LOOKING FOR CONTRADICTIONS[1]

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There has been considerable debate recently on whether there are true contradictions.[2] A very natural and interesting question arises in the context of this debate: Why don't we observe contradictions? The obvious answer is that there aren't any true contradictions—observable or otherwise—so little wonder we don't see any. Many philosophers would be happy to leave the matter there, but for those like Graham Priest who believe that there *are* true contradictions, the question of why we don't observe contradictions is potentially embarrassing. Priest, however, does have an answer ready to hand [11]; he argues that the *observable world*[3] is consistent.

We suggest that Priest is a bit quick in drawing this conclusion. There are, we believe, a couple of reasons to doubt it. First, it is not clear that we would recognise a contradiction if we saw one; so, it does not follow from the lack of evidence for observable true contradictions that there are no observable contradictions. Second, we make a tentative case for the stronger claim that we do in fact see contradictions. If this latter claim is right, the observable world is inconsistent.

I. Priest's Argument for the Consistency of the Observable World

Priest's argument is as follows.

> Consider the observable world, i.e., all that is observably the case. If there were inconsistencies in this, it would follow […] that we would perceive them. But apart from the odd visual illusion, we do not: our perceptions of the world are entirely consistent. Hence the observable world is consistent [11, p. 444].

Crucial to his argument are the claims that (i) if there are observable contradictions, we would observe them; (ii) we would recognise an observable contradiction if we saw one; and (iii) we do not see any contradictions. As one of the present authors has pointed out elsewhere [1], there are a couple of objections that can be raised against this argument. First, it does not follow from the fact that something *could* be seen, that it *would* be seen. In the present paper we will not pursue that issue. Instead, we will focus on (ii) and (iii). That is, we consider the issue of whether we would recognise a contradiction if

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[2] See, for example, [3], [10] and [12].
[3] By which he simply means all that is observably the case [11].

we saw one, and the related question of whether we have or have not in fact seen any contradictions.[4]

II. What Would Contradictions Look Like?

Consider a world in which all attempts to solve the sorites paradox fail except for one. This one exception, let's suppose, is a paraconsistent solution.[5] According to the paraconsistent solution, statements involving the penumbra of a vague predicate are both true and false. So, for example, a sixteen year old is both a child and not a child; a purplish-blue object is both blue and not blue; and a 170 cm woman is both tall and not tall. By assumption, this is the only successful account of vagueness, so by all canons of theory selection, we ought to believe it. That is, we ought to believe that a sixteen year old is both a child and not a child; a purplish-blue object is both blue and not blue; and a 170 cm woman is both tall and not tall. We would thus be forced to the view that there are true contradictions.

Now consider what we would say about the consistency of the observable world in such circumstances. Surely, we would have to admit that not only is the world inconsistent, but also that the *observable* world is inconsistent. After all, we can see, for example, that the purplish-blue object is both blue and not blue. One might object that such an observation is so theory-laden that it should not count as an example of an observable contradiction. We disagree. There is no doubt that the observation in question is theory-laden, but this does not alter the fact that it is an *observation*. That is all we are claiming here.[6]

Our reply to the last objection you might think was a bit quick. After all, there is an interesting and perhaps important distinction between 'seeing' and 'seeing that' and until we clarify what 'observable' means in relation to this distinction, it is difficult to move this debate forward.[7] We can distinguish two apparently different senses of observable: (i) a state of affairs σ is observable iff it can be observed that σ is the case; (ii) a state of affairs is observable iff that state of affairs itself can be observed. Call the first sense of observable, *weakly observable*; call the second, *strongly observable*. Now, it is clear that we can observe *that* σ without observing σ. For instance, we might observe that the butler

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[4]   One of us [1] has also discussed (ii) elsewhere; however, we think that more can and should be said.

[5]   There is an important distinction between paraconsistent logic and dialetheism. The former is a logic where explosion (i.e., from inconsistency everything logically follows) fails; the latter is the view that there are true contradictions. Given that not everything is true, dialetheism requires a paraconsistent logic; however, paraconsistent logic need not carry the commitment to true contradictions. (For a nice discussion of alternative, non-dialetheic readings of paraconsistent logic, see [4].) Despite these distinctions, we will use 'paraconsistent solution' to entail dialetheism, given that the applications of paraconsistent logic at hand tend to be read dialetheically. This is certainly the case with the works cited herein.

