4 On “Incommensurability,” “Discontinuity,” and the Repugnant Conclusion “Imprecise Equality” or Vagueness?

Mozaffar Qizilbash

1 Preliminaries: Two Kinds of “Incommensurability”¹

In his celebrated discussion of “incommensurability” in *Well-Being: Its Meaning, Measurement and Moral Importance*, James Griffin (1986: chapter 5)² distinguishes a number of distinct senses of “incommensurability.”³ Of these, he suggests that the strongest is “incomparability.” Griffin (1986: 83) argues that – at least in the realm of prudential value – there is no “incomparability.” “Incomparability” (of the relevant sort) exists if, as between two options (or realizations of prudential value), one is not better than the other and they are not of equal value either. Griffin argues that some candidate cases of “incomparability” may instead be cases of “rough equality” and since “rough equality” is a form of equality, these are not cases of “incomparability.” Griffin’s notion of “rough equality” is a close relation to Derek Parfit’s idea of “rough comparability” in *Reasons and Persons* (Parfit 1984: 431) and his subsequent discussion of “imprecise equality” (Parfit 2016). At the same time, Griffin discusses “discontinuity,” which he treats as a “weaker” form of “incommensurability.” In cases of “discontinuity,” the claim is that, as between two prudential values, *A* and *B*, either enough of value *A* outranks any amount of value *B*; or once one has a certain amount of *B*, any amount of *A* outranks any further amount of *B*. Griffin (1986: 85) accepts that there are cases of this sort but he argues that since they involve ranking, there is no incomparability in these either. Furthermore, in an endnote, where he discusses Parfit’s views, Griffin (1986: 338–340) conjectures that “it would seem likely that this incommensurability in prudential cases would get transferred to interpersonal calculation” of the sort that is relevant to population ethics.

The common feature of the candidate examples of “rough equality” and “discontinuity” (in prudential value) is that there is typically a difference of kind or type (e.g. between poetry and prose, or between different categories of prose), or some form of qualitative difference (e.g. in the pleasure or pain) involved in the items or options being compared. While

there are various definitions of “incommensurability” (see Griffin 1986; Raz 1986a, b; and Chang 1997), in this chapter, I take “incommensurability” to cover distinct cases with this common feature. As a result, I follow Griffin (1986: 77) and use “incommensurability” in a “way that allows different senses” and to cover cases – such as cases of “discontinuity” and “rough equality” – where items are comparable in terms of value (see Griffin, 1986: 76 and 97).⁴

There have been two dominant ways of modeling “rough equality” in the subsequent literature. The first focuses on Griffin’s suggestion that “rough equality” is a form of vagueness or “indistinctness” and on the possibility of a *vague ordering* (see Griffin 1986: 96). This possibility has been most fully explored and developed by John Broome (1997, 2000, 2004, and 2012; see also Griffin 2000).⁵ The second reading follows Parfit and Griffin in supposing that there are two kinds of “rough equality” or “rough comparability.” The first sort involves an inability to make precise discriminations or ignorance. Both Parfit and Griffin argue that there are other cases where the problem of comparability is not of this sort, but rather in the nature of the world or, put another way, in the nature of the *relation* between objects of value. It is this second form of “rough equality” that links this literature to the discussion of a distinct relation aside from the standard “trichotomy” of “better than,” “worse than,” and “exactly equal in value.” The relation of “parity” as it has been explained by Ruth Chang (1997, 2002a, 2002b, 2005, 2016, and forthcoming) and the relation “in the same league as” that Parfit (1984: 431) mentions are also distinct relations and close relatives of “rough equality” of this sort. In this chapter, I follow earlier work (see Qizilbash 2002, 2005a, 2007a, b; and 2018) and use “parity” as a term of art to refer to “rough equality” as a distinct relation. This use of “parity” within a nonstandard set of value relations extended to allow for “rough equality” may, in some respects, be inconsistent with Chang’s account of “parity” because Chang (2016; and forthcoming) distinguishes her account from the views of both Parfit and Griffin.

