Borderline Cases and the Collapsing Principle[1]

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Abstract. John Broome has argued that value incommensurability is vagueness, by appeal to a controversial 'collapsing principle' about comparative indeterminacy. I offer a new counterexample to the collapsing principle. That principle allows us to derive an outright contradiction from the claim that some object is a borderline-case of some predicate. But if there are no borderline-cases, then the principle is empty. The collapsing principle is either false or empty.

When two options are such that neither is better than the other, and they are not equally good, and the comparison is not irrelevant or nonsensical, they are *incommensurate*:

> **Incommensurability**. a and b are *incommensurate* (or *incommensurable* or *incomparable*) if it is not true that a is better than b, not true that b is better than a, and not true that a and b are equally good.

Often this is in terms of some specified standard or variety of goodness, such as artistic goodness or goodness as a career. I shan't argue that there are cases of incommensurability, but will simply assume it.[2] John Broome has influentially argued that incommensurability is vagueness: that in such cases, it is indeterminate whether a is better, or b is better, or they are equally good. Then each of these possible comparative judgements is indeterminate. On this view, in cases of

1 I am indebted to Henrik Andersson, Simon Blackburn, John Broome, Erik Carlson, Patrick Connolly, Ram Neta, Wlodek Rabinowicz, Geoffrey Sayre-McCord, Keith Simmons, Walter Sinnott-Armstrong, Susan Wolf, and participants in the UNC dissertation seminar for discussion of this material and its ancestors.

2 This assumption – though plausible given classic 'Mozart/Michaelangelo' cases – is not undeniable. For an excellent overview, see Ruth Chang, 'Introduction', *Incommensurability, Incomparability, and Practical Reason*, ed. Ruth Chang (Cambridge, MA, 1997) pp. 1-34.

incommensurability, it is neither true nor false that a is better than b, neither true nor false that b is better than a, and neither true nor false that a and b are equally good.

Broome's argument relies on his 'collapsing principle' for comparative predicates:

> **Collapsing Principle (special version)**. For any x and y, if it is false that y is Fer than x and not false that x is Fer than y, then it is true that x is Fer than y.[3]

Here 'Fer than' is a comparative predicate like 'better than', 'tastier than', or 'more impressive than'. The collapsing principle is intended to be a general truth about all such comparatives.

Erik Carlson has proposed several putative counterexamples to the collapsing principle, but Broome has argued that the principle itself rules those counterexamples incoherent.[4] Another line of response is proposed by Cristian Constantinescu, who has recently argued that the scope of the collapsing principle can be restricted, avoiding these counterexamples.[5]

In this paper, I present a new type of counterexample which is not vulnerable to either response. I show that the collapsing principle is either empty, or entails outright contradictions.

1. BROOME'S ARGUMENT AND CARLSON'S COUNTEREXAMPLES

Incommensurability as vagueness is a rival to *hard incomparabilism*. On this view, if a and b are incommensurate, then it is false that a is better than b, false that b is better than a, and false that a and b are equally good.

Hard incomparabilism is defended most prominently by Joseph Raz, though Ruth Chang's

3 John Broome, 'Is incommensurability vagueness?', *Incommensurability, Incomparability, and Practical Reason*, ed. Ruth Chang (Cambridge, MA, 1997), pp. 67-89, at 74.

4 For Carlson's counterexamples, see Erik Carlson, 'Broome's Argument Against Value Incomparability', *Utilitas* 16 (2004), pp. 220-224. Broome's response is neatly summarized in John Broome, 'Reply to Rabinowicz', *Philosophical Issues* 19 (2009), pp. 412-417, at 416-7.

5 Cristian Constantinescu, 'Value Incomparability and Indeterminacy', *Ethical Theory and Moral Practice* 15 (2012), pp. 57-70.

'parity' view also meets this definition.[6] Broome's argument for incommensurability as vagueness – and against hard incomparabilism – rests on an argument that vagueness and hard incomparabilism are not compossible. Since it is not plausible, even for the hard incomparabilist, that there is no vagueness, this implies that there is vagueness but not hard incomparabilism.

