Nonetheless, in the cognitivist's treatment the problem has still not been solved, for an equally fundamental reason. S2 is not an admissible reading of P2. The problem is that S2 places the disjunction within the content of the attitude, whereas P2 has it with dominant scope.

Obviously, this argument is confused. Dominant scope for a descriptive sentence 'P' just *is* dominant scope within the content of what you believe, when you believe that P. Believing that P or Q, where 'P' and 'Q' are descriptive sentences, is not a matter of either believing that P or believing that Q; it is a matter of having a belief with a disjunctive content. The *very same* goes for the expressivist view under consideration. The attitude of *being for* is not part of the semantic contribution of the predicate, 'wrong'; it is just what it is to believe, on this view.²

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- 2 Special thanks to Jamie Dreier and Malte Willer for drawing the Skorupski article to my attention.

The sun may not, indeed, rise tomorrow: a reply to Beall

GRAHAM PRIEST

A well-known feature of standard paraconsistent logics, such as *LP*, is that they are weak in a certain sense. Thus, they do no validate the Disjunctive Syllogism, even though there are clearly cases where we would want to use it.

I have argued that a way around this apparent problem is to employ a non-monotonic extension of LP, LPm, which is stronger.¹ LPm can be applied to any situation, and in that sense it is a universal logic: it gives classical reasoning in consistent situations and an inference engine at least as generous as LP in inconsistent situations.

There has to be more to matters than this, though. After all, reasoning classically in all situations would do that job as well. This is why what I called *Reassurance* is important. It guarantees that if a theory is non-trivial under *LP* consequence, it is non-trivial under *LPm* consequence as well – unlike classical consequence, which explodes any inconsistent information, producing triviality. In other words, taking triviality to be some kind of incoherence, *LPm* will never turn a coherent situation into an incoherent one.²

Jc Beall has recently objected to the strategy of using LPm.³ His complaint is that the use of LPm may deliver some other kind of incoherence. What we should require, he says (Section 3), is General Reassurance: if the consequences of some information under LP are all true, so are all the consequences under LPm. And this we do not have. For example, if p! is true and q is untrue, then $p! \lor q$ is true, and $p! \lor q \models_m q$.⁴

General Reassurance, however, is too much to ask. *LPm* is a nonmonotonic (aka inductive) logic. And it is precisely the definition of such logics that they may lead us from truth to untruth. The point is as old a Hume ('The sun has risen every day so far. So the sun will rise tomorrow.') and as new as that much over-worked member of the spheniscidae ('Tweety is a bird. So Tweety flies.') If they did not have this property, these logics would be deductive logics, which they are not. This is not a bug of such logics; it is a feature. Such logics do not preserve truth, by definition.⁵

The only way for Beall's point to have force is, thus, to endorse the old Hume/Popper complaint about using non-deductive reasoning. This is not the place to review past debates on this claim. Let me just say that I take Hume and Popper to have lost that debate. Investigating most things using only deductive logic is like going into a fight with both hands (and a foot) tied behind one's back.

- 1 See, e.g. Priest 2006: Ch. 16, and Ch. 19, §10.
- 2 Actually, Reassurance may be more than is required here. It might be quite sufficient if mostly, or normally, *LPm* did not turn a non-trivial inconsistent situation into a trivial one. If there are some exceptions, and *LPm* is otherwise robust, we might take this fact to speak against the coherence of inconsistent situations it shows to be trivial.
- 3 Beall (2012). He refers to LPm as MiLP.
- 4 I follow Beall in matters of notation. Note that $p!, p! \lor q \not\models_m q$.
- 5 Ironically, one place where LPm is guaranteed to preserve truth is with trivial information!

Beall (in correspondence) tells me that he was not so much worried about inferring falsehoods, as inferring particularly absurd falsehoods, such as that you are a fried egg. This may not be triviality, but it is some lesser kind of incoherence. This objection misses the mark as well. The reason that such things are absurd is that we already have good reason to suppose them to be false: their negation is part of our total current information. *LPm* will not allow such things to be established if *LP* does not. Thus, though $p! \lor q \models_m q$, $\neg q, p! \lor q \not\models_m q$. There are mi models of the premises where p is both true and false, and q is just false. Generally, suppose that $\sum \not\models_{LP} A$. Then there is a model of \sum where A is not true. Hence, there is an mi model, \mathfrak{M} , of \sum where A is not true.⁶ Since $\neg A$ is true in this interpretation, \mathfrak{M} is also an mi model of $\{\neg A\} \cup \sum$. (Any interpretation more consistent than \mathfrak{M} is not a model of \sum , and a fortiori of $\{\neg A\} \cup \sum$.) Hence, $\{\neg A\} \cup \sum \not\models_m A$.

There may or may not, of course, be better ways of going about the 'recapture of classical logic in consistent situations' than using LPm. But the considerations Beall has adduced do not show the approach using LPm to be flawed.⁷

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- 6 Priest, 2006: 226, Lemma 2. A similar result can be proved when the language is first-order, but the matter is more complex, and the details are still, to a certain extent, sub-judice. (See Crabbé 2011.) So I will not go into the details here, since Beall himself is concerned only with the propositional case.
- 7 Thanks go to JC Beall for helpful discussions of an earlier draft of this note.