Priest, a leading paraconsistent logician, and advocate of dialetheism, that there are true contradictions, statements of the form $p\&\sim p$, has described the problem with classical validity as follows:

> [T]he notion of validity that comes out of the orthodox account is a strangely perverse one, according to which any rule whose conclusion is a logical truth is valid and, conversely, any rule whose premiss contains a contradiction is valid. By a process that does not fall short of indoctrination most logicians have now had their sensibilities dulled to these glaring anomalies. However, this is possible only because logicians have also forgotten that logic is a normative subject: it is supposed to provide an account of correct reasoning. When seen in this light the full force of these absurdities can be appreciated. (Priest, 1979: p. 297)

The classical logic rule of explosion, *Ex Contradictione Sequitur Quodlibet*, is that from a set of inconsistent sentences, any statement can be "validly" deduced, and a statement $p\&\sim p\rightarrow q$ is a logical truth. Against this, it has been held that the rule of explosion is counter-intuitive since from "this circle is round and square" it should not follow that "my mother wears army boots to bed." Explosion is rejected by relevant logics, such as Anderson and Belnap, because, stated informally, valid arguments should have a "relevant" connection between premises and conclusion (Anderson & Belnap, 1975; Read, 1988). However, by the so-called "Lewis argument" (an argument that was known centuries ago to a number of pre-modern logicians), it can be proven in the propositional calculus, that from $p\&\sim p$, then q (Woods, 1965: p. 49; Lavers, 1988):

(L_1)	$p\&\sim p$	Assumption
(L_2)	p	(L_1), Simplication
(L_3)	$\sim p$	(L_1), Simplication
(L_4)	$\sim p \lor q$	(L_3), Addition
(L_5)	q	(L_2), (L_4), Disjunctive Syllogism

Every step in this proof has been questioned by some logicians, including the principle of the transitivity of entailment, as well as arguments being put forward by pre-modern logicians, Boethius and Abelard, and S.T. Hewitt today, that nothing follows from a contradiction, so the Lewis argument with contradictory premises is question-begging (Hewitt, 2022, p.3).

There is also a model-theoretical argument for explosion. A sentence S is a semantic consequence/implication of a set of sentences X, if and only if, every model of X is a model of S. But the sentence $p\&\sim p$ (classically) has no model, by definition of a contradiction. Thus, there is no model of $p\&\sim p$ which is not a model of q, so $p\&\sim p\rightarrow q$.

Paraconsistent logics reject the rule of explosion, and dialetheism, which holds that there are true contradictions, i.e., statements such that $p\&\sim p$ is true, with the dialetheism of Graham Priest being a well-known example (Priest 2006a, Priest et al., 2022). The main argument against the rule of explosion is that it can be counter-modelled, for if $p\&\sim p$ is a true contradiction (as Priest supposes the logico-semantical paradoxical statement are), then $p\&\sim p\rightarrow q$ fails, because the premises could be true, but the conclusion, an arbitrary q, could be false. As Priest has written:

> Here we have a set of arguments that appear to be sound, and yet end in contradiction. Prima facie, then, they establish that some contradictions are true. Some of the arguments are two and a half thousand years old. Yet despite intense attempts to say what is wrong with them in a number of logical epochs, including our own, there are no adequate solutions … trying to solve them is simply barking up the wrong tree: we should just accept them [the logico-semantical paradoxes] at face value, as showing that certain contradictions are true. (Priest, 2007, p. 83)

The idea that the paradoxes be taken as true contradictions does not constitute a unified solution to all logico-semantical paradoxes, since there are paradoxes, such as Curry's paradox, discussed below, whereby an arbitrary statement is proven, so Priest's strategy would not work, nor does it solve the type of paradoxes arising some universal statements and collectives (Rescher & Grim, 2010). To deal with these paradoxes requires other strategies (Priest, 2006b). Moreover, Priest's own "logic of paradox" (Priest, 1979b), allegedly avoids trivialism by rejecting the general validity of *modus ponens* (Carrara et al., 2010).

Paraconsistent logic together with dialetheism, while initially appearing to be a radical pairing, in fact *preserves* logic from trivialism, since it only takes one unsolved contradiction, according to the deductivist ideal of classical logic, to presumably trivialize all sciences.

3. Trivialism Defended: Paul Kabay

Paul Kabay has defended the thesis of trivialism, that every statement is true, in his PhD thesis (Kabay, 2008), and book (Kabay, 2010). He sets out to defend trivialism by four arguments:

(1) an argument from Curry's paradox;

(2) an argument from the Characterization Principle;

(3) an argument from the Principle of Sufficient Reason;

(4) an argument from the truth of possibilism.

For our purposes, only (1) and (4) will be discussed, since the reviews of Kabay's book have been strongly critical of arguments (2) and (3) (Bueno, 2007). Kabay also discusses a number of objections to trivialism which we believe he successfully deals with. Thus, one counter-argument is that trivialism is contrary to sense perception (Priest, 1999, 2000). Kabay rightly says that if the world was inconsistent, then our limited perceptual apparatus must be inadequate to take in the blooming, buzzing confusion of the universe, any more than we can perceive quarks (Estrada-Gonzalez & Olmedo-Garcia, 2013). Kabay gives an example of this in chapter 6 of his book, in a reconstruction of Zeno's arrow paradox, where the motion of the arrow is contradictory, but we see, presumably, something that appears to be consistent in the world, thanks to a perceptual bias in our cognitive system for consistency. Why this bias for consistency should exist would be an interesting question, if science, as we know it, was possible under trivialism.

