Parity, Imprecise Comparability, and the Repugnant Conclusion
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Abstract: This article explores the main similarities and differences between Derek Parfit's notion of *imprecise comparability* and a related notion I have proposed of *parity*. I argue that the main difference between imprecise comparability and parity can be understood by reference to 'the standard view'. The standard view claims that 1) differences between cardinally ranked items can always be measured by a scale of units of the relevant value, and 2) all rankings proceed in terms of the *trichotomy* of 'better than', 'worse than', and 'equally good'. Imprecise comparability, which can be understood in terms of the more familiar notions of cardinality and incommensurability, rejects only the first claim while parity rejects both claims of the standard view.

I then argue that insofar as those attracted to imprecise comparability *assume* that all rankings are trichotomous, as Parfit appears to, the view should be rejected. This is because imprecise equality is not a form of equality but is a sui generis 'fourth' basic way in which items can be ranked. We should, I argue, understand imprecise equality as parity, and imprecise comparability as entailing 'tetrachotomy' – that if two items are comparable, one must better than, worse than, equal to, or on a par with the other. Thus those attracted to the idea that cardinality can be imprecise should abandon trichotomy and accept parity and tetrachotomy instead.

Finally, I illustrate the difference between Parfit's trichotomous notion of imprecise comparability and parity by examining how each notion might be employed in different solutions to the problem posed by the Repugnant Conclusion in population ethics. I suggest that parity provides the arguably more ecumenical solution to the problem.

Keywords: Parfit, imprecision, imprecise comparability, imprecise equality, Chang, parity, on a par, incommensurability, incomparability, the Repugnant Conclusion, trichotomy, tetrachotomy, structure of normativity

IT IS A SPECIAL PLEASURE and honour to be able to celebrate Derek Parfit on the occasion of his award of the 2014 Schock Prize.

I begin this article with a few words about Parfit's impact on me personally and on the discipline more generally.

It is sometimes said that philosophy cannot be taught. But I have no doubt that Parfit made me into a philosopher. If it weren't for his guidance and mentorship, I would most certainly not be a philosopher today. It is not only his unfailingly generous spirit and purity of philosophical drive – which have been no doubt a guiding light for dozens of philosophers he has trained – that make him such an extraordinary presence on the

philosophical scene. His rich and powerful writings, especially his groundbreaking *Reasons and Persons*, have set the agenda and shaped decades of writing in ethics, population ethics and personal identity. His latest magisterial work, *On What Matters*, promises to be central to this century's developments in both ethics and metaethics; and his forthcoming work in population ethics and in the philosophy of time will, I suspect, revolutionize thinking in those areas as well. There are very few philosophers of whom one can say that *all* of their writings have made significant contributions to the discipline; Parfit, it seems to me, is one of those few. Watching him do philosophy, and doing philosophy with him off and on over the past twenty-odd years, has been an eye-opening honour and privilege.

One of the things I admire most about Parfit's work is that it seems so often *right* – and illuminatingly so. But celebrations of a philosopher's work do not take the form of untarnished homage, however genuinely felt and well warranted. Instead, we must poke and prod, question or criticize. So it is in that spirit – more of poking and prodding than questioning and criticizing – that I want to explore a matter concerning normativity about which Parfit and I seem to disagree.

When, as a graduate student, I first presented Parfit with my idea that two items could be *on a par* – comparable and yet neither of them better than the other nor both equally good because not like scientific quantities – Parfit did not laugh in my face, as a less open-minded philosopher might have done, but instead encouraged me to work on the idea. As it turned out, he had had a related idea of *imprecise comparability*. And as I worked on my dissertation, I hoped that our ideas were more or less the same, and that imprecise comparability would be a way in which parity could be explained or expressed.[1] Over the years, however, as I continued to talk to Parfit and think about parity, it has become clear to me that Parfit's imprecise comparability and my parity are distinct notions that are underwritten by distinct views about normativity. Our respective conceptions entail different views about what I will call the 'structure of normativity'.

In this article I explore the main similarities and differences between imprecise comparability and parity in relation to what I will call the 'standard view' of normativity. As I will suggest, while proponents of either imprecise comparability or the standard view can share a particular view of the structure of normativity, proponents of parity reject that view. Thus imprecise comparability departs from the standard view *adverbially*, as it were, that is, only in the *way* the structure of normativity is realized. Parity, in contrast, departs from the standard view by entailing an alternative structure. Along the way, we will distinguish two conceptions of imprecise comparability: the neutral conception, which proponents of parity can accept, and the trichotomous conception, which they cannot. I suspect that Parfit favours the trichotomous conception,

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[1] Other views I assimilated to my own include Griffin's (1986) and Hurka's (1993) 'rough equality'. I now suspect that Griffin had in mind some kind of value indeterminacy and Hurka had in mind something more akin to Parfit's imprecise equality.

and I want to give some reasons for thinking that he should instead accept parity and imprecise comparability neutrally conceived.

At the end of the article, I briefly examine how Parfit's imprecise comparability and my parity respectively lead to different solutions to a problem Parfit made famous in *Reasons and Persons:* how to avoid the Repugnant Conclusion. By 'lead to' I mean not logically, but rather genetically: if you start with one notion, you will naturally be attracted to one solution, and if you start with the other, you will naturally be attracted to a different solution. In his article for this volume, Parfit proposes a solution to the problem posed by the Repugnant Conclusion that relies on his conception of imprecise comparability. I suggest that parity provides an alternative, arguably more ecumenical, solution.

1. The Structure of Normativity and the Standard View

Practical normativity includes values, normative reasons, and the conclusions of Practical Reason, roughly the faculty or domain that takes values and reasons as inputs and delivers as outputs conclusions about what you should do.

The 'structure' of a value, as I will use the term, is given by the basic ways in which a value can relate two items.[2] Justice, for instance, can relate acts, policies, outcomes, it seems in one of three basic ways: one item can be better than the other with respect to justice, it can be, worse, or the two can be equally just. If, as it seems, valuse can relate items in only one of three basic ways – by 'better than', 'worse than', or 'equally good' – values are 'trichotomous' in structure. Indeed, a trichotomous structure of value is quite natural; it mirrors the structure of non-evaluative criteria like length, weight and volume. Just as one item can be only greater than, lesser than or equal to another in the non-normative realm, it can be only better than, worse than or equal to another in the evaluative realm.

Trichotomists about the structure of value are typically also trichotomists about the structure of practical reasons, that is, about the basic ways in which practical reasons normatively relate. Just as one item can only be better than, worse than or equal in value to another, one reason can only be stronger than, weaker than or equally strong as another.[3]

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[2] By 'basic' relation, I mean a relation in terms of which other relations can naturally be understood. There are of course many ways to carve up a domain of relations. The standard trichotomy of relations, for instance, can be equivalently expressed in terms of logical operations on 'at least as good as'. Since, however, this way of expressing the standard view obscures the main point of difference between imprecise comparability and parity, I represent the standard view in terms of the usual trichotomy.

[3] For some theorists about practical reasons, it will be doubtful that there is some set of basic relations by which reasons can be normatively related. I argue against such doubts in Chang (2015).

Finally, trichotomists about the structure of value and the structure of practical reasons are likely to be trichotomists about the structure of Practical Reason, that is, about the kinds of basic conclusions there can be as to what one practically ought to do. When faced with a choice between two alternatives, it seems that there can only be one of three conclusions as to what you should do: you have most reason to do one thing, most reason to do the other, or sufficient reason to do either.

Thus not only is the structure of value and practical reasons commonly thought to be trichotomous, so too are the conclusions of Practical Reason itself. When the structures of values, practical reasons and Practical Reason are all trichotomous, I will say that normativity has a trichotomous structure. For simplicity, my focus will be on value, but the points can, I believe, be extended to reasons and the conclusions of Practical Reason more generally.

The assumption that normativity has a trichotomous structure is part of what we might call the of normativity. On the standard view, there are three basic ways items can evaluatively relate, three basic ways reasons can normatively relate, and three basic answers to the question of what you practically ought to do.

Now the standard view makes a claim not only about the structure of normativity, but also about its "character". The structure of normativity imposes a ranking on items, and this ranking can have a variety of features. These features constitute the character of normativity, that is, the *way* in which a normative structure is realized. For our purposes, we focus on one feature: the magnitude of the differences between items in the ranking.

Some rankings are *merely ordinal*; there is no information about the magnitude of the differences between ranked items that cannot be derived from their mere order. We can set those rankings aside since they are not relevant for our purposes. *Cardinal* rankings, by contrast, contain non-derivative information about the magnitude of the differences between ranked items. The structure of length, for instance, imposes a ranking that contains information about how much longer one item is than another. And justice might be understood in a way that admits of a cardinal ranking: the difference in justice between a pair of policies can be significant or trivial.