The form of “incommensurability” that Griffin himself invokes in the context of population ethics is “discontinuity” rather than “rough equality.” Furthermore, for Griffin’s remarks about “discontinuity” to be plausible, they should arguably allow for vagueness (see Qizilbash 2005a). By contrast, in his later work, Parfit defends a form of “discontinuity” (or “strong lexical view” in his terms⁶) and invokes “imprecise equality” rather than conceptual vagueness in his discussion of the “Repugnant Conclusion.” This may be another case where there is a question about whether the best way to address these problems involves invoking a determinate but nonstandard value relation such as parity or vagueness about which value relation holds (see Broome 1997; Rabinowicz 2009a; and Qizilbash 2012 *inter alia*). If we set aside other potential ways of avoiding the Repugnant Conclusion, and there is a choice between

“parity” – interpreted in terms of rough or imprecise equality – and vagueness, which should we favor?

The chapter is organized as follows: in Section 2, I summarize the account of value relations; in Section 3, I discuss examples of “discontinuity” and suggest that vagueness is relevant to these; in Section 4, I extend the discussion to population ethics and “discontinuity” combined with either parity as “imprecise equality” or vagueness in the context of the Repugnant Conclusion; and Section 5 concludes.

2 “Rough Equality,” “Rough Comparability,” and “Parity”

I begin with an account of value relations (set out more fully in Qizilbash 2005a) which allows for “rough equality” as a distinct relation. I write “G” for a primitive relation which means “better than or exactly as good as.” This is the “conventional” use of “at least as good as.” “Better than” (B) and “exactly as good as” (E) are then defined as follows:

Definition 1: xBy if and only if xGy and not (yGx)

Definition 2: xEy if and only if xGy and yGx

I assume that G is a quasi-ordering so that it is transitive and reflexive but not necessarily complete. That is, I assume that for all x in the set of alternatives X , xGx (reflexivity), and for all x , y , and z in X : if $(xGy$ and $yGz)$, then xGz (transitivity of G). Following standard results about quasi-orderings (see Sen 1979: 10), transitivity of G implies transitivity of B: for all x , y , z in X , if $(xBy$ and $yBz)$, then xBz . It is also easy to show that B is irreflexive – so that for all x in X , not (xBx) and asymmetric – so that for all x , y in X , if xBy then not (yBx) (see Qizilbash 2005a: theorem 1). Completeness of G requires that for all nonidentical x and y in X , xGy or yGx .⁷ If it holds, we can say that all alternatives are *commensurate* so that either one is better than the other, or they are exactly as good. If instead, like Griffin, one believes that (in the prudential realm) all alternatives are comparable – even if they are not all commensurate in the sense defined here – one would need to allow for an alternative comparative relation between options because they may be comparable without being commensurate. In Griffin’s terms, alternatives that are comparable but not commensurate are “roughly equal” in value. Because “rough equality” of the relevant sort involves a determinate (fourth) value relation between alternatives rather than vagueness, and because “rough equality” can also be understood as a form of vagueness I use “on a par with” (P) as a term of art for this relation. I also write “C” for a primitive and nonstandard relation meaning “comparable with.” While this relation is primitive, it is important that comparability is, in a sense, broader than commensurateness as it is defined here. In particular, if all items are commensurate, they are all comparable, but if they are all

comparable it does not necessarily follow that they are all commensurate. Furthermore, the primitive notion of “comparability” allows for the possibility that there are distinct cases where we might say that (while one is not better than the other), items are in some sense “equal in value.” They may be “roughly equal” in value or “in the same league” – even if they are not exactly as good. To allow for these cases, we can define “parity” as follows:

Definition 3: xPy if and only if xCy and not $(xGy \text{ or } yGx)$.

Finally, there is a non-conventional sense of “at least as good as” (A) which can be defined as follows:

Definition 4: xAy if and only if xCy and not (yBx) .

This relation is arguably invoked in Derek Parfit’s discussion of “rough comparability.” Parfit (1984: 431) discusses three candidates for a literary prize: a novelist and two poets. He writes,

We might claim, of the Novelist and the First Poet, that neither is worse than the other. This would not be claiming that these two cannot be compared. It would be asserting rough comparability. There are many poets who would be worse candidates than this Novelist, and many Novelists who would be worse candidates than the First Poet. We are claiming, of these two, that something important can be said about their respective merits. Neither is worse than the other. They are in the same league.

