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## VAGUE COMPARISONS

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### **Abstract**

Some comparisons are hard. How should we think about such comparisons? According to John Broome, we should think about them in terms of vagueness. But the vagueness account has remained unpopular thus far. Here I try to bolster it by clarifying the notion of *comparative vagueness* that lies at its heart.<sup>1</sup>

### **1. Introduction**

On January 29th, 2014, in the small town of Irbit in the Ural mountains, a retired schoolteacher stabbed his friend to death in a drunken row. Reportedly, the murder was the tragic conclusion of a dispute over the comparative question, *Which form of literature is greater, poetry or prose?*<sup>2</sup>

That anyone should die over this question seems at once noble and absurd. Not many people would be ready to risk life and limb for their literary credos—hence, the death’s nobility. But the issue also seems gravely misguided: no one should seriously expect there to be a definite answer to a question like this—hence, the death’s absurdity.

The question seems ill-posed in its over-generalality. What are we even meant to compare? All poetry against all prose? The ideal forms thereof? Some representative samples? The best samples? But even when the question is properly specified, the indeterminacy may still linger. Suppose we restrict our attention to just Pushkin and Tolstoy. Which of them is a greater writer? The answer may well be indeterminate. Specify the question even further: which is a better literary work, Pushkin’s *Eugene Onegin* or Tolstoy’s *Anna Karenina*? Again, the answer may elude us.

As with literature, so too with life: many of our everyday comparative questions simply do not seem to afford easy answers. Is it worth foregoing family intimacy for the sake of career advancement? Would I be doing more good by choosing a life of political activism over a career in academic philosophy? Should I trade some of my freedoms for more security? Would it be preferable

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<sup>1</sup> I have read earlier versions of this paper to the Philosophy Department at the University of York in March 2013; to the 8<sup>th</sup> European Conference of Analytic Philosophy at the University of Bucharest in September 2014; to the Ratio Conference on Indeterminacy in Ethics in April 2015; and to participants in a work in progress seminar at Birkbeck in November 2015. I am grateful to everyone who contributed to these discussions, especially to Mozaffar Qizilbash, Luke Elson, and Dorothy Edgington.

<sup>2</sup> Steve Gutterman, ‘Poetry or prose? Russian literary dispute ends in stabbing death’, Moscow: Reuters, January 2014.

to lie to my friend than to hurt her feelings by revealing an uncomfortable truth? All these questions involve comparisons which are very hard. But how should we account for such cases of incomparability?

One popular answer appeals to a notion of *value incommensurability*: some items (things, persons, actions, experiences, lives, states of affairs, etc.) are so diverse that there is simply no common measure between them—no way of bringing them together on the same scales. On a standard version of this view,<sup>3</sup> incommensurability is a matter of determinate failure of the trichotomy of value relations (*better than*, *worse than*, *equally as good as*). When two items are incommensurable, it is not the case that one of them is better, nor that they are equally good. One problem with this view is that it appears to overhit its target, by overemphasising the differences between evaluatively diverse items. It implies, implausibly, that debating the relative value of some options (e.g. Pushkin's poetry compared to Tolstoy's prose) is no less absurd than attempting to compare the sound of a theremin to the colour of an African violet. Perhaps no single scale can accommodate the latter pair of items, but there appears to be some common measure between Pushkin and Tolstoy, despite the fact that they are difficult to compare.

On an alternative view, developed most notably by John Broome, comparative breakdown is regarded instead as a relatively unexceptional phenomenon—a form of *comparative vagueness*.<sup>4</sup> On this account, two items are incomparable if it is neither determinately true nor determinately false that they are equally good and neither determinately true nor determinately false that either is better. There is, in other words, no determinate fact of the matter as to which of the three value relations obtains between incomparable items.<sup>5</sup>

Like Broome, I believe that cases of comparative breakdown should be explained in terms of vagueness. Nevertheless, the vagueness account has been

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<sup>3</sup> See Joseph Raz, 'Value incommensurability: some preliminaries', *Proceedings of the Aristotelian Society* 86 (1985-6), pp. 117–34.

<sup>4</sup> See John Broome, 'Is incommensurability vagueness?', in Ruth Chang (ed.), *Incommensurability, Incomparability, and Practical Reason*, (Cambridge, Mass.: Harvard University Press, 1997), pp. 67–89.

<sup>5</sup> There are several other notable accounts of comparative breakdown in the literature. According to some, incomparability is an epistemic phenomenon: given any suitably specified items, one of the trichotomy of value relations determinately obtains between them, but we cannot always know which (see Donald Regan, 'Value, Comparability, and Choice', in Chang, *Incommensurability*, pp. 129–50). Other authors have appealed to a notion of *rough equality*—see, e.g., Derek Parfit, *Reasons and Persons* (Oxford: O.U.P., 1984), at pp. 431–2. Yet others have articulated a notion of *parity*—see Ruth Chang, 'The possibility of parity', *Ethics* 112 (2002), pp. 659–88.

relatively unpopular in the literature.<sup>6</sup> To my mind, this is due to the fact that the notion of comparative vagueness has remained relatively little understood. Broome himself has not provided a comprehensive account of it, besides laying down a number of contentious principles which have been the primary target of much of the criticism garnered by his view. My aim in this paper is therefore to begin to put together the rudiments of a theoretical account of comparative vagueness. In doing so, I hope to also clear away some of the misapprehensions concerning this concept which occur in the literature.

## 2. Preliminaries

What is comparative vagueness? As a first pass, I propose the following characterisation: *comparative vagueness is vagueness in a comparative predicate*. For all its obviousness, this will have to be revised later: in fact, as I shall argue below, not all vague comparatives are instances of genuine comparative vagueness. But for now this provisional characterisation should suffice.