Notice that our use of "cardinal" is neutral on the question of how the magnitude of differences between cardinally ranked items is to be measured. According to the standard view, cardinal rankings are measurable by reference to a scale of units by which the items are ranked.[4] Thus a cardinal ranking, on the standard interpretation, is a ranking in which

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[4] Henceforth reference to 'units' should always be understood as implying units that are part of a scale of units – allowing of course that there may be many such scales – by which other items with respect to the relevant value can be measured. The idea that a unit belongs to a scale of units is needed to block the degenerate case in which the evaluative difference between two items, whatever it might be, is stipulated to be the unit that measures the evaluative difference between them.

the magnitude of the difference between items is given by some (whole, rational, or real) number of units on a scale: if A has more units than B, it is better; fewer, worse; and if A and B have the same number of units, they are equally good. There are two main types of cardinal scale, an *interval* scale, which has no absolute zero, such as the Celsius temperature scale, on which the difference between 10 and 20 units on the scale is the same as the difference between 17 and 27 units and a *ratio* scale, which has an absolute zero, such as the meter scale for length, on which 20 units on the scale is twice as great as 10 units. In measure-theoretic terms, a cardinal ranking is unique up to either affine or linear transformations.

This view of cardinality is what we might, following Parfit, call *precise*: cardinally comparable items have differences that can be measured on a scale of units of the relevant value. If the difference between two items can be represented by a number of units – twice as bad, 6.34 units better, and so on – the items are precisely cardinally comparable. This is not to say that there *are* units of value in any ontologically weighty sense. The point is rather that, when items are cardinally comparable, the magnitude of their difference can be represented by some number of units.

In sum, the standard view makes two claims:

1. *Structure*: Normativity is *trichotomous* in structure, that is, there are only three basic ways in which two items can evaluatively relate – as being better, worse or equal to one another – and similarly for practical reasons and the conclusions of Practical Reason.
2. *Character*: The character of normativity is either merely ordinal or precisely cardinal. All cardinal rankings that realize the structure of normativity are *precise*, that is, the differences between items on such a ranking can be represented by some unit on a scale of relevant value.

It is against these claims that we will be understanding imprecise comparability and parity.

2. Incommensurability and Imprecise Comparability

Two items are *precisely comparable* when they are cardinally comparable and their evaluative differences can be measured by a unit of the relevant value. If we negate the precision of precise comparability, we get imprecise comparability: two items are *imprecisely comparable* when they are cardinally comparable but their evaluative differences cannot be measured by a unit of value.

I believe that we should accept imprecise cardinal comparability. But I also think that Parfit's terms of art, "precision" and "imprecision", duplicate existing terms we have for the same ideas, and so we can describe precise and imprecise comparability in more familiar terms. I suggest that we understand precise comparability in terms of commensurability and imprecise comparability in terms of cardinal comparability and

incommensurability. Understanding imprecise comparability in these terms also helps us to see why the proponents of the standard view think that cardinality must be precise.

Two items are commensurable with respect to some value just in case they can be measured by some common scale of units of that value. They are incommensurable with respect to some value just in case they cannot be so measured. This is the correct, etymologically sound, meaning of the term "incommensurable"; the idea traces back to the Pythagoreans, who first noticed that $\sqrt{2}$, the length of diagonal of the unit square, could not be put on the same scale of units of length as 1, the length of the side of the unit square. Since those lengths – so they thought, since they were unaware of real numbers – could not be measured by a common unit of length, they were *assumetros*, or what we now know as 'incommensurable'.[5]

Note that, while two items might be commensurable with respect to one value, they might be incommensurable with respect to another. Suppose you could save either the life of your child or those of two strangers. With respect to the value of saving the greatest number of lives possible, saving your child and saving two strangers are commensurable: saving the strangers is twice as good as saving your child. But with respect to the goodness of saving lives, they might be incommensurable. The respect in which items can be related or not is what I have called a *covering consideration*. Two things are never ranked *simpliciter*, but only relative to a covering consideration. Although I will sometimes omit talk of a covering consideration, one should always be implied. Thus two items are incommensurable with respect to V just in case there is no scale of units of V-ness on which they can be ranked.

If two items can be measured by a common unit of value, they are precisely cardinally comparable with respect to that value. Commensurability entails *precision* in the representation of the evaluative difference between two items and *vice versa*: precise comparability entails that the items ranked are commensurable. Indeed, a ranking of commensurables *just is* a precisely cardinal ranking of them. Thus we can do away with the term 'precise comparability' and speak instead of the more familiar idea of commensurability.

If two items cannot be measured by a common unit of value, they are not precisely cardinally comparable; there is no interval or ratio scale by which their value can be measured. Thus, they are either not cardinally comparable, or if they are cardinally comparable, they are not *precisely* cardinally comparable but *imprecisely* cardinally comparable. The evaluative difference between them has some magnitude, but it cannot be measured in units.

Incommensurability – the idea that there is no unit of value by which the relevant value of items can be measured – entails *imprecision* in the evaluative difference between two

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[5] Thanks to Alan Code for confirming the etymology of the term in conversation. See also Heath (1921).

items, assuming there is such a difference. If two items are cardinally comparable but incommensurable, they will be *imprecisely comparable:* the magnitude of the evaluative difference between them cannot be measured by units of the relevant value. And if two items are imprecisely comparable, they will be incommensurable. But incommensurable items need not be imprecisely comparable since there might be *no* evaluative difference between them. Incommensurable items may not be cardinally comparable.

Thus we might understand imprecise comparability as follows. Two items are imprecisely comparable with respect to V just in case they are (i) *incommensurable* with respect to V – there is no scale of units that measures their V-ness – and (ii) they are *cardinally comparable* with respect to V – the comparison between them includes non-derivative information about the magnitude of the difference in V between them. Strictly speaking, we could do away with the term 'imprecisely comparable'. But since our aim is to explore the differences between Parfit's imprecise comparability and parity, it will be useful to keep the term in play.

Imprecise comparability poses a challenge to the standard view by entailing that cardinality can be not only precise, but also imprecise. Cardinally comparable items can be commensurable, but also incommensurable. But imprecise comparability as we have understood it is neutral on the question of normativity's structure. So imprecise comparability departs from the standard view only in the *way* in which the structure of normativity, whatever it might be, is realized.

Can cardinally comparable items be incommensurable? Aristotle thought that many goods are incommensurable with respect to human flourishing; there is, he urged, no unit that measures the value to human well-being of both beds and shoes. Both conduce to human flourishing, but there are no "flourishons" in terms of which their respective contributions to flourishing can be measured. Indeed, it seems plausible that most of the interesting comparisons we make between items allow for cardinal differences between them, and yet these differences cannot be measured by some unit of value. Take for example the achievement of a lifetime goal and the enjoyment of a gourmet meal. With respect to making your life go well, the achievement is better than the meal, and by a lot. So there is cardinal information about their evaluative difference. But it is hard to believe that there is some unit of well-being by which we could determine that the achievement is 6.4 times or 9.23 units better than the meal. We have cardinal comparability, but the information about the magnitude of evaluative difference between them is imprecise.

3. Does Cardinal Comparability Require Commensurability?

I have just claimed that cardinally comparable items can be incommensurable. If that is right, then why does the standard view say otherwise? Why think that cardinal comparability requires commensurability?

It is worth noting that some philosophers have argued that it is a mistake to think that there is a common measure of the value of both commodity goods and 'status' goods like friendship and human life. One argument runs as follows: The rationality of your attitude

toward a good is a function of whether that attitude properly reflects the value of that good. If the value of your friendships is commensurable with that of toaster ovens, it would be rational for you to have the same attitudes toward both goods. But while it is rational to have respect and awe toward your friendships, such attitudes are irrational when taken toward toaster ovens. Therefore, friendships and toaster ovens cannot be measured by the same unit of value.[6]

Nonetheless, many philosophers – not to mention economists, decision theorists, measurement theorists, lawyers, bioethicists, management theorists, and even decision apps you can download on your phone – assume that cardinal comparability requires commensurability. But the assumption is just that: an assumption. To the best of my knowledge, it has never been explicitly or directly defended; rather, it operates in the background of much work on rationality, value and practical reason.[7] So we might turn to diagnosis instead: Can we debunk the assumption by explaining why it might be so readily assumed?

One such explanation might appeal to pressures to believe that commensurability is widespread. If commensurability is widespread, then it is natural to think that whenever we have cardinal comparability it will turn out that we have commensurability. It is then a short slide to the modal claim that cardinal comparability requires commensurability. We don't have to understand this sequence of thought uncharitably, as involving a logical error, but can instead recognize it as a natural, if not quite deductive, line of thought.

Two pressures seem to favour the belief that commensurability is widespread. One is theoretical. If there were widespread commensurability, we could mathematically model the normative relations among items. Indeed, normative expected utility theory, social choice theory, cost-benefit analysis, and the like, purport to do just that. If correct, they provide theoretically satisfying, rigorous models for thinking about the normative.

The other pressure is pragmatic, and it can be traced all the way back to Aristotle. Although beds and shoes are incommensurable, bedmakers must be shod and cobblers must be well-rested: we need to be able to trade incommensurables. Aristotle's solution was to invoke what he considered to be an artificial commensurans – money – by which incommensurables could be commensurated for the purposes of trade. So while dollar units do not in fact measure the value to human flourishing of either beds or shoes, they provide a basis for trade between them.