(Parfit 1984: 431)

It is in this sort of case that Parfit thinks that “rough comparability” is not merely a matter of ignorance. As he puts it, “The rough comparability is here *intrinsic*, not the result of ignorance” (Parfit 1984: 431). Because in the example he discusses here, neither is worse than the other, but they are not exactly as good either, in the system I have outlined, they must be on a par. Indeed, to this degree, Parfit’s uses of “in the same league” and “roughly comparable with” track the relation “on a par with” as I have defined it.

If we allow for “parity” understood as a distinct relation of “rough equality” or “rough comparability” we allow for incompleteness of G because in cases of parity neither xGy nor yGx . These cases involve alternatives that are not commensurate and are, in this sense, *incommensurate*⁸ even though – in terms of the system of value relations outlined here – they do not involve any form of incomparability. Furthermore, while in this relation system E is transitive, P is not (see Qizilbash 2002: 144–147). Consider again Parfit’s example of two poets and a novelist. On this relation system, this is an example of parity. While both poets are on a par with the novelist – since while they are not exactly equal in

value and one is not worse than the other, yet they are comparable and – the second poet is better than the first. Nonetheless, while the second poet is on a par with the novelist and the novelist is on a par with the first poet, it is not true that the second poet is on a par with the first. *P* is non-transitive. And because the unconventional “at least as good as” relation can hold when alternatives are on a par, *A* is also non-transitive (see also Qizilbash, 2005a and 2007a). Here again, this relation system tracks Parfit’s discussion. In the terms he himself uses, Parfit (1984: 431) believes that “[w]hen there is only rough comparability, *not worse than* is not a transitive relation.” Parfit’s use of “not worse than” here arguably tracks relation *A*.

This account of value relations treats “comparable with” as a primitive relation. How might one distinguish cases of incomparability and parity if one accepts this account? If one treats the nonstandard relation of parity as a form of “rough” or “imprecise” equality, then to say that items are comparable requires that some form of equality must hold if one is not better than another. If they are not precisely equal, they must be roughly equal in value. If items are roughly but not precisely equal, then while slight changes in the value of options may not make one better than the other, any significant change in the value of one will tip the balance. While this “mark of parity” is not part of, or required by, the formal system of relations outlined here, it follows from interpreting parity in terms of “rough equality” (see Qizilbash, 2002, 2005a; and 2018).⁹ This mark also distinguishes parity from incomparability: in cases of incomparability, while neither of two items is better than the other, even some significant change in the value of one does not make it better or worse than the other. On accounts where “on a par with” is interpreted in terms of “in the same neighborhood as” or “in the same league as” – this mark may fail to hold because there are arguably cases where items that are not close and, to this degree, not “roughly equal” in value while being in the same neighborhood or league (see Andreou 2015; and 2021a). These accounts might, nonetheless, be squared with the mark of parity as it is defined here, if, to qualify as a “significant” change in value, it must be large enough to “carry” one item from one “neighborhood” of value to another. Yet if “neighborhoods” are very large, the intuition that parity is “rough equality” loses force.¹⁰

While the “mark of parity” is intuitively compelling if items are roughly equal in value, if one adopts the previous definitions but does not accept that parity is a form of “rough equality,” one might adopt an alternative way of distinguishing “parity” and “incomparability.” On this weaker version of the “mark of parity” when options are on a par, while some slight change in value may not tilt the balance in favor of one of them, either some significant increase in the value of one of the items will make it better *or* some significant reduction in the value of one of the items will make it worse. Then cases of “incomparability” can be defined so that while two items are incommensurate, no change in the value of one makes it better or worse than the other (Qizilbash 2018: 91–92).