[6]   Perhaps, against our doubt, the observable world divides cleanly into two parts: theory-laden and non-theory-laden. If so, perhaps the latter part is consistent. Our claim, in any event, is that the theory-laden observable world is inconsistent—modulo the assumption about paraconsistent vagueness. Priest [11] makes it clear that by 'observable world' he intends to include any part of it, including the theory-laden parts.

[7]   We thank an anonymous referee for inviting us to consider this point. We present the point more or less as per the referee's formulation.

did it by seeing relevant pieces of evidence and making some inferences, but we did not see the butler do it. Indeed, it might be impossible to *observe* σ but still we *observe that* σ. In such a case σ would be weakly observable but not strongly observable.[8]

With this distinction in mind, the objection might now be raised that, on the view under consideration, contradictions are *weakly* observable but we have not established what is required: that they are *strongly* observable. We have a couple of things to say in relation to this. First, it seems that we do see the blueness of the purplish-blue object and we also see its purpleness. It seems plausible then that we see the blueness and non-blueness of the purplish-blue object. In short, we see the contradiction and so the contradiction is indeed strongly observable. But do we see the contradiction? Surely, the objection continues, all we see is the purplish-blueness of the object. We only see *that* it is blue and *that* it is purple because of our theory of vagueness. (More controversially, you might think we don't even see *purple is not blue*; we only see *that* purple is not blue.) If all this is right, it again seems that we have not established that contradictions are strongly observable.

This brings us to our second point: if the objection of the last paragraph is right, very little is strongly observable. For instance, we are unable to strongly observe that the world turns; all we observe is the rotating heavens—a great deal of inference and theory is involved before we conclude that the world turns. So even if we have failed to establish that, on this view, contradictions are strongly observable, we've established that they are observable in the same sense as many other intuitively observable facts (such as the fact that the world turns). This, it seems to us, is enough. After all, Priest's point in claiming that contradictions are not observable is to distinguish contradictions from other more mundane states of affairs. We suggest that no matter how you understand 'observable', on the view under consideration, contradictions are observable in a non-trivial sense.

There's a related concern here that, on this view, we don't see specific contradictions; rather, we see only that there are contradictions. Consider an array of colour patches, blue at one end and changing gradually and imperceptibly to purple at the other. You might think that even if we accept the paraconsistent theory of vagueness, all we know is that some patches in the array are both blue and not blue, but nothing we can observe tells us which ones.[9] This, however, seems mistaken to us. Surely the patches right in the middle of the array (i.e. those fairly and squarely in the penumbra) are thought to be blue and not blue *because we see that they are in the penumbra*. Granted, there will be some difficult cases on the edges of the penumbra, but the clear borderline cases are seen to be clear borderline cases and thus are seen to be contradictory.

There are a couple of important points to make in relation to the discussion thus far. The first is that the above story about the treatment of vagueness is not as far-fetched as you might think. Indeed, some believe that it is true! In any event, even those who think that there is an adequate, non-paraconsistent solution to the sorites paradox are able, we gather, to imagine the above scenario. We thus see that observable contradictions needn't be quite as strange as they might sound. Second, it's clear that in the above story anyone who does not realise that a paraconsistent logic is the best way to deal with vagueness

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[8]   Also, you might see σ without seeing that σ is the case. For instance, you might see the butler do it but not recognise the perpetrator as the butler.
[9]   Thanks again to an anonymous referee for raising this objection.

(and this, presumably, would be all but a few) would not realise that they are observing a contradiction when they look at a purplish-blue object. That is, these people would not recognise a contradiction when they saw one.[10]

Considerations such as those above are enough to cast considerable doubt on the claim that we would recognise a contradiction if we saw one. It thus seems that we are hardly in a position to say, with any confidence, that there are no observable contradictions. But the question remains: have we in fact seen any? We investigate this matter further in the next section.

III. Have We Seen Any Contradictions?

In light of the previous discussion, it is clear that in order to convince someone that there are observable contradictions it would suffice to demonstrate that a paraconsistent account of vagueness is the best account on offer. That's obviously a large project. Although it's a project in which we have considerable interest, we cannot possibly carry it out in its entirety here. Instead, we will be content to take a few tentative steps in that direction.