Kabay advances another argument in chapter 3 of his book, that the denial of trivialism is impossible, as there is no alternative to trivialism, since the trivialist accepts evey statement as true. He defends this by examining various accounts of denial, and attempting to show that these all show that trivialism cannot be denied. But, it can because it can be argued that each of the arguments given for trivialism fails, and are philosophically unacceptable, so trivialism if not denied, can be rejected, as probably any philosophical position in principle could be.

Kabay argues that Curry's paradox is an argument for trivialism (Estrada-Gonzalez, 2012). Consider a sentence:

(CP) If the sentence (CP) is true, then an arbitrary *q* follows.

Suppose that (CP) is true. Then by *modus ponens*, *q*. So, the consequence of (CP) is proven. Hence (CP). By modus ponens, *q*. Trivialism can be shown to follow from a new version of Curry's paradox, using the notion of naïve deducibility that Priest accepts (Carrara et al., 2010; Carrara & Martino, 2011). There are numerous difficulties facing all formal logical solutions to Curry's paradox (Restall, 2007). So, Kabay has a prima facie plausible argument for trivialism. We will give a more radical solution below, but in order to do so, we turn first to the consideration of another argument for trivialism, via possibilism.

4. Possibilism and the End of Formal Logic

Possibilism is the position that all statements are possibly true, and no statement is necessarily true (Naess, 1972; Mortensen, 1989, 2005). One core argument for this position is that the so-called laws of logic have counter-models, and logical systems have been devised in which various seemingly intuitive logical truths, are not, such as the rejection of A&B→A, in connexivism (McCall, 1966), and A→ A υ B (Parry, 1933). Martin has shown that in a certain weak propositional calculus, no instance of A→A is provable; for any given instance of A→A, a falsifying model can be constructed (Martin, 1978; Martin & Meyer, 1982). As Estrada-Gonzalez puts it:

> virtually every logical truth or valid inference has been thrown out, in the sense that there are models thought of as "situations" where they no longer hold, and now nearly every structure resulting from dropping such logical truths or valid inferences is accepted as a logic. (Estrada-Gonzalez, 2012: p. 179)

This thesis, that all the classical rules of inference, and all logical truths, fail in the sense of being counter-modelled, has been affirmed by the paraconsistent logicians (Mortensen, 1981; Priest, 1992: p.291) It has radical implications for formal logic. The very idea of formal logic was that it is concerned with forms, as Bertrand Russell put it:

> logic (or mathematics) is concerned with forms, and is only concerned with them in the way of stating that they are always or sometimes true—with all the permutations of "always" and "sometimes" that may occur. (Russell, 191: pp. 199-200)

On this view, then, logic then is purely formal, with no empirical content. But there are no "laws" of form, as J.W. Smith argued decades ago as a postgraduate student (Smith, 1984), and as D.C. Stove also affirmed:

> There are few or no logical forms, above a low level of generality, of which every instance is valid; nearly every such supposed form has invalid cases or paradoxical cases. The natural conclusion to draw is that formal logic is a myth and that over validity, as well over invalidity, forms do not rule: cases do. (Stove, 1986: p.127)

If we follow Stove and reject formal logic as a mathematical myth, but a myth nonetheless, the paradoxes are no longer anything more than puzzles, possible insolubilia, that show that the rules of inference, even *modus ponens* can fail, and lead from seemingly true premises to a false conclusion. We may of course adopt the idea advanced earlier, that nothing follows from a contradiction (Hewitt, 2022), which deals with some paradoxes, but perhaps not Curry paradoxes. But we would also reject the other logical fetish of the formalists, namely, that natural language is inconsistent because of such paradoxes. On the contrary, natural languages are not logical systems, although they may contain such systems, but instead are forms of life, cultural mechanisms for symbolic communication, and, as such, they need to encompass not just contradictions, but also meaningless statements, nonsense, and anything humans want to say. That some sentence says of itself that it is false, or unprovable, is hardly a concern, and has historically been elevated to a level of high anxiety only because logic has been parasitically tied to mathematics, arguably to the detriment of logic. But this needs to change in order for logic to cease being a degenerating research program, and become instead a normative science of correct reasoning.

5. Conclusion

Trivialism is an interesting thesis that can be used to show the limits of formal logic. This field has utterly failed to be a normative science of correct reasoning. Indeed, the statements by the logicians referred to above strongly indicate that there is no science of correct reasoning, if such a science must be formal, modelled on the idea of mathematics. But, regardless of what the formal logicians and Analytic philosophers of logic think, most disciplines, such as law, have investigations of correct reasoning for their field. This topic is investigated in depth, for example, by Robert Hanna in *Rationality and Logic* (Hanna, 2006), and also in recent work in rhetoric, informal logic, and critical reasoning. These investigations are much more useful to practitioners outside of philosophy and formal logic, than the symbolic fetishism in Analytic philosophy of logic that masquerades as correct reasoning—formal logic (Smith, 2024 forthcoming).

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