Neither of these pressures, of course, *justifies* the claim that commensurability is widespread. Indeed, if items are incommensurable, then a mathematical model that presupposes the contrary, however elegant and formally satisfying, loses its descriptive and normative point. And if beds and shoes are in fact incommensurable, an artificially

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[6] See e.g., Anderson (1993), Lukes (1997), Nussbaum (1986 and 1990), Radin (1987) and Sunstein (1997).
[7] See e.g., Broome (1991).

imposed commensurans invoked as a basis for trade between them cannot *justify* or warrant such trades as fair.

Indeed, both pressures support, not the belief that items are commensurable, but the belief that they are *imprecisely comparable*, that is, incommensurable and cardinally comparable. If items are incommensurable and cardinally comparable, that is, if their evaluative differences have a magnitude that cannot be represented by some number of units, then modelling value *as if* they can be so represented can be understood as an idealization – justified on theoretical and pragmatic grounds – of underlying imprecision. The truth is that items are *imprecisely* cardinally comparable, but we can model their values *as if* they were precisely cardinally comparable as a way of achieving a theoretically satisfying approximation of their value. This approximation may then, in turn, be a basis on which we can make fair trades: beds and shoes are imprecisely cardinally comparable, but six pairs of Louboutin stilettos make a fair trade for one Sealy Pillow-Top.

So one debunking explanation goes as follows. It is easy to believe that cardinal comparability requires commensurability because there are pressures to believe that commensurability is widespread. But the pressures misfire: they support instead the belief that items are imprecisely cardinally comparable, that is, cardinally comparable and incommensurable.

Another explanation turns on the attractiveness of there being a parallel between the normative and the non-normative. The standard view, as we have already noted, permits a striking isomorphism between 'better than', 'worse than' and 'equally good' in the normative domain, and 'more than', 'less than' and 'equal' in the non-normative. Given the assumption that normative and non-normative rankings have isomorphic trichotomous structures, why not think that those structures are also realized in the same way? If non-normative differences between items with respect to length can be represented by units of length, then why not think that evaluative differences between two items with respect to justice can be represented by a units of justice? Normative rankings are like non-normative ones not only in structure but also in character.

So a second explanation of why so many thinkers have assumed that cardinally comparable items must be commensurable is that they have unreflectively assimilated the character of non-normative rankings to normative ones. But, again, we have yet to see grounds for this assimilation.

In short, we should not simply assume that cardinality must be precise. In the absence of argument to the contrary, we should make room for imprecise comparability: we should allow that when two items have some magnitude of evaluative difference between them, that difference may not be measurable in units. Items may be cardinally comparable without being commensurable.

4. Incomparability

Incommensurability is often confused with incomparability. As we've seen, incommensurable items may nevertheless be comparable. But what is it for two items to be incomparable? Just as it was helpful to approach imprecise comparability by first understanding incommensurability, it will be helpful to approach parity by first understanding incomparability.

According to the standard view, normativity is trichotomous in structure, and thus when that structure (determinately) fails to hold, items will be incomparable. Two items are incomparable with respect to V just in case one is not better than the other, worse than it, or equally good with respect to that V.

Must normativity have a trichotomous structure? If so, we can *define* incomparability*, as many philosophers and economists do, as holding between two items whenever neither is better than the other and nor are they equally good. A simple thought experiment, however, shows that, insofar as we mean to capture our ordinary notion of incomparability, this would be a mistake.

> Imagine a community of 'dichotomists' who believe that if two items are comparable, one must be better or worse than the other. The structure of normativity is dichotomous; there are only two basic ways in which one thing can be normatively related to another, 'better than', and 'worse than'. Across the river is a community of 'trichotomists' who hold the standard view about the structure of normativity, that is, they believe that there are three basic ways in which one thing can be normatively related to another: 'better than', 'worse than' and 'equally good'.
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> One day a dichotomist and trichotomist meet while fishing on the river and compare the fish they have caught. The trichotomist says to the dichotomist, '"The fish you caught and the fish I caught are equally good."
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> The dichotomist is perplexed. "What is this relation of being 'equally good'? If your fish isn't better than mine, it is worse than it; otherwise our fish are incomparable."
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> The trichotomist is dumbfounded. "No, there is a third way our fish could evaluatively relate beyond being better or worse than one another. They can be equally good. That's a third, basic relation that could hold between comparable fish. Here's an argument that it exists: Take your fish, of which you are so proud. Now consider its duplicate. Surely your fish and its duplicate are comparable with one another and yet comparable in a way that's different from how things are comparable when one thing is better or worse than another thing. That difference in how they compare is marked by a third basic relation, 'equally good'."

What is important about this thought experiment is how *we* can hear the story. We can hear it is as a clash between two stipulative definitions of 'comparable'. In this case, the

trichotomist and the dichotomist are fishing boats passing in the night. But we can also hear it as a genuine, substantive disagreement about the basic ways in which items can evaluatively relate. In particular, we can hear the dichotomist as making a *mistake* in overlooking a third basic relation. The trichotomist tries to convince the dichotomist that there is a third relation by leveraging a shared notion of comparability. Comparability obtains when there is some basic relation that holds between items, and incomparability obains when there is no basic relation that holds between them. What the basic relations are, however, is an open question.

This shows that our intuitive notions of comparability and incomparability do not have built into them the idea that, in order for items to be comparable, they must be related in one of the usual trichotomy of ways. We should understand the standard view as making, not a conceptual claim about the structure of normativity, but a substantive one requiring defence.

Thus if none of the usual trichotomy of relations holds between two items, it would be premature to conclude that they are incomparable. There is conceptual space in our concepts of comparability and incomparability for the possibility of a fourth basic value relation, what I have called 'on a par', beyond the usual trichotomy of 'better than', 'worse than' and 'equally good'. Items that are neither better nor worse than one another and yet not equally good need not be incomparable. They might be on a par.

5. Parity

Items are on a par when they are comparable, but one is not better than, worse than, or equally good as the other. This is not a definition of parity since, as we have seen, which basic relations exhaust the conceptual space of comparability is a substantive matter open to debate. But it will do as a gloss.

Parity entails that normativity has a *tetrachotomous* structure. One item can be better or worse than the other, the two can be equally good, or they can be *on a par*. A reason can be stronger than, weaker than, equal to, or *on a par* with another. And there are four possible basic conclusions of practical reason: you can have i) most reason for one thing; ii) most reason for the other; iii) sufficient reason for either because the evaluative difference between them is zero (equality); iv) sufficient reason for either because the evaluative difference between them is non-zero but does not favour one over the other (parity) – about which more in due course.[8] Parity entails a non-standard view of the structure of normativity. And since precise cardinality entails trichotomy, by *modus tollens*, tetrachotomy rejects precise cardinality and so entails a non-standard view of normativity's character. Thus accepting the relation of parity requires rejecting both claims of the standard view.

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[8] For a fuller view of what it is rational to do in the face of typical cases of parity, see Chang, ms. See also Chang, 2013b.

The idea that there could be a fourth basic way in which items could normatively relate may seem puzzling. After all, Lady Justice, holding her balance scale, allows only three ways items can relate with respect to justice: if the one pan is heavier, that item is more just, if it is lighter, it is less just, and if the pans are evenly balanced, the items are equally just. How could there be some *fourth* way in which two items relate with respect to justice?

I believe that puzzlement over parity has at its root the unreflective assumption that normativity has the same structure – and indeed character, as we already noted in our discussion of incommensurability – as non-normative quantities like weight, length and volume. When we compare quantities, a balance scale provides an appropriate model. But why should we think that justice, beauty and love are appropriately modelled in the same way as weight and length? Indeed, on its face, it seems absurd to think that models appropriate for measuring quantities are also appropriate for measuring our deepest and most cherished values. Lady Justice suggests both trichotomy and precision where there may be neither.