I'll now sketch how the argument goes.[7] Suppose that hard incomparabilism is true, and we are in a rather fortunate choice situation:

> **Jobhunting.** We are comparing jobs, and in particular we are comparing a given philosophical job against a range of different banking jobs. The comparative predicate in question is 'better as a career', or simply *better*. Our preferences and other relevant factors are such that the philosophy job is clearly better than the banking job that pays $10,000 per year, and clearly worse than the banking job that pays $1m per year. But in this range are many banking jobs that are incommensurate with the philosophy job. Call this collection of jobs the *Zone of Incommensurability* (or just the *Zone*).

Assuming hard incomparabilism, for each banking job in the Zone, it will be false that the philosophy job is better than the banking job, and false that the banking job is better than the philosophy job, and false that they are equally good.

Now, suppose that the Zone has vague boundaries: in terms I develop elsewhere, assume that *fuzzy hard incomparabilism* is true.[8] Pick a banking job in the top, vague, boundary region of

6 See Joseph Raz, 'Value incommensurability: some preliminaries', *Proceedings of the Aristotelian Society, New Series* 86 (1985-86), pp. 117-134, and Ruth Chang, 'The Possibility of Parity', *Ethics* 112 (2002), pp. 659-688.

7 For the canonical presentation, see Broome, 'Is Incommensurability Vagueness?'.

8 See Luke Elson, 'Heaps and Chains: Could the Chaining Argument for Parity be a Sorites?', *Ethics* (forthcoming) for the distinction between fuzzy and sharp hard incomparabilism. The present discussion assumes that vagueness entails the presence of borderline-cases (at least that it does in the cases under consideration), and that some non-epistemic account of vagueness is correct. Neither assumption is problematic in this dialectic. The core of the incommensurability as vagueness view is that incommensurate options are comparative borderline-cases. It's hard to see how this could be sustained without the notion of a borderline-case. And if epistemicism is right, then the collapsing principle as presently formulated is empty or

the Zone. Call it the x-banking job. It will be indeterminate whether the x-banking job is in the Zone, and thus incommensurate with the philosophy job, or 'above' the Zone, and thus better than the philosophy job. So it is neither true nor false that the x-banking job is better than the philosophy job.

But is the x-banking job *worse* than the philosophy job? Clearly not: by stipulation, it is indeterminately either incommensurate or better. So it is false that the x-banking job is worse than the philosophy job.

Applying the collapsing principle, we conclude that it is *true* that the x-banking job is better than the banking job. If the collapsing principle is true, then the asymmetry introduced by hard incomparabilism crowds out vagueness. Hard incomparabilism and vague boundaries are not compossible.

Thus we must choose between (i) hard incomparabilism without vagueness (*sharp hard incomparabilism*) which posits completely determinate boundaries between the better and the incommensurate, and elsewhere, and (ii) a view on which there is vagueness but no hard incomparability: incommensurability as vagueness. Since, as Broome claims (and I agree), it is implausible that there is no vagueness whatsoever at the edge of the Zone, we should conclude that incommensurability is vagueness.

Clearly, this argument relies on the collapsing principle. Erik Carlson has offered several putative counterexamples to the principle.[9] These counterexamples rely on *indeterminately relevant properties*, where it is indeterminate whether a given property or its absence is relevant to the application of a predicate.

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trivial.

9 Carlson, 'Broome's Argument Against Value Incomparability'.

Here is the first. Suppose that we are comparing Alf and Beth with respect to philosophical ability. They are evenly matched in all relevant respects, except that Alf is slightly better rhetorically. It is clear that Alf is not worse than Beth – he can match her, virtue for virtue – so it is false that Beth is better than Alf. But is it true that Alf is better than Beth? Carlson claims that it might be indeterminate:

> perhaps our concept of a good philosopher is such that it is indeterminate whether rhetorical skill contributes positively to this species of goodness.[10]

So, Carlson claims, it is possible that it is neither true nor false that Alf is better than Beth, but false that Beth is better than Alf, thanks to the indeterminately relevant property of rhetorical skill. If rhetorical skill is relevant, then Alf is better than Beth. If it is not, then they are evenly matched. Since it is indeterminate whether rhetorical skill is relevant, the situation is indeterminate between these two cases.

This – if coherent – is clearly a counterexample to the collapsing principle. Since it is false that Beth is better than Alf, according to the Principle it cannot be neither true nor false that Alf is better than Beth. The case relies on our judgement that it clearly is (or could be) indeterminate whether Alf is a better philosopher, thanks to the indeterminate relevance of rhetorical skill. The other example – is a waterproof alarm clock better? – has a similar structure.