Comparative predicates are predicates of the form ‘*F*er than’, ‘less *F* than’, or ‘equally as *F* as’.<sup>7</sup> Syntactically, the comparative ‘*F*er than’ is constructed out of a simpler, non-comparative predicate ‘*F*’: thus, ‘better than’ is the comparative form of ‘good’, ‘taller than’ is the comparative form of ‘tall’, etc.<sup>8</sup> Not all predicates have comparative forms: ‘bachelor’, ‘square’, ‘geographical’, ‘hand-made’, etc. do not. These are *non-gradable* predicates, denoting properties which do not admit of degrees: something either is or isn’t a bachelor, and no thing can be more/less bachelor than any other thing. By contrast, predicates with comparative forms are always *gradable*: they denote properties which come in degrees and which can therefore be instantiated in different measures. This is crucial for the possibility of meaningful comparison: only if a property can be instantiated to differing degrees is it apt to ask which of two items possesses that property to a greater extent.

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<sup>6</sup> For objections to Broome’s vagueness account, see Erik Carlson, ‘Broome’s argument against value incomparability’, *Utilitas* 16 (2004), pp. 220–4; Johan Gustaffson, ‘Indeterminacy and the small-improvement argument’, *Utilitas* 25 (2013), pp. 433–445; and Luke Elson, ‘Borderline cases and the collapsing principle’, *Utilitas* 26 (2014), pp. 51–60. For two different ways of defending the vagueness account, see Cristian Constantinescu, ‘Value incomparability and indeterminacy’, *Ethical Theory and Moral Practice*, 15 (2012), pp. 57–70, and Henrik Andersson, ‘Propping up the collapsing principle’, *Ethical Theory and Moral Practice* 18 (2015), pp. 475–86.

<sup>7</sup> These are interdefinable. For instance, ‘*F*er than’ can be taken as primitive and used to define the other two terms as follows: *a* is less *F* than *b* iff *b* is *F*er than *a*; *a* is equally as *F* as *b* iff it is not the case that *a* is *F*er than *b* and it is not the case that *b* is *F*er than *a*.

<sup>8</sup> Conversely, I shall also sometimes say that a predicate ‘*F*’ is the positive form of ‘*F*er than’.

Interestingly, the degree semantics of gradable predicates engenders not just the possibility of comparison but also, famously, the possibility of vagueness in the positive forms of such predicates. Take, for instance, the predicate ‘tall’, which denotes a property that admits of discrete degrees corresponding to quantities of height. In addition to being gradable, ‘tall’ is also *tolerant* with respect to small degrees of change in the relevant property: if Aye is not-tall, then adding 1 mm to Aye’s height cannot make it the case that Aye is now tall. Following Crispin Wright, we can call a predicate ‘*F*’ tolerant with respect to a property  $\phi$  ‘if there is ... some positive degree of change in respect of  $\phi$  insufficient to ever affect the justice with which ‘*F*’ applies to a particular case’.<sup>9</sup> This, in turn, leads to indefiniteness: applying the principle of tolerance at every step in a series of successive additions, it follows that there cannot be any sharp cut-off point at which Aye becomes tall with the addition of 1 mm. But this famously engenders the sorites paradox: we would then be forced to conclude that even at 2.5 metres, Aye is not tall.

Recently, vagueness has been characterised in terms of *tolerance* or *sorites-susceptibility*.<sup>10</sup> To my mind, such accounts are too narrow: they apply only to *degree vagueness* of the kind instantiated by predicates like ‘heap’, ‘bald’, ‘red’, etc. But there are also other forms of vagueness, which cannot be explained naturally in terms of tolerance or sorites-susceptibility. Take, for instance, predicates like ‘nice’ or ‘religious’. In addition to being degree-vague, such terms also appear to exhibit a different form of vagueness: their use does not seem to be governed by determinate sets of necessary and sufficient conditions—instead, there are some criteria which are neither determinately relevant nor determinately irrelevant to their application. For example, is generosity among the criteria for being nice? Is adherence to a set of communal rituals (e.g. attending mass) a necessary condition for being religious? The answers to such questions may well be indeterminate. If so, then there are borderline cases of ‘nice’ and ‘religious’. Talk of tolerance seems inapposite in such cases: the issue at stake is not merely whether a small degree of change with respect to a certain property is enough to affect correct application, but whether in fact that property is even relevant to the application of the predicate. Moreover, cases like this will not necessarily exhibit sorites continua: if it is indeterminate whether generosity counts towards being nice, then a continuum formed by ordering

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<sup>9</sup> See Crispin Wright ‘Language mastery and the sorites paradox’, in Gareth Evans & John McDowell (eds.), *Truth and Meaning: Essays in Semantics* (Oxford: O.U.P., 1976), pp. 223-47.

<sup>10</sup> See, respectively, Patrick Greenough, ‘Vagueness: a minimal theory’, *Mind* 112 (2003), pp. 235–81; and Otávio Bueno & Mark Colyvan, ‘Just what is vagueness?’, *Ratio* 25 (2012), pp. 19–33.

people in terms of their generosity will contain borderline instances of ‘nice’ not just in its middle region, but across the entire gamut.

*Criterial vagueness* of the kind just described will prove relevant to our discussion of comparative vagueness below. For this reason, I will adopt here an account of vagueness wide enough to accommodate under its umbrella both degree and criterial vagueness. I have in mind the *indeterminacy account of vagueness* advocated by Brian Weatherson,<sup>11</sup> according to which a term is vague if there are cases in which it is indeterminate what the term stands for. In the case of predicates, indeterminacy is essentially borderlineness: a predicate *P* is vague if it has at least one borderline instance—i.e. an object of which it is indeterminate whether it belongs in *P*'s extension or in its anti-extension. The indeterminacy account generalises this intuition to cover non-predicates as well (e.g. names, modifiers, quantifiers, etc.)—an aspect which, as we shall see, will be relevant later. More generally, the indeterminacy account of vagueness can be stated as follows:

*Vagueness as indeterminacy:* For any term *T* in a natural language and any object<sup>12</sup> *r*, *T* is vague if the sentence ‘*T* denotes *r*’ is neither determinately true nor determinately false.