Parity typically holds between items that bear very different aspects of V and yet are nevertheless "in the same neighbourhood" of V-ness. Consider a comparison of Mozart and Michelangelo with respect to creativity. They differ widely in the ways that they bear creativity: Mozart bears values contributing to musical creativity and Michelangelo those contributing to creativity in the visual arts. Yet with respect to creativity overall, they are in the same neighbourhood of value: they are both creative geniuses. Indeed, when two items are very different with respect to V but nevertheless are in the same neighbourhood of V-ness, a trichotomist might conclude that they are incomparable. A career as a clarinettist might be in the same neighbourhood of overall value as a career as a lawyer, even though each career bears very different aspects of being a good career. Joseph Raz (1986) thinks that the careers are incomparable. But if they are in the same neighbourhood as far as goodness as a career goes, then why think they are incomparable?[9]

Just as the trichotomist must give arguments to convince the dichotomist that he has overlooked a third relation, the tetrachotomist has to provide arguments to convince the trichotomist that she has overlooked a fourth relation. Some of those arguments will exploit shared concepts to show that parity is possible (Chang, 2002b). Others will provide suggestive abstract models of value relations that make room for parity (Chang, 2002a, 2005; Rabinowicz, 2008, 2011, 2012; Gert, 2004), while yet others will attempt to give formal (Carlson, 2010) or informal (Andreou, 2015) accounts of parity in other

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[9] This is not to say that parity holds whenever items are in the same neighborhood of value, or can be represented by the same "grade" or "category" of value, A, B, C, etc. Sometimes items that are both "As" with respect to V are equally good with respect to V. Cf. Andreou (2015). The point is rather that it is hard to see why we should think they are incomparable. I have canvassed and criticized the seven main arguments for incomparability in Chang (1997).

terms.[10] Still others, and probably in the end most persuasive, will provide arguments showing that there is important philosophical work that only parity can do or can do better than other standard notions (attempts made in Chang, 2009, 2012, 2013a, 2013b). The case for parity has to be made piecemeal, but, like the trichotomist addressing the dichotomist, the tetrachotomist begins with the fact that there is nothing in our concepts of comparability and incomparability that rules out the possibility of a fourth basic relation.

Here I want to examine what I take to be the conceptual foundations of parity, which in turn underwrite a simple model of value relations (Chang, 2002a). I suggest that we understand value relations in terms of *evaluative differences* between items. Evaluative differences can be individuated along two dimensions: (1) *bias* or *direction*, that is, whether the difference favours an option or "points to" one of them, and (2) *magnitude*, that is, whether the difference has some extent and is therefore nonzero. We can understand the range of basic value relations as follows:

Value relation	Bias	Magnitude
A is better than B	✓	✓
A is worse than B	✓	✓
A and B are equally good	✗	✗
A and B are on a par	✗	✓
[A and B are incomparable	n/a	n/a]

Figure 1

If A is better than B, then the evaluative difference between them is biased towards A, and the difference has magnitude. If A and B are equally good, their evaluative difference is not biased and has zero magnitude. If A and B are incomparable, then talk of the bias or magnitude of their evaluative difference is inappropriate, since part of what it is for two items to be incomparable is for there to be no evaluative difference – even a zero difference – between them.[11] So there are two ways in which there can be "no" evaluative difference between items, either because the evaluative difference has zero magnitude, as

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[10] I understand each of these attempts as nonreductive though I am unclear whether their authors intend them to be.

[11] Although I place the case of incomparability in the table in order to help illustrate the difference between incomparability and parity, 'is incomparable' is not a basic value relation but entails that no such relation holds. Of course, if items are incomparable with respect to V, they might nevertheless be comparable with respect to values that contribute to V-ness.

in the case of equality, or because no evaluative difference exists, not even a zero difference, as in the case of incomparability. If A and B are on a par, then their evaluative difference does not favour one alternative over the other – it has no direction – but it nevertheless has magnitude. Why shouldn't we think that there could be evaluative differences that have magnitude but do not favour one item over another?

Understood in terms of unbiased evaluative differences with magnitude, parity will plausibly have certain formal features. 'On a par' will be irreflexive (A is never on a par with itself: the two are equally good); symmetric (if A is on a par with B, then B is on a par with A); and non-transitive (if A is on a par with B, and B on a par with C, then it does not follow that A is on a par with C). So parity differs from equality in that only the former is irreflexive and non-transitive. It differs from incomparability because it is a basic relation of comparability, not the denial that any basic relation holds.

Parity is in one way like equality in that it has no bias, but it is like being better and worse in that it has magnitude. How is this possible? Return to Mozart and Michelangelo. Each is characterized by very different aspects of creativity (and the evaluative difference between them has magnitude) while both are excellent with respect to creative genius (and the evaluative difference between them is not biased towards one over the other). Paradigmatic cases of parity have just these features.

There are other ways to model a tetrachotomy of value relations. Consider Adam Morton's 'diamond' model (Morton, 1991). Morton is a trichotomist, and he wants to represent the possibility of incomparability as the points at the ends of the horizontal axis of a diamond shape and comparability as its vertical axis. We can co-opt his representation as one of parity instead: while the vertical dimension of a diamond shape represents the relations of the usual trichotomy, the horizontal dimension represents parity, the possibility that the magnitude of evaluative differences need not be either biased or zero. There is also Wlodek Rabinowicz's supervaluational model of value relations (Rabinowicz, 2008, 2011, 2012). According to Rabinowicz, the value of an item is to be understood as a function of the attitudes it is 'fitting' to have towards the item, and value relations are understood as a function of the attitudes of preference, indifference, or a lack of practical attitude one is permitted to have.[12] Parity holds when it is permissible to prefer A to B and permissible to prefer B to A, and *either* permissible to be indifferent and permissible to lack an attitude *or* just permissible to be indifferent. Finally there are supervaluational models of rankings according to which there are legitimate, permissible rankings of A and B according to the usual trichotomy of relations; parity holds when some permissible rankings hold that A is better, some that A is worse, and some that A and B are equally good (cf. Chang, 2002a).

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[12] Rabinowicz's is the most detailed model of value relations that makes room for parity. It is worth noting, however, that his model depends on a substantive view of value that we might reject, namely that value is to be understood in terms of fitting practical attitudes.

It is easy to overlook parity because we make an unreflective assumption about the magnitude of evaluative differences between items. We assume that if there is an evaluative difference, it must be modelled by quantities – more, less or equal – and this assumption entails that all magnitudes must either have direction or must be zero. But why should we think that evaluative differences are like non-evaluative differences in weight or length in this respect?

Recall from our discussion of incommensurability that whether two items are commensurable can depend on whether the covering consideration is one that admits of measurement by units on a scale. Some covering values, such as the 'goodness of the number of lives saved' force a trichotomous ranking of items related in that respect. Such covering values are akin to covering considerations in the non-normative domain, such as length and weight. Most covering values, however, are not like length and weight. If we compare two alternatives with respect to the 'goodness of lives saved', for instance, trichotomy is not forced upon us. One alternative might save an adult human and a parakeet while the other might save a child and a colony of ants. Which is better with respect to the goodness of lives saved? Perhaps the alternatives are on a par.

Thus parity can arise when the structure of V is tetrachotomous, permitting a fourth relation between two items with respect to V-ness. When two items have an unbiased, nonzero evaluative difference with respect to V-ness, like Mozart and Michelangelo with respect to creativity, they are on a par with respect to V. It is the structure of creativity that explains why Mozart and Michelangelo can be on a par with respect to creativity. Once we see that values need not have the same structure as length or weight, the possibility that they have a non-trichotomous structure comes into view.

6. Parity and Imprecise Comparability – Taking Stock

Two items are on a par with respect to some covering consideration only if they are comparable and one is not better than, worse than or equally good as the other. They stand in a fourth basic relation beyond the standard trichotomy. Typically, items on a par will be evaluatively very different with respect to the covering consideration but nevertheless in the same neighbourhood of value with respect to that consideration.

Two items are imprecisely comparable with respect to some covering consideration just in case they are cardinally comparable – there is some magnitude of evaluative difference between them – and incommensurable –that magnitude cannot be measured by reference to a scale of units. I suggested that imprecise comparability is most plausible when the covering value does not have built into it a scale of units on which bearers of that value can be ranked, and I pointed out that most covering values are like this.

Imprecise comparability departs from the standard view in its implications for the character of normativity: cardinal rankings can be imprecise. Since imprecise comparability is neutral on the question of the structure of normativity, it is in principle compatible with trichotomy. Parity, in contrast, requires rejecting trichotomy: normativity is tetrachotomous, not trichotomous. Moreover, since precise cardinality

implies trichotomy, parity also entails that the standard view is incorrect as to the character of normativity; cardinality need not be precise. Items can be cardinally comparable and incommensurable. Parity, then, departs from the standard view in both its aspects; it denies that normativity is trichotomous in structure and that its cardinal character is precise.

I suggest that we accept both parity and imprecise comparability. How might we combine the two? In particular, how should we understand the magnitudes of the differences between items in a tetrachotomous ranking if there is no underlying unit by which those magnitudes can be measured? One simple way to get non-precise cardinal information is by ranking differences. We can rank not only items with respect to V, but also differences between them with respect to V. A tetrachotomous ranking of the differences might determine, for example, that the difference between A and B is smaller than the difference between B and C: the difference in creativity between Mozart and Michelangelo could be less great than the difference in creativity between Mozart and Talentlessi. And since such a ranking is tetrachotomous, two such differences might instead be on a par. The point here is not to provide a model of tetrachotomous cardinality but to explain how parity and imprecise comparability might combine to offer us an alternative view of normativity.[13]

7. Parfit's Notion of Imprecise Comparability

So far, we have understood imprecise comparability as neutral on the question of the structure of normativity. That is why imprecise comparability is compatible with parity. Let us call this the 'neutral' conception, since it is compatible with both trichotomy and tetrachotomy. As we have seen, imprecise comparability, neutrally understood, departs from the standard view only in the way the structure of normativity is realized.