We might say that the indeterminate relevance cases pit our semantic competence against the collapsing principle. We judge that the application of the predicate *is* indeterminate in this nonsymmetrical way (one option indeterminately better, but definitely not worse, than another), and the collapsing principle says it cannot be.

There are two main lines of defence for the collapsing principle. Broome has adopted a

10 Carlson, 'Broome's Argument Against Value Incomparability', p. 223.

strategy of intransigence, arguing that the collapsing principle itself rules out indeterminately relevant properties:

> But the question is whether this sort of indefiniteness is really possible; the collapsing principle rules it out, and we are trying to assess the truth of the collapsing principle. […] I see no reason to think there can be that sort of indefiniteness in the facts. At any rate, the example does not demonstrate there is; it assumes it.[11]

Alternatively, Cristian Constantinescu has suggested that the principle can be modified so that it only applies in the absence of indeterminate relevance, thereby dodging the counterexamples.[12]

These are both consistent, principled ways to defend the collapsing principle. Both rely on the fact that the counterexamples rely on indeterminate relevance: if that feature can somehow be ruled out, the principle is safe (albeit perhaps at some cost in either plausibility or scope).

In the next section, I'll describe a new kind of counterexample that does not depend on indeterminate relevance. As we'll see, this means that it is immune to both of these responses, leaving the defender of the principle in a far worse position.

2. A NEW COUNTEREXAMPLE TO THE COLLAPSING PRINCIPLE

Consider the following comparative predicate on sets of men: set X is *settaller* than set Y just in case set X contains more tall men than set Y. Now, suppose that there are three sets of men:

> Set A contains 10 tall men, and nothing else.
> Set B contains 10 tall men, 1 borderline-tall man ('the eleventh man'), and nothing else.
> Set C contains 11 tall men, and nothing else.

Now, compare A and B. It is false that A is settaller than B, since B contains at least as many tall

11 Broome, 'Reply to Rabinowicz', p. 417.
12 Constantinescu, 'Value Incomparability and Indeterminacy', p. 67 onwards.

men as does A. But it is not false that B is settaller than A, since it is indeterminate whether B has 11 tall men or 10. It is indeterminate whether (neither true nor false that) B is settaller than A.

Applying the collapsing principle, it is *true* that B is settaller than A. So far, so good. But let's apply the definition of settaller: it must be true that the eleventh man in B is tall.

But there was nothing special about the eleventh man. All we are given is that he is borderline-tall, that he is a member of set B, and that a comparison is made on sets including B. And via the collapsing principle, we conclude that he is tall. Being a member of a set, upon which a comparison is made, couldn't affect whether or not he is borderline-tall. So he must be tall, not borderline tall. So if the collapsing principle is true, there cannot be any borderline-tall men.

Next, we can repeat the recipe and compare set B and set C with respect to settaller. It will be false that B is settaller than C, and not false that C is settaller than B. By the collapsing principle, it is true that C is settaller than B, and so false that the eleventh man is tall. This is a contradiction: it is both true and false that the eleventh man is tall.

So the collapsing principle has allowed us to draw an outright contradiction from the claim that the eleventh man is borderline-tall. Now, this might not be so bad: there are those who have argued that borderlineness is a contradictory notion.

But *this* cannot be a good line of defence for the collapsing principle. The collapsing principle is concerned with restricting the forms that indeterminacy can take. In particular, the collapsing principle limits the possibilities for indeterminacy in comparative predicates. But comparative indeterminacy involves borderline-cases of comparative predicates. If there are no borderline-cases, then the principle is empty. Moreover, the project of showing that incommensurability is grounded in such borderline-cases is sunk: how could incommensurability be vagueness, if there is no vagueness?[13]

So this counterexample presents the defender of the collapsing principle with an unpleasant dilemma. Either the notion of a borderline-case is coherent, or it is not.

One one horn – borderlineness is coherent – the collapsing principle implies that there cannot be borderline-cases, and allows us to draw contradictions from the claim that there are. So the collapsing principle lets us draw outright contradictions from a coherent notion, and it must be false.

On the other horn – borderlineness is incoherent – the collapsing principle is empty, and the project it is used in support of cannot succeed.

