RUSSELL ON METAPHYSICAL VAGUENESS

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Abstract

Recently a fascinating debate has been rekindled over whether vagueness is metaphysical or linguistic. That is, is vagueness an objective feature of reality or is it merely an artifact of our language? Bertrand Russell's contribution to this debate is considered by many to be decisive. Russell suggested that it is a mistake to conclude that the world is vague simply because the language we use to describe it is vague. He argued that to draw such an inference is to commit "the fallacy of verbalism". I argue that this is only a fallacy if we have no reason to believe that the world is as our language says. Since vagueness is apparently not eliminable from our language—a fact that Russell himself acknowledged—an indispensability argument can be launched for metaphysical vagueness. In this paper I outline such an argument.

1. Introduction

Like his contributions elsewhere in philosophy, Bertrand Russell's contribution to the vagueness debate is original, insightful, and important. Indeed, his 1923 article 'Vagueness', appearing in the first volume of *The Australasian Journal of Philosophy and Psychology* (later to become simply *The Australasian Journal of Philosophy*), serves to mark the start of modern debates about vagueness, its treatment, and its nature. I wish to focus on one aspect of Russell's article: his claim that vagueness is a feature of our language (or more correctly, a feature of the connection between our language and the world); vagueness is not, according to Russell, a feature of the world. He is thus

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in certain ways but she treats the formalism as though all features of it represent accurately.[7] To give a simpler example, the fallacy of verbalism is akin to looking at a map of Florianópolis and concluding that Florianópolis is made of paper.

Although Russell doesn't provide another example of this fallacy (other than vagueness), I think he has something like the following in mind. Consider an ambiguous term such as 'Bahia'. This term, as commonly used, is ambiguous between the Brazilian state Bahia and its capital, Salvador. Now surely, it is a mistake to conclude from this that this feature of our language reflects a feature of the world—there simply isn't a single ambiguous object which is both the state of Bahia and the city of Salvador. Things are what they are: states are states and cities are cities (and, as Russell puts it, "there is an end of it" (Russell 1923, p. 62). An ambiguity is simply a defect in our language and we should draw no metaphysical conclusions from such defects.

It is clear, I think, that Russell thought that both vagueness and ambiguity are defects in our language. But there is, perhaps, an important distinction to be made here. Now it seems to me that the fallacy of verbalism is only a fallacy if we have no reason to believe that the world is as our language would have it. The example of 'Bahia' is a good illustration of this. Our best theory of Brazil will distinguish the state of Bahia from the city of Salvador. But what if it didn't? What would we say about ambiguity in the world then? Can we imagine such a case? Plausibly, the word 'electron' is ambiguous between a particle and a wavelette. Moreover, our best theory of such things—quantum mechanics—does not resolve this ambiguity. In fact, quantum mechanics, arguable, *requires* such an ambiguity. In light of such cases, it would seem that it is *not* a fallacy to conclude that the world is ambiguous if our best theories say it is so.[8]

Now getting back to vagueness, according to Russell (and many others), vagueness is ineliminable from our language.[9] Indeed, Russell was perhaps the first to fully appreciate both the extent of vagueness in our language and how entrenched it is. He argued that it pervaded all language—including our scientific vocabulary and it even infected our logical connectives. He also believed that there was no hope of eliminating vagueness from our language:

> We can see an ideal of precision, to which we can approximate indefinitely; but we cannot attain this ideal. (Russell 1923, p. 65)

If vagueness is not eliminable from our language and if our best scientific theories are committed to vague objects, it would seem that it is no fallacy to attribute this vagueness to the world. Indeed, naturalistic philosophers, at least, must take their guidance on such matters from our best scientific theories. If those theories require ambiguous or vague terms, then not only do we have no reason to deny the existence of such ambiguous or vague objects, but a positive argument for the existence of such objects begins to emerge. I explore this argument in the next section.

4. An Argument for Metaphysical Vagueness

There is a well-known argument in the philosophy of mathematics due to Quine and Putnam called the *Indispensability Argument*.[10] According to this argument, we ought to believe in the existence of mathematical objects (numbers sets, functions and such) because quantification over such objects is indispensable to our best scientific theories. There has been a great deal of debate about this argument, but I think it is fair to say that it is taken very seriously in philosophy of mathematics—even by those who deny its conclusion. I won't go into the details of that argument here, except to say that the conclusion of the last section suggests that a parallel indispensability argument for metaphysical vagueness might be defended.