But we could also understand imprecise comparability non-neutrally, and in particular, trichotomously, by building into its conceptual foundations a trichotomous conception of the structure of normativity. I suspect that Parfit accepts a trichotomous conception of imprecise comparability. Even if I have misinterpreted Parfit on this score, this conception is worth exploring since it would appeal to anyone who thinks, as do Parfit and I, that cardinally comparable items can be incommensurable, and yet, unlike me but perhaps like Parfit, is reluctant to give up trichotomy about the structure of normativity. I want to argue that imprecise equality, trichotomously conceived, must be rejected. In its place, I suggest, we should accept parity, and thus tetrachotomy about the structure of normativity.

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[13] I have not discussed mere ordinality, but we might intuitively model tetrachotomous ordinality as follows: imagine the trichotomous ordinal relations as occupying positions on a two-dimensional list, with equally good items occupying the same position on that list. If we expand our list to three dimensions, we can include the possibility that some items are merely ordinally on a par. Parity is distinguished from the usual trichotomy by occupying a third dimension of a ranked list.

Here is what Parfit says about imprecise comparability. He first introduces the idea of "rough comparability" in *Reasons and Persons*:

> Rough comparability is, in some cases, merely the result of ignorance. When this is true, we believe that there is in principle precise or full comparability … [Sometimes], [t]he rough comparability is … *intrinsic*, not the result of ignorance. Must it be true of Proust and Keats, either that one was the greater writer, or that both were *exactly equally as great? There could not be, even in principle, such precision.* But some poets are greater writers than some novelists, and greater by more or less … Such intrinsic rough comparability holds, I believe, … for the goodness of certain kinds of outcome. (Parfit, 1984, p. 431, emphasis added)

The idea of rough – now "imprecise" – comparability is further described in his article for this issue of *Theoria*:

> There can be fairly precise truths about the relative value of some things. One of two painful ordeals, for example, might be twice as bad as the other, by involving pain of the same intensity for twice as long … When two painful ordeals differ greatly in both their length and their intensity, there are no precise truths about whether, and by how much, one of these pains would be worse. There is no scale on which we could weight the relative importance of intensity and length. Nor could five minutes of ecstasy be precisely 7.6 times better than ten hours of amusement … When two things are qualitatively very different, these differences would often make it *impossible* either that one of these things is better than the other by some precise amount, or that both things are precisely equally good. (Parfit, 2016, emphasis added)[14]

Moreover:

> Many people assume that, when there are truths about the relative goodness of different things, these truths must be precise, though we may not know what these truths are. There is one way of thinking which can make this seem the only possible view. If things of some kind can be better or worse than others, and by more or less, it may seem that the goodness of these things corresponds to their positions on some line or scale of value. On this *Linear Model*, truths about goodness must be precise because positions on a line are precise … But when two things are qualitatively very different, that *couldn't be true*. So when we think about the goodness of such things, we should reject this Linear Model. (Parfit, 2016, emphasis added)

And:

> Like some other important truths, these truths about imprecision can be hard to understand, not because they are complicated, but because they are so simple. When some things are better than others by precise amounts, such differences are like the distances between positions on some line, and that is a simple idea. But when some things are better than others but these differences are imprecise, the truth is even simpler. Such differences in value do *not* have the further feature that they are like distances on some line. They *are not* like such distances because they are not precise. (Parfit, 2016)

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[14] Parfit's qualification that being qualitatively very different would "often" make precision impossible is puzzling given his claim a few paragraphs later that precision and representation by the Linear Model "*couldn't be true*" for qualitatively very different items. I will assume that the unqualified claim represents his actual view.

And:

> When one of two things is better than the other, that is often all we need to know, since it doesn't
> matter whether this difference in value is precise. But when neither of two things is better than the
> other, we may need to know whether *this* relation is precise. (Parfit, 2016)

Finally, in conversation, Parfit sometimes explains imprecise comparability by saying that there are *six* relations all told: *'precisely better than'*, *'precisely worse than'*, *'precisely equally good'* – the precise version of the usual trichotomy – and *'imprecisely better than'*, *'imprecisely worse than'*, *'imprecisely equally good'* – imprecise versions of the usual trichotomy.

I believe that Parfit's talk of precise and imprecise *truths* is a way of expressing truths about precise and imprecise cardinal differences between items. As he says later, "we should not assume that [truths about what is better or worse] must be able to be represented by using scales or numbers" (Parfit, 2016). I think he has in mind here truths about precise and imprecise differences. If that is right, then we can safely assume that Parfit understands imprecise comparability as cardinal comparability between items whose difference cannot be measured by reference to a scale of units. So far, so good. That is just our neutral conception of imprecise comparability, that is, cardinal comparability with incommensurability.

It appears, however, that Parfit supposes something further, namely that imprecise comparability is to be understood trichotomously, that is, as having as its conceptual basis the idea that only three relations could hold between any two items, either a trichotomous precise set or a trichotomous imprecise set. The evidence for this is mostly circumstantial, given by what is implied by what he explicitly says, such as: that the trouble with approaches to certain puzzles in normativity is the assumption of *precision* and we need to adopt *imprecision* instead; that qualitatively very different items could not admit of precision but must be evaluated imprecisely, where application of precise vs. imprecise relations of the trichotomy seems to be mutually exclusive; and that if neither of two items is better or worse than the other, there is only *one* other relation that could hold, and we may need to know of "this relation" whether it is precise. There is also what he does not explicitly say; for example, he does not say that the trouble with approaches to certain puzzles in normativity is the assumption of trichotomy; nor does he conclude from his discussion that, for any pair of items, there are, in principle, four and not three basic relations in which items might normatively stand with respect to each other.[15]

I am going to assume that Parfit holds a trichotomous conception of imprecise comparability. According to this conception, the relations of imprecise comparability are derived from or based on the standard trichotomy of relations, 'better than', 'worse than' and 'equally good'. The imprecise trichotomous relations are derived from the usual trichotomy by adding the constraint that the evaluative differences between

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[15] It is perhaps worth noting that Parfit appears to be a trichotomist about practical reasons and about the conclusions of Practical Reason. See Parfit (2011).

trichotomously ranked items cannot be measured on a scale of units, while the precise trichotomous relations are derived from the usual trichotomy by adding the constraint that the evaluative differences they describe can be measured on such a scale.

But there is a difficulty. Whatever constraint needs to be added to get us from 'better than' and 'worse than' to 'imprecisely better than' and 'imprecisely worse than', respectively, is *not* the same constraint that will get us from 'equally good' to 'imprecisely equally good'. This is because 'imprecisely better than' and 'imprecisely worse than' are both species of 'better than' and 'worse than', respectively, but 'imprecisely equally good' is *not* a species of 'equally good'. While imprecise betterness and imprecise worseness can be derived in this way from the usual trichotomy, imprecise equality cannot.

To see this, note that while "equally good" is reflexive and transitive, "imprecisely equally good", as Parfit tells us, is non-transitive (and presumably non-reflexive). As Parfit writes, "two things are imprecisely equally good if it is true that, though neither thing is better than the other, there could be some third thing which was better or worse than one of these things, though *not* better or worse than the other" (Parfit, 2016).[16] Thus A can be imprecisely equal to B, and B imprecisely equal to C, and yet A could be worse than C and not imprecisely equal to it.[17] In short, imprecision in the evaluation of one item as better or worse than another is one thing, but imprecision in evaluating them as equally good is quite another.

Since imprecise equality is not a form of equality, but rather appears to be a distinct relation beyond the standard trichotomy, it is a mistake to understand trichotomy as providing the conceptual basis for imprecise comparability.[18] The fundamental problem with the trichotomous conception of imprecise comparability is that it mistakenly supposes that the relation between "imprecisely better" and "better" (and between

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[16] We should add the assumption of comparability here, otherwise 'imprecisely equal' will also include the cases of incomparability, or we should change the 'if' to 'only if'.

[17] Moreover, imprecise equality entails that 'not better than' and 'not worse than' are nontransitive, while the standard relations and imprecise versions of 'better than' and 'worse than' do not. It could be true that A is not worse than B which is not worse than C and yet A is not worse than C because they are imprecisely equally good. This feature becomes relevant in our discussion of Parfit's solution to the Repugnant Conclusion problem at the end of the article.

[18] It is worth noting that Parfit thinks that imprecise equality should treated practically in the same way as equality and incomparability – you have sufficient reason to choose either and there is no reason, given by the way the alternatives relate, not to flip a coin between them. Because he thinks that the structure of Practical Reason is trichotomous, he doesn't distinguish between different ways in which you can have 'sufficient reason' to choose either of two alternatives. This is another way his imprecise equality differs from parity, but going into the details of this difference would take us too far afield.

"imprecisely worse" and "worse") is the same as the relation between "imprecisely equal" and "equal". This assumption is false. But without it, we cannot understand imprecise comparability trichotomously, that is, in terms of the usual trichotomy of relations.