3. DEFENCE OF THE COUNTEREXAMPLE

Now I'll resist some natural objections to the counterexample. The first is that the predicate involved ('settaller') is too artificial. The second is that the inference from the truth of 'B is settaller than A' to the truth of 'the eleventh man is tall' is fallacious.[14]

Is the predicate 'is settaller than' objectionably artificial? This is not a promising line of objection. First, the predicate is not all *that* outre: there is nothing special about counting the number of tall men in various sets. Moreover, the collapsing principle is intended to be fully general, and not limited to natural-language plausible predicates.

We can also construct more natural versions of the counterexample, at a cost of some numerical simplicity. Here is one. Suppose that I am comparing places with respect to *better as a*

13 Again, I am assuming here that there could not be vagueness without borderline-cases.
14 I am grateful to an anonymous reviewer for this journal, for catching a crucial mistake here.

holiday destination. Amongst my other preferences, I strongly prefer to visit large countries: being a large country is a goodmaking feature of a holiday destination, for me.

We should be clear about two things. First, there is no indeterminate relevance here: whether a country is large or not is determinately relevant to whether I consider it a good holiday destination. It is a consideration that can be outweighted, perhaps, but it is always relevant.

Second, I don't have a general comparative preference for bigger countries: it is not that if country x is bigger than country y, then I necessarily have some (perhaps defeasible) preference to visit country x over country y. Instead, I am a 'country size snob': I prefer large countries to small ones. But within the large category, or the small category, size does not matter to me.[15] Russia and the USA are both big countries, although Russia is far bigger. But their size difference doesn't give me any (even defeasible) preference to visit Russia over the USA.

Suppose that, considering all relevant respects but size, Ireland, France, and China are equally good. Now, Ireland is clearly not large, China is clearly large, and France is borderline-large. Since they are on all fours otherwise, we can say that China is clearly better as a holiday destination than Ireland, China is borderline-better than France, and France is borderline-better than Ireland. Let's apply the collapsing principle.

Round 1. It is false that Ireland is better than France (since 'Ireland is large and France is not' is false), but not false that France is better than Ireland (since 'France is large and Ireland is not' is borderline). By the collapsing principle, it is true that France is better than Ireland. Given my preferences, it must be true that France is a large country. It could not have been borderline-large after all.

15 In terms I discuss in Elson, 'Vague Projects and Practical Sorites' (unpublished manuscript), the desire or project involved is wholly *binary*.

Round 2. It is false that France is better than China, and not false that China is better than France. Therefore, it is true that China is better than France. Given my preferences, it must be false that France is a large country. It could not have been borderline-large after all.

Contradiction.

So I don't think that the counterexample can be resisted on grounds of artificiality. What about the claim that if it is true that B is settaller than A, then the eleventh man in B is tall? This is also hard to resist. How could it be (i) true that A contains 10 tall men, (ii) true that B contains 11 men, and (iii) true that B contains more tall men than A, and yet (iv) not true that every man in B is tall? This seems untenable.

To talk in supervaluational terms: if it is (super-) true that B is settaller than A, then on every admissible sharpening of 'is tall', B contains more tall men than A. On every such sharpening, A contains 10 tall men. So on every such sharpening, B contains at least 11 tall men. But there are only 11 men in B. So on every such sharpening, every man in B, including the eleventh man, is tall. So it is (super-) true that the eleventh man is tall, by the supervaluational definition of (super-) truth.[16]

The counterexample seems immune to these two criticisms.

4. WHAT ABOUT INTRANSIGENCE OR SCOPE RESTRICTION?

So the coherence of the counterexample shouldn't be doubted. Now let's see how the two strategies that have been used to defend the principle against Carlson's indeterminate-relevance cases – intransigence and restricting the scope of the collapsing principle – cannot work here.

16 See Kit Fine, 'Vagueness, Truth and Logic', *Synthese* 30 (1975), pp. 265-300 and Rosanna Keefe, *Theories of Vagueness* (Cambridge, 2000).

Intransigence can't work, because the present counterexample does not pit one's semantic competence against the verdict of the collapsing principle. As we have seen, it is thereby not open to the defender to dig in and resist the intuition in question, since the 'intuition' is simply that outright contradictions are not permitted. What about claiming that, just as indeterminate relevance is ruled out as incoherent by the collapsing principle, so are borderline-cases? As we've seen, this would render the collapsing principle empty, and so is not a viable strategy.