### 3. Comparatives: Sharp and Vague

Comparatives denote relations between pairs of objects. Given the above characterisation of vagueness, a comparative predicate ‘*F*er than’ will be vague just in case there is such a pair of objects,  $\langle a, b \rangle$ , such that it is neither determinately true nor determinately false that  $\langle a, b \rangle$  is in the extension of ‘*F*er than’.

Not all comparatives are vague in this sense. Interestingly, many of the predicates whose positive forms are paradigmatically vague—e.g. ‘tall’, ‘long’, ‘wide’, ‘small’, ‘heavy’, ‘cold’, ‘fast’, ‘old’, ‘cheap’, ‘expensive’, etc.—have perfectly sharp comparatives. In its positive form, the gradable predicate ‘tall’ is paradigmatically vague. However, the comparative ‘taller than’ seems perfectly crisp: barring cases of uncertainty stemming from imperfect measurement, it should always be possible in principle to determine which of two objects, *a* and *b*, is taller than the other, or whether they are equally tall. In other words, the

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<sup>11</sup> See Brian Weatherson, ‘Vagueness as indeterminacy’, in Richard Dietz & Sebastiano Moruzzi (eds.), *Cuts and Clouds: Vagueness, its Nature and its Logic* (Oxford: O.U.P., 2010), pp. 77–90.

<sup>12</sup> I use ‘object’ in the widest possible sense here, to mean not just particulars but also properties, relations, sets, functions, truth-values and any other type of entity that can be the referent of a linguistic sign.

ordered pair  $\langle a, b \rangle$  will either determinately belong to the extension of ‘taller than’ or determinately belong to its anti-extension.

But could not these sharp comparatives be easily ‘vagued up’, so to speak? Consider the following:

*Scenario 1:* Aye has a rather sizeable mole on the top of his head. Without the mole, Aye would be slightly shorter than Bee; with the mole, Aye would be ever so slightly taller. So, is Aye taller than Bee?

This seems to exhibit the required kind of indeterminacy: we have a comparative predicate, ‘taller than’, and an ordered pair,  $\langle \text{Aye}, \text{Bee} \rangle$ , and it is neither true nor false that the pair belongs to the predicate’s extension. In other words, the ordered pair  $\langle \text{Aye}, \text{Bee} \rangle$  would appear to be a borderline instance of ‘taller than’.

Scenarios like this are often used as textbook illustrations of comparative vagueness,<sup>13</sup> for they are taken to establish that even comparatives like ‘taller than’ can be vague, despite initial appearances.<sup>14</sup> On closer inspection, however, these turn out to be examples of vagueness of a non-comparative kind. Consider again the statement ‘Aye is taller than Bee’, uttered in a context like that described above. The first thing to note is that the vagueness here resides not in the comparative relation denoted by the predicate, but rather in one of the relata. What is indeterminate is just what counts as Aye’s height. But there is nothing specifically *comparative* about this: were we to eliminate the indeterminacy surrounding the (non-comparative) facts about Aye’s height (e.g. by stipulating that moles are not to be taken into account), there would be no vagueness left in the comparison.

This point can be reinforced by setting aside for a moment the issue of comparison and considering instead a non-comparative analogue of our case. Suppose Aye measures 180 cm with the mole and 179.5 cm without it. Exactly how tall is Aye? This may be vague—the sentence ‘Aye is exactly 180 cm tall’ seems indeterminate. But the vagueness at play is not predicate vagueness: expressions of the form ‘exactly  $x$  cm tall’ are paradigmatic examples of sharp predicates. Rather, the vagueness seems to reside in the name. The

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<sup>13</sup> See, e.g., Timothy Williamson, *Vagueness* (London: Routledge, 1994), at p. 156; also Rosanna Keefe, *Theories of Vagueness* (Cambridge: C.U.P., 2000), at p. 13.

<sup>14</sup> With some ingenuity, similar examples can be generated for many other gradable predicates which, like ‘tall’, appear to have sharp comparatives: indeterminacy surrounding the time of one person’s birth can make it indeterminate whether that person is older than another; indeterminacy about the molecular properties of a substance can make it indeterminate whether that substance is warmer than another; and so on.

indeterminacy account allows us to capture this very naturally: the name ‘Aye’ is vague because there are two objects or collections of particles,  $a$  and  $a^*$  (corresponding, loosely speaking, to Aye with and without the mole),<sup>15</sup> and it is indeterminate whether ‘Aye’ denotes  $a$  or  $a^*$ .<sup>16</sup> If that is so, then there are good grounds to insist that the vagueness in ‘Aye is taller than Bee’ should be traced back to one of the names in that sentence rather than to the comparative ‘taller than’.

So we have good reasons to resist the claim that ‘taller than’ and its cognates can be vagued up. What, then, counts as a good instance of comparative vagueness? Here’s a simple example featuring ‘balder than’, the comparative form of another paradigmatically vague predicate.

*Scenario 2:* We’re examining pictures of Gandhi and Churchill from the late 1920s. It is clear that by that time, both men were already determinately bald. However, whilst Gandhi had short, thinning hair distributed more or less evenly across his scalp, Churchill had longer, thicker hair distributed unevenly (leaving empty patches on his scalp). Which of them is balder?

This example displays all the trappings of vagueness: it is neither true nor false that ‘balder than’ applies to the pair <Gandhi, Churchill>, and so this pair is a borderline instance of that predicate. In addition to borderlineness, which is at the heart of the indeterminacy account adopted here, all the other attending phenomena of degree vagueness are present too: tolerance, indefiniteness and sorites-susceptibility. Suppose we start with a photograph depicting young Churchill, circa 1900, with a full head of hair. Every time Churchill loses one hair, another photo of him is automatically taken, until there’s no hair left on Churchill’s head. We then arrange these photos in a continuum and compare

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<sup>15</sup> I leave open here the possibility of ontic vagueness, as characterised in Elizabeth Barnes, ‘Ontic vagueness: a guide for the perplexed’, *Noûs* 44 (2010), pp. 601–27. Suppose we completely precisify the name ‘Aye’ by specifying that it refers to the clump of atoms  $a^*$ . If there’s still no fact of the matter as to whether Aye is exactly 180 cm tall, then the remaining vagueness is ontic (due perhaps to indeterminacy at the subatomic level in some of the particles making up the mole on Aye’s head, or some such). What matters for our purposes is that the vagueness at play is manifestly not predicate vagueness.