There are other possible interpretations of imprecise comparability that maintain trichotomy, but of a nonstandard sort. It might be suggested, as Parfit himself sometimes seems to, that imprecise comparability has as its conceptual foundation the trichotomy of *precise* relations. On this view, the imprecise relations might be derived from the precise ones by "fuzzing up" the evaluative differences between precisely comparable items (cf. Hsieh, 2005). Imprecise comparability would just be precise comparability with each precise relation swapped out for its imprecise counterpart. This suggestion, however, suffers from the same problem as above: the relation between precise betterness and imprecise betterness is not the same as the relation between precise equality and imprecise equality. By "fuzzing up" equality, we change the formal properties of the relation so that we no longer have a species of equality. Imprecise equality, insofar as it is an irreflexive and non-transitive relation, is not the imprecise counterpart of precise equality, which is reflexive and transitive. We cannot simply replace precise equality with imprecise equality, because imprecise equality is not a form of precise equality. Moreover, the precise trichotomy is not properly regarded as basic; rather, it is a species of the standard trichotomy of relations 'neutrally' conceived.

Another possible interpretation might hold that imprecise comparability is derived from the trichotomy of relations 'better than', 'worse than' and 'loosely equivalent to'. 'Loosely equivalent to' would be understood as the disjunction of precise equality and imprecise equality. We could then derive imprecise equality from one of a trichotomy of relations. But now we are allowing a fetish for trichotomy – of any sort – overrun plausibility about how to understand the ordinary notion of equality. Should we really understand it in terms of the gerrymandered relation 'loosely equivalent to'?

There seems to be no plausible trichotomous basis from which we can derive Parfit's relations of 'imprecisely better', 'imprecisely worse' and 'imprecisely equally good'. Although it appears that Parfit assumes that his trichotomy of imprecise relations can be derived from the usual trichotomy (or perhaps from the precise set), we see that such an assumption would be a mistake. Imprecise equality cannot be derived from the standard trichotomy as can the other imprecise relations because imprecise equality is not a form of equality.

We are left with a striking conclusion. *If we accept imprecise comparability as a view about comparability that includes imprecise equality, we must give up the standard trichotomous view about the structure of normativity.* Any appearance to the contrary turns on the mistaken idea that the imprecision in imprecise betterness is the same as the imprecision in imprecise equality. Once we recognize that imprecise equality cannot have the standard trichotomy as its basis, we are naturally led to the thought that imprecise equality represents a fourth, *sui generis* relation beyond those of the standard trichotomy. We might, so as not to confound it with equality, call it 'parity'. In this way, from Parfit's

trichotomous conception of imprecise comparability, we are led to parity and thus to tetrachotomy about the structure of normativity.

There is another route from imprecise equality and imprecise comparability to parity and tetrachotomy. Recall that Parfit suggests that qualitatively very different items can stand in any of the three imprecise relations but cannot be *precisely* equally good: "…when two things are qualitatively very different, that [they are precisely equally good] *could not be true*" (Parfit, 2016).[19]

But we might ask, could qualitatively very different items be equally good – not precisely or imprecisely, but just plain old equally good? Parfit overlooks this question because, I suspect, he thinks that equality must be either precise or imprecise. He thinks that qualitatively very different items cannot be precisely equally good because there is no scale of units by which the differences between those items can be measured. But the ordinary notion of being equally good does not have built into it the idea that items can be equally good only if there is some such scale of units.[20] Indeed, the conceptual truth that an item and itself are equally good makes no appeal to a scale of units on which the two measure equally. The same goes for substantive claims about duplicates.

There is some reason to think that qualitatively very different items can be equally good. Suppose you enjoy your afternoon cup of coffee with a splash of whiskey. With respect to enjoyment, the spiked coffee and its duplicate are equally enjoyable. Now take a cup of coffee that is identical in its non-evaluative properties except that the splash of whiskey has been replaced with a dollop of chocolate essence. Could the coffee-with-whiskey and the coffee-with-chocolate be equally enjoyable? By hypothesis, the drinks are qualitatively very different with respect to enjoyment – the coffee-with-whiskey gives you a sharp, peaty kick in the pants, while the coffee-with-chocolate gives you a mellow

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[19] A clarification. It might be supposed that by 'qualitatively very different' Parfit means items that are *intrinsically* qualitatively very different. But intrinsically qualitatively very different items *could* be precisely comparable, depending on the covering consideration in terms of which they are being ranked. An act that saves a human life is intrinsically very different from an act that saves a colony of ants, but the latter can be precisely better than the former with respect to the value of saving the greatest *number* of lives, a covering value that counts each life as equally valuable. Indeed, it might be 2.64 million times better. In the same way, an act that saves 1 human life can be precisely equally good as an act that saves 1 ant life, with respect to the goodness of number of lives saved. We should thus understand 'qualitatively very different' as relative to a V.

[20] It might be thought that equality permits measurement by a unit in a degenerate sense since it maintains that there is 'no' difference between equally good items with respect to V, and one can arbitrarily jimmy up a scale of V for which the difference between equally good items is 'zero'. But this is to misunderstand the idea of a scale of value, which is not generated by taking the evaluative difference between two items and then stipulating it as the unit of measure of the scale. See also n. 4.

and comforting buzz. Could they be equally enjoyable? Or is it, as Parfit seems to suggest, *impossible* that you enjoy them equally?

I have appealed to considerations like these in what I have called the Small Improvement Argument. That argument begins with two items, neither of which is, by hypothesis, better than the other with respect to V. It then suggests that a small improvement with respect to V in one of the items does not necessarily make the improved item better than the other with respect to V. When discussing that argument, I was careful not to claim that a small improvement in V-ness in one of the items *could not* make the improved item better than the other with respect to V, only that it *need not.* Here we want to allow for the possibility that the coffee-with-whiskey could be neither better nor worse than the coffee-with-chocolate with respect to enjoyment, and that there is *no* improvement in the enjoyability of one of them that would fail to make it more enjoyable than the other. Is this plausible? One way it could be plausible is if the covering value, enjoyment, does not admit of fine-grained rankings. If enjoyment is a crude affair, any improvement in the enjoyability of one drink might necessarily make it more enjoyable than the other. At the same time, it could be that coffee-with-extra-whiskey is imprecisely better than both the original coffee-with-whiskey and the coffee-with-chocolate, and that each of these is imprecisely equally enjoyable as a coffee-with-espresso-shot. I do not see any reason to rule out the possibility of covering values that have such features. We should allow that some covering values might be structured to allow all four relations to hold of qualitatively very different items.

This possibility is not restricted to cases of trivial importance. Consider the justice of a particular government policy. It is a conceptual truth that the policy and itself are equally just. Now remove some aspect of the equality it would achieve and substitute instead an increase in well-being for some number of people. Is it *impossible* that two such policies are equally just? Could there be no tradeoff between equality and well-being that would render the policies equally just? At the same time, could it be true that some policies are better or worse than others, but nevertheless imprecisely so? Finally, why not think that two qualitatively very different policies might be what Parfit calls imprecisely equal? I believe that there are no good grounds for ruling out these possibilities, and thus that we should allow that qualitatively different items could be equally good.

If qualitatively very different items *can* be equally good, and if, as Parfit maintains, they can also stand in any of the relations 'imprecisely better', 'imprecisely worse' or 'imprecisely equally good', then we have four and not simply three relations that could hold between qualitatively very different items. Since imprecise equality is not a form of equality, we might then say that there are four relations that could hold between qualitatively very different items: 'better than', 'worse than', 'equally good' and 'on a par'. Once again, we are led to abandon trichotomy in favour of parity and tetrachotomy.

With respect to the structure of normativity, I suggest that we adopt parity and therefore tetrachotomy. With respect to the cardinal character of normativity, I suggest that we adopt imprecise comparability, neutrally conceived. Between any two items, then, there are four basic relations that could hold: 'better than', 'worse than', 'equally good' and 'on

a par'. And the evaluative differences between cardinally comparable items can be incommensurable: when any tetrachotomous ranking includes information about the magnitude of the differences between items, those differences may not be measurable by a scale of units of value.

8. How to Avoid the Repugnant Conclusion

I want to end by considering how a trichotomous conception of imprecise comparability, on the one hand, and parity and a neutral conception of imprecise comparability, on the other, respectively underwrite competing solutions to one of the central problems in population ethics, how to avoid the Repugnant Conclusion.

In his article for this issue of *Theoria*, Parfit proposes a solution to this problem. I believe that he arrives at his solution in part because he holds a trichotomous conception of imprecise comparability. I want to offer a genetic story of how someone who is a trichotomist and yet is attracted to imprecise comparability might naturally arrive at Parfit's solution, raise a question about it, and then suggest how a proponent of parity might naturally arrive at an alternative, arguably better, solution.