This alternative way of characterizing the distinction between “parity” and “incomparability” might fit better with an account of parity understood as belonging to the same league or neighborhood, which may allow for large value neighborhoods or leagues.¹¹

3 “Discontinuity” and Vagueness

Now consider “discontinuity.” Here Griffin’s claim is that, as between two (prudential) values, *A* and *B*, either (i) enough of value *A* outranks any amount of value *B*, or (ii) once one has a certain amount of *B*, any amount of *A* outranks any further amount of *B*. Griffin (1986: 85) accepts that there are cases of this sort, especially if one focuses on specific realizations of value – “value-tokens” – rather than values in the abstract – “value-types.” For example, he suggests that

it is more plausible that, say, fifty years of life at a very high level of well-being – say, the level which makes possible satisfying personal relations, some understanding of what makes life worth while, appreciation of great beauty, the chance to accomplish something with one’s life – outranks any number of years at the level just barely worth living.

But he adds that “we should not expect to find sharp discontinuities at extreme ends of the scale.” He goes on:

Fifty years at a very high level – say, with the very best Rembrandts, Vermeers, and de Hoochs – might be outranked by fifty-five years at a slightly lower level – no Rembrandts, Vermeers, and de Hoochs, but the rest of the Dutch school. And then fifty-five years at that level might be outranked by sixty years at a slightly lower level – no Dutch School but a lot more of the nineteenth-century revival of the Dutch School. And so on, step-by-step, until, it seems, we must eventually reach the point where the original fifty years would be outranked by a sufficiently large number of years of life just barely worth living.

(Griffin 1986: 86)

This “beauty-kitsch example” is a form of what is now known as “spectrum” – or, somewhat misleadingly as “continuum” – examples. In each step along the spectrum, there is a small reduction in the quality of enjoyment, which is traded off against some quantity – in this case, some number of years of enjoyment of beauty. There is, in Griffin’s view, no problem of comparability in this example. He adds,

This step-by-step approach seems irresistible. Yet it presents us with two embarrassments: a Sorites Paradox and a slippery slope. If we

take enough pebbles away from a heap, it ceases to be a heap. But then, since one pebble more or less could never make the difference between its being a heap or not, if we remove them singly it can never cease being a heap. Similarly, one might argue, with “appreciation of beauty” or “deep personal relations”; and slow, step-by-step changes we can never lose the appreciation of beauty or deep loving relations.

But we obviously can – I want to set the Sorites problem to the side. We can indeed reach a point, with the series of subtractions, that we just saw (first Rembrandt, Vermeer, and de Hooch, then the whole seventeenth century Dutch School ...), at which we lost the appreciation of beauty. We may have the kicks of kitsch but they are different.
(Griffin 1986: 87)

In this example, at a very high level, a slight reduction of quality does not lead to a change in the *kind* of life lived. Yet if enough is lost in terms of quality so that there is a change in the kind of appreciation or enjoyment, greater amounts of quantity cannot compensate for the loss of quality.

As we reach the bottom of the spectrum, Griffin worries, nonetheless, that enough of the kicks of kitsch must compensate for the loss of quantities of the other prudential values. At the bottom, when “we also lose deep personal relations, accomplishment, and all the rest of the substantial values in life, then by parity of reasoning, since what is left is, though slight, not nothing, enough life with this residue must be more valuable” (Griffin 1986: 87). To resist this judgment Griffin invokes the idea of a “basic preference” and his informed desire view of welfare – on which well-being consists in the fulfillment of fully informed desires (see Griffin 1986: part 1):

We do seem, when informed, to rank a certain amount of life at a very high level above any amount of life at a very low level. And if we do, it is likely to be a basic preference; that is, it could not be based upon other judgements about the amount of value in the objects being ranked. Nor need there be any extreme perfectionism at work in this preference; those who held this preference could also be willing to sacrifice the best Rembrandt, Vermeer, or de Hooch, for all the various, though lesser, achievements of the Dutch school.

(Griffin 1986: 87)

Griffin thinks that informed preference favors *some* amount of the enjoyment of Rembrandt, Vermeer, and so on over the enjoyment of *any* amount of the kicks of kitsch. This is the “discontinuity” claim. And because Griffin suggests that in this sort of example there is a Sorites at work, one would expect to find an imprecise borderline as one moves

down the spectrum – in this case a rough threshold where enough genuine beauty is lost and what remains are the kicks of kitsch.