<sup>16</sup> Everyday instances of vagueness of this sort abound. According to official surveys, Mount Everest has an elevation of 8,848 metres above sea level. The surveys, however, measure to the tip of the summit’s snow cap. It is estimated that without the snow cap, the mountain would be up to 1 m shorter than official figures. However, the snow cap never melts completely, despite slight seasonal variations in thickness. So exactly how tall is Mount Everest?

each of them to a picture depicting Gandhi in the late 1920s. When comparing Gandhi to Churchill as depicted in the first photograph, it's determinate that the former is balder than the latter. If so, then Gandhi must also be determinately balder than Churchill as depicted in the second photograph, since the loss of one hair cannot make a difference with respect to whether the comparative 'balder than' correctly applies. This is the principle of tolerance. Applying it at every step in our series, we would get the absurd conclusion that Gandhi in the 1920s, who still has plenty of hair on his head, is determinately balder than a Churchill without a single hair on his head. We have thus generated a sorites for the predicate 'balder than'. As with any sorites, the conclusion is absurd. But there seems to be no sharp cut-off point in our series at which the predicate 'balder than' stops applying to the pair <Gandhi, Churchill>, and 'not balder than' starts applying instead. This is indefiniteness.

Similar examples can be generated easily for the comparatives of countless other gradable predicates (e.g. 'intelligent', 'kind', 'just', 'courageous', 'honest', 'nice', 'happy', 'beautiful', 'elegant', and their antonyms), but one instance suffices for our purposes here.

There are two upshots. Not all comparative questions which lack determinate answers are genuine instances of comparative vagueness—some, as we have seen in the case of 'Aye is taller than Bee', are red herrings. But there's also a more positive lesson: we have seen that among gradable predicates whose positive forms are vague, some have sharp comparatives (e.g. 'tall'/'taller than'), whilst others have vague comparatives (e.g. 'bald'/'balder than'). Call the former 'type 1' and the latter 'type 2' predicates. This two-type division has not always been appreciated fully. Some authors, for instance, have claimed that all comparatives are sharp.<sup>17</sup> Even authors like Broome,<sup>18</sup> who recognise the division, do not subsequently employ it to draw any conclusions about the nature of comparative vagueness. This is an underused conceptual tool that could yield significant insights: in particular, it could help us ascertain the conditions under which comparative vagueness tends to arise.<sup>19</sup>

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<sup>17</sup> See Neil Cooper, 'Paradox lost: understanding vague predicates', *International Journal of Philosophical Studies* 3 (1995), pp. 244–69.

<sup>18</sup> See Broome, 'Is incommensurability vagueness?', at p. 83.

<sup>19</sup> In general, I take it that when a class of objects can be systematically divided into two subclasses with respect to whether or not those objects exhibit a certain property  $\Phi$ , studying the differences between the two subclasses can help us ascertain the causal factors behind  $\Phi$ . This is the underlying principle of comparative-causal research in science.

#### 4. Non-Quantifiability and Multidimensionality

One salient difference between type 1 and type 2 predicates concerns, of course, tolerance. This is apparent from the scenarios we examined in §3. In Scenario 1, ‘taller than’ is not tolerant: the smallest difference in height is sufficient to affect the justice with which the term applies to a pair of objects.<sup>20</sup> But in Scenario 2, ‘balder than’ is tolerant with respect to small changes in the properties that are relevant to its application (number of hair follicles, density, thickness, etc.). This much is obvious. But is there a more substantive, underlying property, which type 1 predicates possess and type 2 predicates lack (or vice versa), and which could explain why only the latter are tolerant?

The most manifest feature of type 1 predicates is that they possess, while type 2 predicates lack, precisely quantifiable metrics. I will illustrate this with reference to ‘tall’ and its comparative. Associated with this predicate is a quantitative property, height, admitting of discrete degrees. The meaning of the positive form of the predicate can be informally glossed as ‘possessing a significant amount of, or standing out with respect to, height’.<sup>21</sup> This explains why the positive form is vague: words like ‘significant’ or ‘standing out’ draw imprecise borders around the upper region of the scale of height, leaving a borderline area consisting of degrees of height of which it is indeterminate whether or not they belong to the extension of ‘tall’. ‘Taller than’, on the other hand, expresses a comparative relationship between discrete degrees on the height scale. This scale is totally ordered and can be mapped onto the set of real numbers, leaving no room for vagueness in the comparative form of the predicate.

Similar considerations apply to all the other type 1 predicates. Like ‘tall’, they are gradable predicates, denoting properties that come in cardinally quantifiable degrees (length, width, mass, temperature, velocity, age, cost, etc.), with scales which are totally ordered and can be mapped onto the set of real numbers. The positive forms of such predicates are vague, but their

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<sup>20</sup> Suppose Aye and Bee are exactly equally tall down to the last millimetre. Add 1 mm. to Aye’s height. Aye is now taller than Bee: 1 mm. makes a difference between ‘taller than’ applying to the pair <Aye, Bee> and its not applying.

<sup>21</sup> So ‘Aye is tall’ comes out as saying that Aye has a significant degree of height, or that Aye’s height stands out. This is, of course, an oversimplification: there are further factors to be taken into consideration, such as context, comparison class, etc. Aye’s height can stand out in one context (e.g. compared to most individuals in Aye’s neighbourhood) but not in another (e.g. compared to the average height of basketball players). For my purposes here, it is not necessary to introduce such complications. For a full account of the semantics of gradable terms in connection with vagueness, see Chris Kennedy, ‘Vagueness and grammar: the semantics of relative and absolute gradable adjectives’, *Linguistics and Philosophy*, 30 (2007): 1–45.

comparative forms are sharp because they express relations between magnitudes on totally ordered degree scales. By contrast, most type 2 predicates denote properties which, by their very nature, appear to resist precise measurement and quantification.