Recall that the problem posed by the Repugnant Conclusion involves a continuum of possible outcomes in which each successive outcome involves a slight decrease in the well-being of its people but some large increase of the number of people leading lives at that level of well-being.[21] The problem is that if each successive outcome is better with respect to 'goodness as an outcome'[22] than its predecessor – as it seems it is, if the number of people added is sufficiently large and the decrease in well-being sufficiently small and if 'better than with respect to goodness as an outcome' is transitive – we are forced to the repugnant conclusion that a world at the end of the continuum, Z, in which there are vast numbers of people whose lives are barely worth living, is better than a world at the beginning of the continuum, A, in which there is a smaller but still significant number of people all leading excellent lives. An illustration is given in Figure 2.

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[21] I restrict my attention to the Continuum Argument, and I abstract away from various issues that could be raised about it, in order to focus on what I take to be the core issue relevant to Parfit's proposed solution.

[22] Slippage in such covering considerations helps to explain *some* continuum puzzles. But I can't pursue this point here.
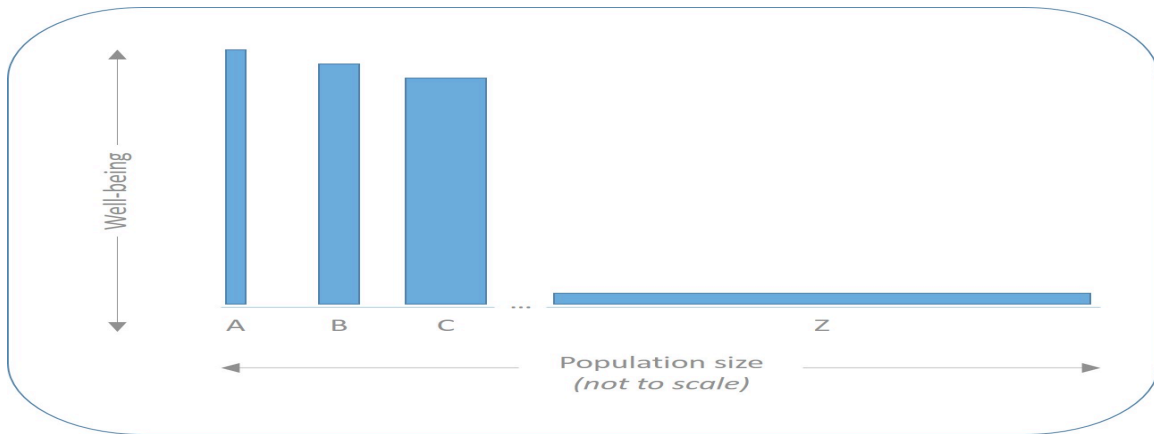
Figure 2

Now, how might someone who accepts the standard view approach a solution to this problem? She might start by accepting two seemingly innocuous theses:

Trichotomy: There are only three basic relations that can hold between outcomes on the continuum – 'better than', 'worse than' and 'equally good'.

Uniformity: Like cases must be treated alike unless there is a qualitative difference that makes a difference.

Given these theses, the only way to block the conclusion that Z is better than A is to impose a break in the continuum of items, each of which is otherwise better than its predecessor, and which, by the transitivity of better than, would therefore be better than A. The outcome that breaks the continuum would be one in which its successor is *not* better. And for such a break to be plausible, it seems, the outcome that constitutes the break must be *qualitatively* different from its predecessors and successors so that, by Uniformity, it is not to be treated like any other outcome on the continuum.

One natural way to understand the break is as a point of lexical superiority, that is, as a point at which all successive outcomes are *worse* than the lexically better one. So, as we decrease the well-being of people in successive outcomes, there will be a point, say outcome P, at which outcomes successive to P are *worse* than P. The level of well-being at P marks a qualitative lexical threshold so that any dip in quality of well-being in a successive outcome, no matter how small, makes that outcome *worse*, no matter how large the increase in the number of people living lives at this slightly lesser level. Thus while P is better than O, the outcomes Q, R, S, T … Z are all worse than P since P is lexically better than all its successors. Since Z is worse than P, we are not forced to conclude that Z is better than A since the chain of successively better outcomes on the continuum has been broken. The slide to the Repugnant Conclusion is halted. Call this the Lexical View.

The Lexical View is diagrammed in Figure 3, with the vertical line marking the break at which there is lexical superiority.
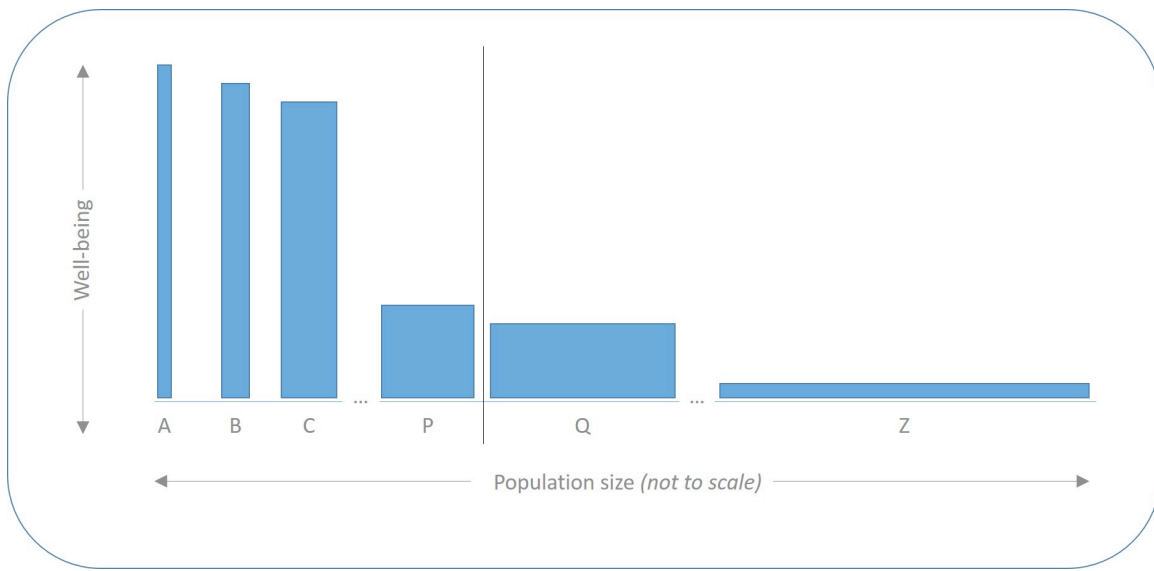
Figure 3

This is a tidy solution, but many have thought that the idea of lexical superiority cannot be defended.

At the heart of the Lexical View is what we might call the Lexical Claim:

The Lexical Claim: There is an outcome with some number of people living at well-being level, L, such that any outcome with any, even an infinite, number of people living at a slightly worse level, L–, would be worse.

Many have doubted that the Lexical Claim could be true. It is hard to believe that there could not be some large enough number of people living at a level only slightly lower than L that isn't worse.

The Lexical View assumes that if P is lexically better than its successors, then it follows that those successors must be *worse.* As Parfit notes, the Lexical View assumes precision and therefore trichotomy. If P is lexically better than Q, it is precisely better; there is some scale of units of goodness as an outcome, and P has more units than Q. Since Q has fewer units it must be worse. The problem with lexicality is that it entails that every successor of P must be worse than P. But this does not seem plausible.

Parfit ingeniously suggests that we can defend the spirit of the Lexical View by understanding it in an *imprecise* form. He proposes what he calls the 'Imprecise Lexical View'. To understand the view, we start with the idea that P is imprecisely lexically better than successor outcomes. This entails not that all successive outcomes are worse than P but only that they are *not better* than P. If a successive outcome is not better than P, this might be because it is *imprecisely equal* to P or because it is worse than P. Now if

a successive outcome is imprecisely equal to P, then it is part of a range of items, each of which is imprecisely equal to its successor and one another and which is imprecisely lexically better than all successors not within that range. So there isn't a single outcome, P, that is lexically superior to all successive outcomes but rather a range of outcomes along the continuum, each of which is lexically superior to successive outcomes not in the lexically superior range. If, on the other hand, a successive outcome is worse than P, it is lexically worse. So perhaps P, Q, R and S are all imprecisely equally good with one another and in the lexically superior range. Each is lexically superior to T, U, V…., each of which is lexically worse than each of the items in the lexically superior range. In other words, as we go along the continuum, we reach an item, T, that is no longer imprecisely equal to its predecessor but lexically worse than it, and thus T and all successors of T will also be lexically worse than P (and every other outcome in the lexically superior range).[23] The Imprecise Lexical View holds that there is a range of outcomes along the spectrum, each of which is lexically superior to successive outcomes not within that range. The upshot is that there is some range of levels of well-being below which any decrease will make an outcome lexically worse, no matter how many people are at that lower level.

At the heart of the Imprecise Lexical View is the Imprecise Lexical Claim:

The Imprecise Lexical Claim: There are some outcomes with some number of people living at well-being level, L1, L2, L3, or…, such that no outcome with any, even an infinite, number of people living at a level, L–, which is worse than each of L1, L2, L3, and…,would be better.