Here is one version of such an argument.[11]

1. We ought to have ontological commitment to all and only the entities apparently referred to by terms that are indispensable to our (current) best scientific theories. Moreover, we ought to believe those entities to have the properties attributed to them by those theories.

2. Apparently referring terms such as 'species', 'neutron stars', and the like are indispensable to our (current) best scientific theories. Moreover, the entities apparently referred to by these terms,

according to our best scientific theories, have vague properties. In particular, these theories attribute compositional vagueness to many of the entities in question.

Therefore:

3. We ought to (presently) have ontological commitment to vague objects.

The first thing to note about this argument is that it is *epistemological*—its conclusion is about what we are licensed to believe; it is not a metaphysical argument about what exists. Still, the conclusion is that we ought to believe in vague objects and this is strong enough to construe it as an argument for such objects. Second, the epistemic normativity is time indexed to the present. That is, the argument is about what we ought to believe *now*. What we ought to take to exist, presumably, will change in the future as our best scientific theories change. Next, I note that the argument is valid (modulo some concerns about how the modal operator 'ought to believe' behaves), so to resist the conclusion we must reject one or more of the premises. Let's start with the second premise.

Not everyone accepts that our best scientific theories indispensably require vague language. Quine (1981) and Haack (1978), for example, think that defects such as vagueness can be eliminated by *precisifying* our scientific vocabulary. It is fair to say, however, that such a precisification is yet to be performed and until such time as it has, it is not clear that we can rid our scientific language of vagueness in the way that Quine and Haack would like. In any case, our main focus here is Russell, and he certainly thought that vagueness was ineliminable.[12]

Now it might be argued that, as it stands, there is an equivocation in the second premise of the argument. According to this objection, the equivocation is between (i) *our best scientific theories describe certain entities as being vague*, and (ii) *our best scientific theories vaguely describe those entities*. Only (i) licenses the conclusion of the argument and yet it is (ii) that is plausible. Moreover, to assume that (ii) entails (i) is simply begging the question (or perhaps committing the fallacy of verbalism).[13] This is a very interesting and serious objection that

raises many important issues. Ultimately, I think the objection fails because, with certain caveats in place, it is (i) that is true. Let me elaborate.

According to the line of thought outlined in the objection of the previous paragraph, our best scientific theories merely describe certain features of reality vaguely; they do not describe reality as being vague. But to push this line is also begging the question—in the other direction this time (i.e. begging it against the supporter of metaphysical vagueness). Have we thus reached a rather unsatisfying standoff? Not quite. It seems to me that naturalistic philosophers, at least, take our best scientific theories to be describing the world. Moreover, we ought to take these theories at face value (unless we have good reason to do otherwise). Such attitudes towards science are central to the naturalistic approach to philosophy.[14] But our best scientific theories, when apparently attributing vague properties to certain entities, do not say "but the vagueness is not in the world, it's in the representation". Nor, of course, do they say "and the vagueness is really in the world", but the point is, *they don't have to*. The default, naturalistic position is that science is about the world. If we take our best scientific theories at face value they purport to be about vague objects as in (i) above.[15] Now there is much more that can (and should) be said on this important issue. But I will not do that here. My main aim is to present the indispensability argument for metaphysical vagueness, not to rigourously defend it.[16] I hope, however, that I've at least suggested a way to advance the debate past mutual claims of question begging and, in particular, to lend some support to the plausibility of the second premise of the argument.

Now to the first premise. This premise also depends on naturalism; indeed, it is supposed to be a consequence of (Quinean) naturalism and confirmational holism. Very roughly, Quinean naturalism rejects "first philosophy" and counsels us to turn to science for answers to epistemological questions. Naturalism thus lies at the heart of the first premise.[17] Naturalism licenses at least the "only" direction of this premise (and perhaps both). If you think the reverse direction (the "all" direction) needs something else, confirmational holism is supposed to fit the bill. Confirmational holism is the thesis that we cannot confirm or disconfirm single hypotheses; rather, "our

statements about the external world face the tribunal of sense experience not individually but only as a corporate body" (Quine 1980, p. 41).

Now it is beyond the scope of this paper to defend these two doctrines.[18] Suffice to say that I don't think that they are implausible. But in any case, returning to Bertrand Russell: the question is whether *he* would have accepted the argument above. In the next section, I speculate that he would have had some sympathy with it.