The suggestion that non-quantifiability lies at the root of comparative vagueness may seem easily defeasible—indeed, it might seem that my example above provides a counterexample to it. ‘Balder than’ is vague, but the properties on which its application supervenes (the number of hair follicles on someone’s head, the average thickness of hair fibres, their density and the percentage of scalp covered with hair) afford exact measurement and quantification. Suppose these were the only dimensions that mattered and we had exact measures for each, enabling us to set out the characteristics of one’s pilosity numerically in the following fashion:  $P(w, x, y, z)$ , where the letters  $w - z$  represent numerical measures for amount of hair follicles, thickness, density, and percentage of scalp respectively. Even then, it’s conceivable that a comparison between two people yielding figures like  $P(9^5, 0.08 \text{ mm}, 150 \text{ h/cm}^2, 80\%)$  and  $P^*(8^5, 1.2 \text{ mm}, 200 \text{ h/cm}^2, 75\%)$  would remain indeterminate.

This, however, does not rule out the suggestion that non-quantifiability lies at the root of comparative vagueness. In this example, we were able to establish numerical measures for all the various dimensions contributing to baldness, but not for baldness itself. Although the subvening properties (hair number, density etc.) are precisely quantifiable, the supervening property of baldness is not—there is no single numerical measure that we could use to express the degree of one’s baldness, over and above the parameters established. At the level of each parameter, determinate comparisons can be made, precisely because there is complete quantifiability on each dimension: for instance, in this case we can say that the first person has more hair on his scalp than the second, whose hair is nevertheless thicker, etc. But we cannot say determinately whether the second person is balder than the first, because baldness and balder-than-ness supervene upon, but aren’t themselves, precisely quantifiable properties.

This highlights the importance of multidimensionality for non-quantifiability, and therefore for comparative vagueness. The reason why baldness is not precisely quantifiable is that there is no common scale for measuring hair number, thickness, density etc. If such a scale existed, then we could express the result of all our measurements as a single numerical unit, representing one’s degree of baldness, so to speak. In that case, ‘balder than’ would become completely sharp. But since number, thickness, density and distribution are different dimensions, the idea that there could be complete sharpness here is a pipe dream. This highlights the fact that comparative

vagueness is, ultimately, a form of incommensurability: it arises in virtue of there being no common measure encompassing all of our evaluative concerns.<sup>22</sup>

However, it should be noted that non-quantifiability can occur in unidimensional predicates as well. Some phenomenal predicates provide good examples. Take, for instance, the predicate ‘tastes sweet’, and its comparative ‘tastes sweeter than’.<sup>23</sup> The property of tasting sweet, I will assume, is unidimensional. It supervenes upon another unidimensional property, that of containing  $x$  amount of saccharides, which is precisely quantifiable. Unlike the subvening property, however, the supervening one of being sweet to the taste is not quantifiable, and therefore there will be cases where it is indeterminate which of two substances tastes sweeter than the other.<sup>24</sup>

But the two types of non-quantifiability—multidimensional and unidimensional—should not be conflated. One important difference concerns the degree of similarity between the items we’re comparing. If two solutions of sugar in water are such that it is indeterminate which of them tastes sweeter, then there’s a sense in which they must be qualitatively (and phenomenally) very similar. Notions like rough equality or parity then become apposite. If all instances of comparative vagueness were like this, then philosophers like Chang or Parfit, who advocate an understanding of incomparability in terms of parity or rough equality, would have a point. But cases of multidimensional non-quantifiability are different: there, the idea of qualitative similarity may not even get a foothold. If ‘balder than’ doesn’t make this amply evident, then consider another example.

*Scenario 3:* We’re comparing Cee and Dee in terms of intelligence. We suppose, for simplicity, that there are only two relevant dimensions: numerical and verbal ability. Standardised tests exist for

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<sup>22</sup> This, however, should not be read as a damaging concession to Raz. The question remains whether we should understand this type of incommensurability as hard indeterminacy (i.e. failure of the trichotomy), as Raz would have it, or rather as soft indeterminacy (i.e. comparative vagueness), as Broome would have it. If I’m right, we should opt for the latter.

<sup>23</sup> Broome offers ‘redder than’ as an example (‘Is incommensurability vagueness?’, p. 67), but there are reasons to doubt that colour predicates are unidimensional: at least three dimensions (hue, saturation, lightness), and possibly more, are commonly cited in colour theory.

<sup>24</sup> It may be objected that the case of taste cannot be completely unidimensional either, due to the unavoidable contribution that other taste properties will make to the substances’ phenomenological sweetness. One substance may taste sweet in the way bananas do, another in the way milk chocolate does. This would, indeed, reintroduce multidimensionality. But there’s no reason to suppose all cases have to be like this: for simplicity, imagine that we’re comparing the sweetness of two solutions of saccharide—say, sucrose and fructose—in water.

each dimension. Cee scores 97 points on the numerical test and 52 on the verbal test. Dee scores 75 on each test. Is Dee more intelligent than Cee?

There are a number of things to note here. Firstly, if the two dimensions of intelligence were straightforwardly additive, Dee would beat Cee by 1 point and would therefore be determinately the more intelligent of the two. But intelligence is obviously not an additive concept in this way. The reason for this is precisely that numerical and verbal abilities are dissimilar enough that no common measure seems appropriate. Notions like rough equality or parity also seem inapposite, because Cee and Dee are very different: Cee excels in maths but her linguistic abilities aren't so impressive, whereas Dee is well-rounded. To suggest that they are or on a par, or roughly equally intelligent, would therefore be seriously misleading.