Griffin does not develop the claim that there is a Sorites in this example. And there is ongoing debate about whether cases of this sort involve a Sorites (see Temkin 1996 and 2012; Qizilbash 2005b; and Pummer 2018 and forthcoming). If it can be shown that there is a Sorites or Sorites-like structure in such cases that would support the idea that they involve vagueness. Yet, there are other “symptoms” of vagueness, notably whether or not there is a predicate that admits borderline cases or an imprecise borderline. To this degree, we need not settle debates about whether or how spectrum examples involve a Sorites or Sorites-like structure to believe that there is some form of vagueness involved. As long as there is an imprecise borderline or if there are borderline cases – for example, in the “beauty-kitsch” example, borderline cases of “beauty” and an imprecise borderline between cases of “beauty” and “kitsch” – theories of vagueness come into play (see Qizilbash, 2005b; and Knapp, 2007). Similarly, in Griffin’s discussion of this example, we start with a life at a “very high” level, and it can certainly be argued that, like “tall” and “bald,” “high” (or “very high”) is a vague predicate since there are borderline cases of “high” (or “very high”) and an imprecise borderline between cases that are and are not high (or “very high”).

The beauty-kitsch example is a close relative of what Parfit calls the “single-life analogue of the Repugnant Conclusion” (Parfit 1986: 160). He offers the following example: “Suppose that I can choose between two futures. I could live for another 100 years, all of an extremely high quality. Call this *the Century of Ecstasy*. I could instead live for ever, with a life that would always be barely worth living. Though there would be nothing bad in this life, the only good things would be muzak and potatoes. Call this *the Drab Eternity*” (Parfit 1986: 160).

Commenting on these futures, Parfit confesses, “I believe that, of these two, the Century of Ecstasy would give me a better future. And this is the future that I would prefer. Many people would have the same belief, and preference” (Parfit 1986: 160). This belief and preference are consistent with Griffin’s suggestion that – for someone whose preferences are (fully) informed – enough years enjoying the best of the Dutch School are preferred to any amount of enjoyment of the kicks of kitsch. It is, in Griffin’s terms, an example of “discontinuity.” But in the discussion immediately preceding this example, Parfit discusses population paradoxes and, in a note, he rules out the possibility that in cases of this sort there is a Sorites Paradox. He writes,

It may be objected that my argument is like what are called *Sorites Arguments*, which are known to lead to false conclusions. Suppose we assume that removing any single grain from a heap cannot turn a heap of sand into something that is not a heap. It can then be argued

that even if we remove every single grain, we must still have a heap. ... A Sorites Argument appeals to a series of steps, each of which is assumed to *make no difference*.

(Parfit 1986: 160)

Parfit makes this argument in the context of the “Mere Addition Paradox,” but I shall explain it in terms of the beauty-kitsch example. Parfit suggests that “[a] Sorites Argument appeals to a series of steps, each of which is assumed to *make no difference*.” By contrast, the step-by-step sequence, which involves slight reductions in the quality of enjoyment with some increase in the time spent in enjoyment, involves pairwise comparisons between options where in each step one is *better*. He concludes that “[t]he objections to Sorites Arguments are therefore irrelevant” (Parfit 1986: 160).

This line of argument has been made in the context of a variety of spectrum examples (see, for example, Temkin 1996; and 2012), and I shall not evaluate it here. Nonetheless, it is worth noting that in the beauty-kitsch example, Griffin is also claiming that at the top of the spectrum, 55 years without the very best of the Dutch School (but with enjoyment of slightly lesser works) is *better than* 50 years of the best of the Dutch School. It is somewhat further down the spectrum that, on Griffin’s reading, some loss of quality may no longer result in the same *kind* of appreciation. And in Parfit’s example of the Drab Eternity and the Century of Ecstasy, the equivalent to Griffin’s logic would be some point further in the slide down from ecstasy to “muzak and potatoes.” In this context, Parfit invokes J. S. Mill’s discussion of “higher” and “lower” pleasures:

I claim that, though each day of the Drab Eternity would be worth living, the Century of Ecstasy would give me a better life. This is like Mill’s claim about the “difference in quality” between human and pig-like pleasures. It is often said that Mill’s “higher pleasures” are merely *greater* pleasures: pleasures with more value. ... This would be so if the value of the pleasures lay on the same scale. But this is what I have just denied. Though each day of the Drab Eternity would have some value for me, *no* amount of this value could be as good for me as the Century of Ecstasy.