Dominic Hyde [5] argues rather convincingly that paraconsistent accounts of vagueness have been overlooked without good cause. He demonstrates a rather telling symmetry between a particular paraconsistent solution (Jaskowski's paraconsistent semantics) and standard supervaluational semantics. Given that the supervaluational approach to vagueness is perhaps the option preferred by most philosophers and logicians, the symmetry demonstrated by Hyde places the paraconsistent approach as a front-runner as well. Hyde also argues that any reason for a supervaluational approach is also a reason for a paraconsistent approach; and likewise any reason for rejecting a paraconsistent approach is also a reason for rejecting the supervaluational approach.

We have argued elsewhere [2] that Hyde is wrong about the perfect symmetry of the for-and-against arguments. In that paper we argued that there is a reason for the paraconsistent approach that does not also count as a reason for the supervaluational approach.[11] We suggested that it is a mistake to look at the sorites debate in isolation and that considerations elsewhere in the philosophy of language point towards paraconsistency. In particular, it has been argued by Priest [9] and others that the strengthened liar paradox seems to defy all but a paraconsistent solution.[12] Of course the claim that only the paraconsistent account provides an adequate account of the liar and its kin is controversial, but if correct, this would lend considerable support to a paraconsistent approach to vagueness. The point is simply that if we are already committed to

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[10] Also, consider what we would say about the purplish-blue objects we've observed in the past. Would we say that contradictions are now observable but that they were once unobservable? It strikes us as more reasonable to conclude that contradictions were always observ*able* but that they were not actually observed until the correct theory of vagueness came along. (Or invoking the strong–weak distinction, you might say that contradictions were strongly observed but not weakly observed.)

[11] We also argued in [2] that there is a reason counting against the paraconsistent approach that does not also count against the supervaluational approach. See [2] for details and [7] for discussion.

[12] According to the paraconsistent solution, the liar sentence—'this sentence is false'—and the strengthened liar sentence—'this sentence is not true'—are both true and false.

paraconsistency and paraconsistency provides a solution to the sorites that is at least as good as any other account, then, for reasons of economy, we should accept the para-consistent approach to vagueness.

IV. Conclusion

Let us close with a couple of remarks about the question of whether vagueness is in the world or simply in our descriptions of the world.[13] It might seem that in our discussion so far we've implicitly assumed the former. Thus, in order to establish the claim that considerations of vagueness give us reason to accept that the observable world is inconsistent, we also need to argue for the thesis that vagueness is a feature of the world. After all, just because we represent some feature of the world paradoxically, does not mean that the world itself is paradoxical. For instance, you might think that some of Escher's drawings apparently represent inconsistent objects but that these drawings do not give us reason to believe that the world is inconsistent. There's an important difference, though, between the Escher-like figures and our case: it's hardly plausible that Escher's drawings are the best representations of the world. (Indeed, most people don't think they represent at all.) On the other hand, the language of our best scientific theories is supposed to not only represent, but accurately represent. Thus, if the language of our best scientific theories (indispensably) involves vague predicates, then as naturalistic philosophers we have good reason to believe that this vagueness is a feature of the world.[14] This is not intended to be an argument for vagueness-in-the-world, we merely wish to show that considerations of vagueness provide a significantly better case for observable contradictions than Escher-like drawings.[15]

The steps toward a convincing, paraconsistent solution to the sorites paradox that we've outlined here are significant in that they place paraconsistent accounts of vagueness amongst the current best theories. This makes it very difficult to hold the view that a paraconsistent account will never be the best account. This, in turn, is enough to cast significant doubt on Priest's argument that the observable world is consistent. There is, however, a stronger conclusion beckoning: If you believe that the solution to the sorites paradox does indeed lie in paraconsistent logic, this suggests that the observable world is inconsistent and, moreover, observable contradictions abound.

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[13]   See [6] for more on this issue.
[14]   Priest discusses inconsistent figures in his paper [11]. He believes that such figures help shed light on what (some) observable contradictions might look like. We do not disagree with him on this; we simply think that penumbral cases of vagueness are good candidates for *actual* observable contradictions.
[15]   Nor do we mean to imply that Escher-like drawings are not interesting in their own right. See [8] for a very interesting discussion of the philosophical and mathematical significance of such figures.

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