## 5. Criterially Vague Comparatives

Consider now this example:

*Scenario 4:* We are trying to determine which of Eee and Eff is more virtuous. There are various dimensions (virtues) that are determinately relevant to our comparison: kindness, justice, honesty, etc. There is also an indeterminately relevant virtue: chastity. We're supposing, that is, that people's intuitions with regard to whether chastity is a virtue vary substantially, and that the experts (moral philosophers?) are also divided. Now, Eee and Eff are exactly equal with respect to all the virtues that determinately count, but Eff is chaster. Is Eff more virtuous than Eee?

The issue seems indeterminate. But the indeterminacy at play here is not degree vagueness. Suppose (wildly implausibly, of course) there were a precise metric for chastity, with degrees ranging from 1 to 100. Now imagine a continuum of Effs,  $\text{Eff}^1 \dots \text{Eff}^{100}$ , such that each Eff is exactly equal to Eee in terms of all the determinately relevant virtues, and  $\text{Eff}^1$  scores 1 point on the scale of chastity,  $\text{Eff}^2$  scores 2 points on the scale of chastity, and so on up to the perfectly chaste  $\text{Eff}^{100}$ , who scores 100 points on the scale. If chastity is neither determinately relevant nor determinately irrelevant to the application of the comparative predicate 'more virtuous than', then each of the pairs  $\langle \text{Eff}^1, \text{Eee} \rangle$ ,  $\langle \text{Eff}^2, \text{Eee} \rangle$ ,  $\dots$ ,  $\langle \text{Eff}^{100}, \text{Eee} \rangle$  will be a borderline instance of that predicate. No sorites gets going on this series of ordered pairs, because there is no transition (smooth or otherwise) from pairs to which the predicate determinately applies to pairs to which the predicate determinately doesn't apply. Notions like tolerance and

indefiniteness therefore do not arise. Rather, the comparative ‘more virtuous than’ is in this case *criterially* vague.<sup>25</sup>

Numerous examples of *criterially* vague comparatives can be generated with ease. If adherence to a set of communal rituals (e.g. attending mass) is indeterminately relevant to being religious, then two people who are exactly alike, except for the fact that one of them attends mass more often than the other, will form a pair which will be a borderline instance of the comparative ‘more religious than’. If being athletic is indeterminately relevant to being a good politician, then two politicians who are exactly alike, except for the fact that one of them is more athletic than the other, will form a pair which will be a borderline instance of the comparative ‘better politician than’. And so on.

But are these genuine examples of comparative vagueness? I want to suggest not. In all such cases, the *criterial* vagueness of the comparatives seems entirely derivative from the *criterial* vagueness of the relevant predicates’ positive forms. ‘More virtuous than’ is *criterially* vague in Scenario 4 because ‘virtuous’ is: eradicate the *criterial* vagueness in the positive form of the predicate (e.g. by stipulating that chastity is determinately irrelevant) and no *criterial* vagueness remains in the comparative.<sup>26</sup> In other words, the comparative’s *criterial* vagueness piggybacks entirely on the *criterial* vagueness of the positive form. This, as we shall now see, is not what happens in genuine instances of comparative vagueness.

## 6. Comparative Vagueness: Genuine vs. Derivative

Let’s return to Scenario 3—comparing Cee and Dee in terms of intelligence, on the assumption of complete *criterial* determinacy. Consider now a variant of this case, call it *Scenario 3\**, in which a new (and admittedly farfetched) supposition is introduced: namely, that we have eliminated, through linguistic fiat, all the vagueness from the non-comparative form of ‘intelligent’. For instance, imagine we have stipulated sharp thresholds on each dimension: anyone who scores 51 points or above on both numerical and verbal tests is

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<sup>25</sup> In addition to its being vague in the same way in which the comparatives in Scenarios 2 and 3 are vague: as we have seen, that kind of comparative vagueness (which, as I will argue in a moment, is in fact the only genuine kind of comparative vagueness) is rooted in non-quantifiability, and none of the virtues on most people’s lists (kindness, justice, honesty, loyalty, etc.) is precisely quantifiable.

<sup>26</sup> Of course, ‘more virtuous than’ can continue to be vague in other ways: for instance, if two people are virtuous in different ways—e.g. one compassionate but not very brave, the other courageous but not kind—it could well be indeterminate which is more virtuous. This type of vagueness, like that in Scenarios 2 and 3, is genuinely comparative (in a sense to be defined below).

determinately intelligent, and anyone who scores less than 51 on either is determinately not intelligent (however highly they score on the other dimension). Undoubtedly, as a precisification of our ordinary concept of intelligence, this would be wildly distorting. But if, for some reason, our overriding goal were to eradicate all vagueness at any cost, then this would be one way of achieving it.

Still, the question remains, will we have fully achieved our goal by laying down such stipulations? In Scenario 3\*, there would be no more room for vagueness in the application of the non-comparative predicate ‘intelligent’. But would this also eradicate comparative vagueness? Hardly. Cee scores 97 points and 52 points on the numerical and verbal test, respectively, so according to our stipulations she counts as determinately intelligent. So does Dee, who scores 75 on both tests. But which of them is more intelligent? The answer seems just as indeterminate as before.<sup>27</sup>

The point is not that comparative vagueness is somehow ineliminable—there are, of course, various ways we could get rid of it if we really wanted to. For instance, we could stipulate that scores on the mathematical and verbal tests are to be put on the same numerical scale and treated additively, leaving no scope for indeterminacy in comparative judgements: Dee would come out as being more intelligent than Cee (by a margin of 1 point). Alternatively, we could stipulate that scores on numerical tests are lexically prior to all other scores for the purpose of comparison. And so on.