(Parfit 1986: 161)

In Griffin’s terms, this is a case of “discontinuity.”¹² Furthermore, there is arguably a vague borderline between the “higher” and “lower” pleasures. And some pleasures might classify as “borderline higher.” Indeed, if vagueness is relevant in the beauty-kitsch example, it is equally relevant in this one. Parfit’s own example thus suggests that – while he and Griffin appear to take different views on the Sorites – vagueness is also relevant to Parfit’s views to the degree that he invokes “discontinuity.”

4 Avoiding the Repugnant Conclusion: “Discontinuity” with “Imprecise Equality” or Vagueness?

I now turn to “discontinuity” in the context of population ethics. I begin with a formalization of these examples (following Broome 2004: 55–56; and Qizilbash 2005b: 127). In what follows, we are concerned with populations of various sizes. We begin with a population of ten billion people, living at a very high quality of life. We then reduce the quality of life of those alive somewhat and increase the number of people who are alive at the new quality of life. If we believe that the new population is better than the first, and repeatedly increase the size of the population while slightly reducing the quality of life of those who are alive in this way we might be led to:

The Repugnant Conclusion: for any possible population of at least ten billion people, all with a very high quality of life, there must be some much larger imaginable population whose existence, if other things are equal, would be better even though its members have lives that are barely worth living.

(Parfit 1984: 388)

Parfit believes that moral theories should avoid this conclusion. In what follows, I shall write w for a level of (lifetime) well-being, write w_1 as a very high quality of life, w_2 as a less high quality of life, w_3 as a quality of life less high than w_2 , and so on. I assume that there is a finite range of levels of well-being between w_1 and w_k and that w_k is a level that is barely worth living. I write numbers n_1, n_2, n_3 , and so on, where n_2 (n_3) is smaller than n_3 (n_4) and so on. Finally, I write a world with n_i people living at welfare level w_i as $W(n_i, w_i)$. The step-by-step or spectrum property that can lead to this conclusion is:

Property S: there is a sequence of numbers 10 billion, $n_2, n_3, \dots, n_k$ starting with 10 billion, with the property that a population of n_i people living at level of well-being w_i is better than a population of $n_{(i-1)}$ living at $w_{(i-1)}$, for any integer i such that $k \geq i > 10$ billion.

We can also define:

Property D: a population of 10 billion people living at well-being level w_1 is better than any number n_k of people living at level of well-being w_k .

Returning to the earlier account of value relations, which followed a reading of Griffin’s and Parfit’s works, B is irreflexive, asymmetric, and transitive. Then we know (following theorem 2 in Qizilbash 2005b: 127)

that if a sequence $w_1, \dots, w_k$ has Property S, then it does not have Property D.¹³ In the light of this result to avoid the Repugnant Conclusion we must reject Property S, or we must reject asymmetry or transitivity of B. Since on my reading Parfit does not reject asymmetry or transitivity of B, he must reject Property S.

It is worth noting here that there is another route to rejecting the Repugnant Conclusion. If we drop the assumption that the final level of well-being (w_k) in the range is (i.e., falls to the level of) a life barely worth living we can, arguably, accept the intuition in spectrum examples, without accepting the Repugnant Conclusion. In terms of the formalization above, we can then accept Property S and reject Property D while not accepting the Repugnant Conclusion. Ken Binmore and Alex Voorhoeve (2003) have developed this line of argument in the context of some spectrum examples.¹⁴ In the current context, this argument appears to provide a neat way of avoiding the Repugnant Conclusion. However, the argument typically hinges on an assumption about the formal representation of value taking a particular form (involving “asymptotes”; see, for example, Binmore and Voorhoeve 2003: 277).¹⁵ And the ways of avoiding the Repugnant Conclusion that Griffin and Parfit advance do not involve making any such assumption.