5. Why Russell Should have Embraced Metaphysical Vagueness

Despite Russell's rejection of metaphysical vagueness, there is little in the argument of the last section that he would have taken issue with. After all, he saw vagueness as ineliminable from our language—including our scientific language. Put slightly differently, he was committed to the view that vague expressions are indispensable to our best theories of logic, mathematics and physics. This is (more or less) premise two of the above argument. But what of premise one? Surely there's a lot of Quinean baggage packed into that premise: baggage that Russell would not accept. As a matter of fact, I don't think that there is too much in premise one that Russell would be unhappy with. Indeed, in certain respects, Russell anticipated many distinctive Quinean theses.

For example, Russell seems to have been committed to something like Quinean naturalism (though he called the doctrine 'realism'). He described this view as the abandonment of "the claim to a special philosophic method or a peculiar brand of knowledge to be obtained by its means" (Russell 1924, p. 69). He went on to say that this new philosophy "regards philosophy as essentially one with science" and that "[i]t conceives that all knowledge is scientific knowledge" (Russell 1924, pp. 69–70). Moreover, such naturalism (or realism) is just what is needed to support at least one direction of premise one.

I've already suggested that the other direction of premise one may require some form of holism. But once again Russell was committed to at least a moderate degree of semantic holism. This is reflected in

his argument for the vagueness of the logical connectives. In effect, he argued that one cannot define such terms independently of the truth conditions of the sentences in which they occur. This is somewhat short of Quine's semantic holism, according to which the unit of meaning is the whole language (or at least large chunks thereof). It is not clear, though, that the above argument requires anything so controversial as semantic holism. I've argued elsewhere (Colyvan 2001, chap. 3) that the mathematical indispensability argument requires the less controversial confirmational holism. Would Russell have accepted this? I'm not sure, but at the very least, confirmational holism doesn't seem to be in serious tension with other aspects of Russell's epistemology. So while the indispensability argument presented above is certainly not an argument Russell endorsed (or even considered), it is not too much of a stretch to suggest that it is an argument he might have been persuaded to accept.

If all this is right, then Russell may have been a bit quick to reject metaphysical vagueness. Moreover, the fallacy of verbalism is only a fallacy when there is no reason to expect that our language truly represents the way the world is. When the language in question is indispensably part of our best scientific theories, things are different. We have every reason to believe that these theories (at least approximately) represent the world, so if these theories are committed to vague objects, then it is no fallacy to posit such objects.[19]

References

Beall, J. C. and Colyvan, M. 'Looking for Contradictions', *The Australasian Journal of Philosophy*, Vol. 79 (2001), 564–9.

Colyvan, M. 'Confirmation Theory and Indispensability', *Philosophical Studies*, Vol. 96 (1999), 1–19.

——. *The Indispensability of Mathematics*. New York: Oxford University Press, 2001.

——. 'The Miracle of Applied Mathematics', *Synthese*, Vol. 127 (2001a), 265–78.

Evans, G. 'Can there be Vague Objects?', *Analysis*, Vol. 38 (1978), 208.

French, S. and Krause, D. 'Vague Identity and Quantum Non-individuality', *Analysis* Vol. 55 (1995), 20–6.

Haack, S. *Philosophy of Logics*. Cambridge: Cambridge University Press, 1978.

——. *Evidence and Enquiry: Towards Reconstruction in Epistemology*. Oxford: Blackwell, 1994.

Hyde, D. 'Rehabilitating Russell', *Logic et Analyse* Vol. 137 (1992), 139–.

——. 'Vagueness, Ontology and Supervenience', *The Monist*, Vol. 81 (1998), 297–312.

——. 'Supervaluationalism as Necessary and Sufficient for a Paracomplete Enlightened Representationalist Approach to Vagueness', paper delivered to the School of Philosophy, University of Tasmania, September 2000.

——. *Ontological Vagueness*. Aldershot: Ashgate, forthcoming.

Lewis, D. K. 'Vague Identity: Evans Misunderstood', *Analysis*, Vol. 48 (1988), 128–30.

Parsons, T. 'Entities without Identity', in J.E. Tomberlin (ed.), *Philosophical Perspectives, 1: Metaphysics*. Atascadero, California: Ridgeview, 1997, pp. 1–19.