My point is different: in Scenario 3\*, eliminating vagueness from the positive form of the predicate will not in itself eradicate comparative vagueness. An additional step is required for that, i.e. some stipulation concerning the way in which subscores on different dimensions are to be compared (or perhaps aggregated into one single score). This illustrates and amplifies a point that has already partly emerged above: *genuine comparative vagueness arises independently of the more familiar, non-comparative kind of vagueness* with which philosophers have been mostly concerned. Stipulating a precise boundary between a predicate’s extension and its anti-extension will tackle tolerance, borderliness and indefiniteness in the predicate’s positive form, thereby removing non-comparative vagueness. But comparative vagueness is a separate phenomenon: its roots lie in a form of non-quantifiability which isn’t necessarily eradicated by such stipulations.

In light of this, I propose the following litmus test for comparative vagueness:

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<sup>27</sup> A parallel argument can be run for ‘balder than’ in Scenario 2.

*(Genuine) comparative vagueness:* A statement of the form ‘*a* is *F*er than *b*’ is *comparatively vague* iff (i) it is indeterminate (i.e. neither determinately true nor determinately false) that the pair  $\langle a, b \rangle$  satisfies the predicate ‘*F*er than’, and (ii) it would remain indeterminate whether  $\langle a, b \rangle$  satisfies the predicate ‘*F*er than’ even in a situation in which the positive form of the predicate, ‘*F*’, were completely precisified (by stipulating a sharp boundary between its extension and its anti-extension) and the names ‘*a*’ and ‘*b*’ were also completely precisified (by stipulating precisely which clumps of atoms they refer to).

This litmus test is counterfactual:<sup>28</sup> it tells us that the vagueness we encounter in a comparative statement is genuinely comparative only if it would survive the hypothetical elimination of all non-comparative vagueness from that statement.<sup>29</sup> According to this test, although Scenarios 1–4 all involve indeterminate comparative statements, the vagueness at play is genuinely comparative only in Scenarios 2 and 3. In Scenarios 1 and 2, on the other hand, the vagueness of the comparative judgment is entirely derivative.

## 7. The Collapsing Principle

I now want to briefly apply this point to an issue that has generated some debate in the literature. Broome has proposed the following principle of comparative vagueness:

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<sup>28</sup> This is structurally similar to Barnes’ characterisation of ontic vagueness (see Barnes, ‘Ontic vagueness’, p. 604 ff.).

<sup>29</sup> This may seem overstated: wouldn’t this eradication of non-comparative vagueness presumably extend also to the kind of non-quantifiability that I have claimed lies at the root of comparative vagueness? Not necessarily. Vagueness and non-quantifiability should not be confused. In a case like Scenario 3\*, stipulating exactly which dimensions are relevant to our comparison and then setting precise thresholds on each dimension removes all forms of non-comparative vagueness: any person is either determinately intelligent or determinately not intelligent. All the same, the property of being intelligent remains non-quantifiable. Although the subvening dimensions (i.e. numerical ability and verbal ability) are assumed to be precisely quantifiable, the supervening property is not: there is no single metric for intelligence unless there is a method for aggregating, or at least weighing up precisely against each other, the scores on the two dimensions. Complete eradication of non-comparative vagueness does not entail complete eradication of non-quantifiability.

*The 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  $y$ .<sup>30</sup>

Broome uses this principle against Raz's incommensurability account, which he argues is incompatible with the existence of comparative vagueness. I will not rehearse that argument here.<sup>31</sup> Suffice to say that Broome's principle (and therefore the entire argument resting on it) has faced a host of counterexamples, which I think partly explains why the vagueness account of incomparability has not found many advocates. There are two main types of counterexample.

The classic counterexample, due to Erik Carlson,<sup>32</sup> should already seem familiar. Suppose Alf and Beth are two philosophers who are exactly equal on all the dimensions that determinately count towards goodness as a philosopher. The only difference between Alf and Beth is that Alf has greater rhetorical skill. But it's indeterminate whether rhetorical skill matters for being a good philosopher. In this case, it is false that Beth is a better philosopher than Alf, but neither true nor false that Alf is a better philosopher than Beth, which contradicts the collapsing principle.

Broome has responded to this kind of counterexample by expressing doubts about the notion of an indeterminately relevant property on which it relies,<sup>33</sup> but I hope to have done enough to motivate this idea in §4: in short, we are dealing here with criterial vagueness. To my mind, the best response is not to deny this phenomenon, but to point out, as I have done above, that the presence of criterial vagueness in a comparative predicate is not a genuinely comparative phenomenon. My litmus test provides the means to say this: in the example above, by resolving the criterial vagueness of 'good philosopher' one would also eradicate the criterial vagueness of 'better philosopher than'. Therefore, this is not a case of genuine comparative vagueness. But Broome's collapsing principle is explicitly meant to apply solely to cases of comparative vagueness. There is no

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<sup>30</sup> A corollary of the collapsing principle is the symmetry principle, according to which it is indeterminate that  $x$  is *Fer* than  $y$  if and only if it is indeterminate that  $y$  is *Fer* than  $x$ . For Broome's elaboration and defence of these principles, see 'Is incommensurability vagueness?', p. 74 ff.

<sup>31</sup> See Broome, 'Is incommensurability vagueness?', esp. pp. 72-66. I have also discussed this argument at length in 'Value incomparability and indeterminacy', p. 64 ff.

<sup>32</sup> See Carlson, 'Broome's argument against value incomparability', pp. 223-4.

<sup>33</sup> See Broome, 'Reply to Rabinowicz', *Philosophical Issues* 19 (2009), pp. 412-7, at p. 417. See also Andersson, 'Propping up the collapsing principle', pp. 480-1 for a similar move.

reason to expect it to extend to other types of vagueness which are not genuinely comparative.<sup>34</sup>

The second type of counterexample, due originally to Johan Gustafsson,<sup>35</sup> centres on determinately relevant but indeterminately instantiated properties. Suppose that Art and Bart are two prospective cavaliers, identical in all but one respect: Art is determinately bald, whereas Bart is borderline bald. Suppose also that baldness determinately contributes negatively to goodness as a cavalier. Then it is false that Art is a better cavalier than Bart, but neither true nor false that Bart is a better cavalier than Art, contradicting the collapsing principle.