Unlike the indeterminate relevance counterexamples, this counterexample exploits a 'two-level' strategy. The top level consists of comparative facts about sets, and the bottom level of categorical (noncomparative) facts about their members. By carefully constructing some sets and a comparative on them, and applying the collapsing principle at the top level, we draw implausible or contradictory consequences at the bottom level.[17]

What about restricting the scope of the principle? To pull this off, we would need to find some way of isolating the cases that ground the counterexamples, and excluding them in a principled way. If the collapsing principle is to be defended by restricting its scope, it would be better if that restriction were not ad hoc. (Though I don't think it succeeds, Constantinescu's restriction of the principle to resist the indeterminate-relevance counterexamples is admirably principled.)

Now, it *is* true that there will be many cases where the collapsing principle will not lead to contradiction for a given comparison. The weak point is the inference in our present counterexample from 'Set X is Fer than Set Y' to the conclusion that some designated member of X or Y, previously thought to be a borderline-case of some predicate, couldn't be borderline after all. The counterexample relies on these 'designated candidates': the eleventh man, and France,

17 I'm grateful to Walter Sinnott-Armstrong for suggesting this way of putting it.

for example.

But there are lots of cases where there will not be such a designated candidate, and thus an explicit counterexample (or contradiction) will not arise:[18]

> **The warships.** Say that a navy is more warlike than another just in case it has more warships than the other. Both the Royal Navy and the Marine Nationale have ten warships. Suppose also that this all the Marine Nationale has, but that the Royal Navy also has three borderline-warships. Then it is false that the Marine Nationale is more warlike than the Royal Navy, but not false (on the face of it, because indeterminate) that the Royal Navy is more warlike than the Marine Nationale.

Here, there is no designated candidate. Applying the collapsing principle, it is *true* that the Royal Navy is more warlike, so it must be true that the Royal Navy has at least one more warship. At least on many accounts of vagueness, this could be true that without it thereby being true that any *particular* or *determinate* member of the 'extra' British three ships is a (non-borderline) warship.

So could the collapsing principle be modified to take advantage of this, by restricting its application just to cases that lack designated candidates? This would be an adaptation of Constantinescu's strategy of restricting the scope of the collapsing principle.

But I don't see how this could be effective here. There doesn't seem to be principled way of fencing off these cases, and since there are so many sets containing more or less any object you care to consider, it's hard to see how the principle could be restricted without making its application very narrow indeed.

More or less anything that exists can be a member of a set, so we can run a similar trick on nearly any object that is a borderline-case of some predicate. Here is a general recipe: given an object v that is a borderline-case of some predicate F, consider three sets: (i) a set containing two

18 I owe this point to John Broome.

clear cases of F, (ii) a set containing v and one clear case of F, and (iii) a set containing just one clear case of F. Now define the comparative 'set-Fer', which is such that a set is set-Fer than another just in case it contains more F objects. Then we apply the collapsing principle to set-Fer in the usual way.

So the collapsing principle will allow us to derive contradictions from very many seemingly innocuous claims that so-and-so is a borderline case of some predicate. The scope of the collapsing principle cannot be usefully restricted: to avoid this recipe, as well as cases like that of the holiday-destination, any scope restriction would have to be extremely severe. But if the collapsing principle has such tightly restricted application, it cannot ground a general conclusion about value incommensurability, which is a very widespread phenomenon.

So it seems that neither digging in, nor restricting the scope of the collapsing principle, can work to defend it against these sorts of counterexample. The collapsing principle is false.

5. CONCLUSION

Broome's collapsing principle grounds a neat argument for incommensurability is vagueness. I have argued that it is vulnerable to a counterexample, and thus that it is false. This also provides independent support for the view that Carlson's examples really are coherent, and that they really are counterexamples to the collapsing principle: the main reason for thinking that there is something unwholesome about indeterminately relevant properties was that the collapsing principle seemed to rule them out.

But what about incommensurability as vagueness? My own view is that it is the most plausible account of incommensurability. However, the argument from the collapsing principle –

though strikingly neat and direct – cannot establish its truth. Incommensurability as vagueness must be defended via a less elegant, but (nearly) as decisive, consideration of its overall costs and benefits.[19]

19 I try to undertake that task in Elson, 'Incommensurability as Comparative Borderlineness' (unpublished manuscript).