Quine, W. V. 'Two Dogmas of Empiricism', in *From a Logical Point of View*, second edition. Harvard University Press, Cambridge (Massachusetts), 1980, pp. 20–46.

——. 'What Price Bivalence?', *Journal of Philosophy*, Vol. 78 (1981), 90–5.

Russell, B. 'Vagueness', *Australasian Journal of Philosophy and Psychology*, Vol. 1 (1923), 84–92. Reprinted in R. Keefe and P. Smith, *Vagueness: A Reader*. Cambridge, Massachusetts: MIT Press, 1997, pp. 61–8. (Page references are to the reprint.)

——. 'Philosophy in the Twentieth Century', reprinted in *Sceptical Essays*, Sixth impression. London: George Allen and Unwin, 1956, pp. 54–79 (first published in 1924).

Sainsbury, R. M. 'What is a Vague Object?', *Analysis*, Vol. 49 (1989), 99–103.

Sorensen, R. A. 'The Ambiguity of Vagueness and Precision', *Pacific Philosophical Quarterly*, Vol. 70 (1989), 174–83.

Tye, M. 'Vague Objects', *Mind*, Vol. 99 (1990), 535–57.

Zemach, E.M. 'Vague Objects', *Noûs*, Vol. 25 (1991), 323–40.

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Notes

[1] I should note that it is not clear that Russell fully distinguished vagueness from all of these (though see (Hyde 1992)). Nothing I have to say in this paper depends on this though. See (Sorensen 1989) for details of the various distinctions.

[2] There is much debate over the coherence of vague objects and the related issue of whether there can be vague identity. Most notably here is Gareth Evans' famous one page *Analysis* article (Evans 1978) and the literature it spawned—especially (Lewis 1988). Meanwhile, others have defended the notion of vague objects (Hyde 1998), (Hyde, forthcoming), (Parsons 1997), (Tye 1990), (Zemach 1991). I won't enter into the Evans debate directly; as it turns out, I think it is coherent to posit vague objects. Indeed, later in this paper I will provide an argument for ontological vagueness.

[3] See (Sainsbury 1989) for details.

[4] I take this definition from (Sainsbury 1989).

[5] Actually, he took vagueness to be a property of representations (generally), of which language was but one example.

[6] It's difficult to say what "too far" amounts to, because Dirac discovered anti-matter and Maxwell discovered electromagnetic radiation by trusting their mathematical formalisms where others would not have. See Colyvan (1999 and 2001a) for more on this.

[7] Think of the use of continuous mathematics for discrete phenomena such as population growth.

[8] See (French & Krause 1995) for more on vagueness and ambiguity in quantum mechanics.

[9] There are also some notable dissenters. For example, W. V. Quine (1981) and Susan Haack (1978).

[10] See (Colyvan 2001) for a detailed presentation and defence of this argument.

[11] A version of this argument was first (rather tentatively) put forward in (Beall & Colyvan 2001).

[12] Though, he might not like the examples of vague objects I give in the second premise.

[13] I thank Dominic Hyde for raising this objection.

[14] I'll have more to say about naturalism in relation to the first premise.

[15] Of course we can reinterpret the theories, but without good reason to do this (and the reasons must come from within science), again we violate naturalism.

[16] I intend to do that elsewhere.

[17] There are, of course, many different kinds of naturalism and Haack (1994, chap. 6) has suggested that there is even an ambiguity in the Quinean conception I have in mind. The ambiguity, she suggests, is between philosophy being continuous with science broadly or narrowly construed. She may well be right about this, but it doesn't matter for present purposes: vague language seems to be a part of *all* of science, no matter how broadly or narrowly you construe it.

[18] I've done that elsewhere: (Colyvan 2001) is a sustained defence of the mathematical indispensability argument with much of the focus on the defence of Quinean naturalism and confirmational holism.

[19] An earlier version of this paper was presented at the Second *Principia* International Symposium in Florianópolis, Brazil in August 2001. I thank the participants at that symposium for their valuable contributions and the organisers for a very stimulating conference in a wonderful part of the world. I also gratefully acknowledge the help of Otávio Bueno and Dominic Hyde who read earlier drafts of this paper and gave me many constructive criticisms. I am particularly indebted to Dominic Hyde with whom I've had many enlightening conversations about vagueness and whose paper (Hyde 2000) inspired me to write this one.