Luke Elson has recently provided an ingenious variation on this type of counterexample,<sup>36</sup> involving the made-up comparative ‘settaller’, which is defined as follows: set X is settaller than set Y just in case set X contains more tall men than set Y. Now, suppose that set A contains 10 tall men, and set B contains 10 tall men and 1 borderline-tall man. It’s false that A is settaller than B, but neither true nor false that B is settaller than A, contradicting the collapsing principle.

My answer to this type of counterexample will be obvious by now. In both cases, the vagueness of the comparative can be fully traced back to the positive form of the predicate, and is in that sense derivative rather than genuine. This can be seen by applying the litmus test. In the Art and Bart scenario, there is vagueness in the predicate ‘good cavalier’ because one of its contributory dimensions (baldness) is vague. Eradicate that vagueness (by precisifying ‘bald’) and the specific kind of vagueness in the comparative ‘better cavalier than’ pinpointed by Gustafsson’s counterexample will also disappear.<sup>37</sup> In Elson’s scenario, it’s indeterminate whether B contains more tall men than A

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<sup>34</sup> Carlson also adduces several examples which are more like Scenario 1 above, in that the vagueness inherent in them appears to reside in the relata denoted by the names rather than in the comparative relation denoted by the predicate: e.g. comparing the surfaces of different countries (how exactly do we delineate such surfaces?). See Carlson, ‘Vagueness, incomparability, and the collapsing principle’, *Ethical Theory and Moral Practice* 16 (2013), pp. 449–63, at p. 455). I have shown in §3 why such cases should not be treated as genuine instances of comparative vagueness.

<sup>35</sup> See Gustafsson, ‘Indeterminacy and the small-improvement argument’, at p. 436. Gustafsson’s counterexample is also cited approvingly by Carlson in ‘Vagueness, incomparability, and the collapsing principle’, at p. 454.

<sup>36</sup> See Elson, ‘Borderline cases and the collapsing principle’, at pp. 55–6.

<sup>37</sup> Although, of course, ‘more cavalier than’ can continue to be vague in other ways: if Art is more gallant and Bart is more chivalrous, it could be indeterminate which is a better cavalier. This will be a genuine instance of comparative vagueness, but it will not contradict the collapsing principle.

because it's indeterminate whether the eleventh man in B is tall. Again, the vagueness in the comparative form 'contains more tall men than' is derivative from the vagueness of the non-comparative 'contains  $x$  tall men'. Eradicate the latter and the former disappears too. Since these are not genuine instances of comparative vagueness, they do not falsify the collapsing principle, which is a principle of comparative vagueness.

## 8. Concluding Remarks

I started this paper by invoking poetry, charity and freedom, but have spent the bulk of it discussing bald cavaliers. In a sense, I make no apology for that: it is essential to elucidate the most basic aspects of a notion before theorising more fully about it. In this kind of preparatory work, simple examples are often preferable because they afford a clearer view.

Let me summarise what I take myself to have achieved here. Some comparative predicates are vague, others are not. By reflecting on the differences between them, we find that comparative vagueness is rooted in a form of impreciseness, or non-quantifiability, which is in most cases associated with multidimensionality. But not all the comparatives that are vague are instances of genuine comparative vagueness: some are only vague in a derivative way. Genuine comparative vagueness is the kind of vagueness which would survive the eradication of all vagueness from the non-comparative form of a predicate. This result enables us to fend off various counterexamples to the collapsing principle, a principle that Broome employs to show that comparative vagueness is incompatible with the sort of incommensurability advocated by Raz. If the collapsing principle is vindicated, then Broome's case against incommensurability as determinate failure of the trichotomy still stands. This, finally, means that the vagueness account of incomparability remains a genuine contender.

But there is a lot more work to be done before a complete view of comparative vagueness as the true source of incomparability can begin to emerge. In some of this work, it will be crucial to attend carefully to more complex examples like those cited at the start of this paper. If, as I have argued, non-quantifiability and multidimensionality are the main roots of comparative vagueness, then value predicates, most of which exhibit both of these phenomena abundantly, will be prime study material. But that is work for another day.

What, then, is the significance of such an enquiry? According to one view (Raz's), comparisons sometimes break down because neither of the items we're comparing is better, nor are they equally good. According to another view (Broome's and mine), it's indeterminate whether one item is better or they are equally good. One may well be reminded here of Rabelais's depiction, in *The*

*Life of Gargantua and Pantagruel*, of the ‘perfect philosopher’ Trouillogan, who ‘is able positively to resolve all whatsoever doubts you can propose’. When Panurge, a companion of Pantagruel’s, is engulfed by doubt as to whether a life of matrimonial bliss is preferable to the adventures of a celibate, Trouillogan is enlisted:

Our loyal, honest, true, and trusty friend, the lamp from hand to hand is come to you. It falleth to your turn to give an answer: Should Panurge, pray you, marry, yea or no? *He should do both*, quoth Trouillogan. What say you? asked Panurge. That which you have heard, answered Trouillogan. What have I heard? replied Panurge. That which I have said, replied Trouillogan. Ha, ha, ha! are we come to that pass? quoth Panurge. Let it go nevertheless, I do not value it at a rush, seeing we can make no better of the game. But howsoever tell me, Should I marry or no? *Neither the one nor the other*, answered Trouillogan. The devil take me, quoth Panurge, if these odd answers do not make me dote, and may he snatch me presently away if I do understand you. Stay awhile until I fasten these spectacles of mine on this left ear, that I may hear you better.<sup>38</sup>

On the view of incomparability defended here, Trouillogan should have added a further flourish: neither *determinately* the one, nor *determinately* the other. If poor Panurge thought he may have misheard before, he definitely would have wanted to clean his spectacles upon hearing this new suggestion.

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<sup>38</sup> François Rabelais, *Five Books of the Lives, Heroic Deeds and Sayings of Gargantua and His Son Pantagruel*, translated by Gustave Doré (Derby: Moray Press, 1894), Book V, §xxxv (italics added).