This claim allows the Imprecise Lexical View to sidestep the main worry about the Lexical View, namely that it is implausible to suppose that every successor to an outcome P, is *worse* than P. Instead, some of those successors might merely be imprecisely equally good as P. But further down the continuum, when the quality of well-being is significantly lower, we are free to say that those outcomes are worse than P. Since Z is worse than P, we are not forced to conclude that Z is better than A, as the chain of successively better outcomes on the continuum has been broken. The slide to the Repugnant Conclusion is once again halted, this time without having to assume the implausible Lexical Claim.

We can now see what the genetic connection between Parfit's trichotomous conception of imprecise comparability and his solution to the Repugnant Conclusion problem might be. As background to presenting Parfit's solution, I began with the Lexical View, which assumes precision and the standard trichotomy. I described the main difficulty with the view. Parfit's Imprecise Lexical View was then presented as a way of saving the spirit of the lexical solution. This way of proceeding was not accidental; it is how Parfit *himself* presents his view: imprecise lexicality, as Parfit appears to conceive of it, is a *fix* of the Lexical View.

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[23] Parfit also allows that the 'border' between the lexically superior range and the items that are lexically worse than each item in that range may be indeterminate.

So we might tell the genetic story of Parfit's solution like this: Parfit, assuming trichotomy, finds the Lexical View a *prima facie* attractive way to avoid the Repugnant Conclusion. But he is aware that the central claim of the Lexical View is hard to believe. Parfit then notes that this claim is hard to believe because the Lexical View assumes precision, i.e., that there is a unit by which one outcome is better or worse than another. If we abandon precision, we are led to the Imprecise Lexical View as a way to preserve lexicality without having to defend the implausible Lexical Claim, accepting instead the more plausible Imprecise Lexical Claim. It is because Parfit initially assumes trichotomy in thinking about imprecision that he conceives of imprecision as a way to fix the Lexical View, and that leads him, in turn, to adopt an imprecise form of lexicality as the solution to the problem. If that is right, it is Parfit's trichotomous conception of imprecise comparability that leads him to accept the Imprecise Lexical View.

A question we might ask about Parfit's solution is: Is lexicality – whether precise or imprecise – needed to avoid the Repugnant Conclusion? In avoiding the Repugnant Conclusion, must we always assume that, on any such continuum, there is *always* some P or range of outcomes, P, Q, R, and S, that designates a level of well-being or range of levels of well-being such that no number of people with a lower level of well-being could be better? That seems too strong an assumption to require if we are to avoid *any* continuum to *any* Repugnant Conclusion.[24]

Suppose, to take a toy example, that the range of levels of well-being in the putatively lexically superior zone are those characteristic of the upper-middle class life. The lexicalist might argue that any drop from an upper-middle class level of well-being, which, suppose, affords the resources and leisure to pursue certain 'higher' goods, to a mere middle-class level of well-being, which, suppose, precludes pursuit of those higher goods, makes an outcome lexically worse than any upper-middle-class outcome. Even though upper-middle class outcomes occupy a range of outcomes, it nevertheless seems dubious that there *couldn't* be any outcome with a very large, even infinite, number of people at the high end of a mere middle-class level of well-being that is better than even one of the upper-middle-class outcomes in the putatively lexically superior zone. At the very least, we should allow, in our rejection of the Continuum Argument, the possibility that for *some* level of well-being in a putatively lexically superior zone, there is a large enough – perhaps infinite – number of people at a lower level of well-being outside of the putatively lexically superior zone that could be better than at least some outcome in the putatively lexically superior zone.[25] We shouldn't, if we can help it, make our answer to

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[24] Another question we might ask is whether it is *impossible* that some items within the putatively lexically superior zone are equally good. See the discussion above.
[25] One way this could be true is if we reject the essentially additive view of value that Parfit assumes in proposing the Imprecise Lexical View. We needn't accept, for instance, that the goodness of an outcome is an *additive* (even imprecisely additive) function of the goodness of a level of well-being multiplied by the number of people at that level. The level of well-being and the number of people at that level may

the problem posed by the Repugnant Conclusion *depend* on there being lexicality, precise or imprecise, since even imprecise lexicality does not seem plausible for all possible continua leading to a repugnant conclusion. The appeal to lexicality seems to be a remnant of a precise, trichotomous approach to the problem. From our arguments above, it seems that Parfit does not go far enough in rejecting such approaches; while he rejects precision, he should, as I have argued, also reject trichotomy.

If we reject trichotomy and accept parity and tetrachotomy, a related but different solution to the Repugnant Conclusion problem naturally presents itself. Instead of thinking that there is always some range of quality of life that no number of lives of a lower quality could outweigh, we can allow that, on some continua at least, there will be no such lexical range. We can still avoid the Repugnant Conclusion, however, if instead we maintain that there is a range of outcomes that are on a par with each other. Parity allows that there is some outcome further down the continuum that is better than some of the items in the parity range.[26] Thus a very large number of people living middle-class lives might be better than some number of people leading upper-middle-class lives, where all upper-middle-class lives are on a par with one another. Since there is a range of items that are on a par with one another, we break the chain of betterness along the continuum, and the slide to the Repugnant Conclusion is halted.

Thus parity naturally gives rise to a solution to the problem that does not require lexicality. The parity solution maintains Uniformity but rejects Trichotomy. It holds that, somewhere along the continuum, there will be a qualitative difference that makes a difference to how the outcome should be regarded relative to its predecessor. As we start along the continuum, each successor is better than its predecessor. But a qualitative difference in successive outcomes will begin to manifest such that a successor is no longer better than its predecessor but on a par with it. And, indeed, intuitively, that is what happens on such continua: there is a gradual qualitative change. But we do not have to understand that qualitative change in terms of a range of lexically superior outcomes; indeed, as we suggested, for at least some continua, there could be an outcome further down the continuum that is better than at least some outcomes clearly in the range of qualitative change, that is, in the putatively lexical zone, or as we suggest, in the zone of parity. So we should reject lexicality and adopt parity instead. Parity is all we need to stop the slide to the Repugnant Conclusion.[27]

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interact in more complex ways so that *enough* people at a level L- may be better than some number at L1, L2, and L3, all in the parity zone.

[26] Like Parfit, I want to allow that the transition to parity and from parity to some other qualitative difference that makes a successive outcome better can be gradual through points of indeterminacy. Thus as we approach parity between neighbouring outcomes, the right thing to say about the neighbouring outcomes might be that it is indeterminate whether the successor is better than its predecessor or whether they are on a par. See also Chang 2002a.

[27] I believe that parity (and attentiveness to the individuation of covering values) also solves putative difficulties raised by related continuum arguments, such as those thought

9. Summary

We have now seen the main similarities and differences between imprecise comparability and parity. The former, neutrally understood, entails that normativity has a nonstandard character, that is, that cardinally comparable items may be incommensurable; while the latter entails a non-standard view of the very structure of normativity, that is, of the basic normative relations that can hold between items.

Imprecise comparability can be understood in terms of the more familiar notions of cardinality and incommensurability: two items are imprecisely comparable with respect to V if they are cardinally comparable and yet incommensurable with respect to V – there is no scale of units by which their relevant V-ness can be measured. Parity, in contrast, is a relation that represents a further basic normative relation which can hold between items, not simply a *way* in which items can be trichotomously related. While imprecise comparability departs from the standard view in character, parity departs from the standard view both in character and in structure.

Whether parity is possible, we argued, turns on pointing out that a widespread assumption about incomparability, namely, that items are incomparable if they are not trichotomously related, is just that, an assumption, and it is no part of the ordinary notion of incomparability. We offered a simple model of parity in terms of evaluative differences and discussed how parity differs from equality, incomparability and imprecise equality.

We then turned to Parfit's notion of imprecise comparability, which, we suggested, is not neutral on the question of trichotomy but rather presupposes it. According to this trichotomous conception, the imprecision in 'imprecisely better than' and 'imprecisely worse than' is the same as it is in 'imprecisely equally good'. We argued, however, that this is not so: that while the former are, respectively, species of 'better than' and 'worse than', the latter is not a species of 'equally good'. Imprecise equality has distinctive formal features that suggest we should understand it as a *sui generis* fourth basic way items can normatively relate. We concluded that proponents of imprecise equality should reject trichotomy and accept parity and tetrachotomy. We also suggested another path to parity from Parfit's claims about how qualitatively very different items can be compared. That argument turned on showing that it was possible for qualitatively very different items to be equally good.

The upshot of these arguments is that those attracted to the idea that cardinality can be imprecise and yet want to maintain that imprecise equality has the features that Parfit thinks it has should abandon trichotomy and accept parity and tetrachotomy instead.

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to support the nontransitivity of 'better than'. See, e.g., Rachels (1998) and Temkin (2012).

Finally, we examined Parfit's proposed solution to the problem posed by the Repugnant Conclusion. We suggested that Parfit's solution, which relies on lexicality, is born of an implicit commitment to trichotomy. We suggested that parity could offer a similar but more flexible solution that rejected lexicality and trichotomy.

Acknowledgements

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