Suppose then that we do not adopt any assumption about the representation of value of the sort that Binmore and Voorhoeve make and that there is no sequence of the sort required by Property S, which culminates in n_k people living at a level of well-being w_k , which is a life barely worth living. If so, there is some first level of well-being in the sequence such that we cannot reduce the level of well-being somewhat and find a larger number of people living at the lower level of well-being, which makes the resulting world better than the world with the smaller population. It seems hard to believe that there is a first and precise level of well-being in the spectrum where this is the case.¹⁶ This is, arguably, where vagueness is relevant if one starts from the supposition that this sort of example involves “discontinuity.” Again, I take “high” to be the relevant vague predicate. Starting from a very high quality of life, when one reduces the quality of life in a step-by-step way, there will be some level of well-being that is no longer “high.” We might, following Griffin’s suggestion, then define this as a level where enough of what makes life good has been lost so that it is no longer true that lowering the quality of life to this level and increasing the number of people alive makes the world better (Griffin 1986: 340).¹⁷ There is an imprecise borderline between those levels of well-being that are “high” and those that are not. There will be a zone of levels of well-being that are definitely “high,” those which are definitely “not high” and a vague zone in between where the level of well-being is neither definitely high nor definitely not high (for a fuller discussion, see Qizilbash 2005b: 118–126). As long as a life barely worth living is definitely not “high,” in this sense, we can avoid the Repugnant Conclusion.¹⁸

This response to spectrum examples and avoidance of the Repugnant Conclusion does not invoke the relation of “parity” or “rough equality.” Because Parfit invoked “rough comparability” and “in the same league as” in his discussion of the “mere addition paradox,” there is now literature on “mere addition,” incompleteness, and “parity” defined in various ways that attempt to formalize some of Parfit’s discussion of this paradox (Blackorby, Bossert and Donaldson 1996; 1997; and 2005; Qizilbash, 2005a, 2007a, 2007b; and 2018; Rabinowicz, 2009a; and 2009b; and Gustafsson 2019), and there is also some critical literature relating to the relevant proposals (Arrhenius 2000, 2016 and forthcoming; and Nebel 2015 *inter alia*). In the more recent literature, notably in Parfit’s final paper on this topic, spectrum (or “continuum”) cases, the Repugnant Conclusion, and “mere addition” are discussed together. In the context of “mere addition,” the suggestion is that the addition of people who have lives worth living does not affect existing people, and their addition does not involve any social injustice (Parfit 1984: 420) at a range of levels of well-being roughly comparable with the status quo. Parfit invokes “rough comparability” in cases of mere addition because we cannot plausibly claim that such addition makes the world better or worse or that the two worlds are exactly as good either. If, like Parfit (1984: 430–432), we believe that these worlds are, nonetheless, comparable (and accept the account of value relations advanced earlier), we must believe that they are roughly comparable in value or on a par.¹⁹ Yet if we restrict our attention to spectrum examples of the sort which I discuss in this chapter, where there is no mere addition, then any potential roughness in comparison involved in such addition cannot be invoked without some further explanation.

If mere addition is not the source of “incommensurability,” where does it enter? In his later work, Parfit tries to “defend a strong form of lexical superiority,” which is akin to what Griffin calls “discontinuity.” Parfit writes,

When we say that things of kind P are *lexically better* than things of kind Q, we can mean that, though the existence of more Qs would always be non-diminishingly better, the existence of some sufficient number of Ps would be better than any number of Qs. There is a similar sense of *lexically worse than*.

In defense of this form of lexical superiority, Parfit invokes what he calls “evaluative imprecision.” Such imprecision is relevant only if one item is not better than the other. If so, Parfit claims that either they are precisely or imprecisely equally good. In the first case, the relation is transitive, and in the latter case, it is not (Parfit 2016: 114). And as a result of non-transitivity of imprecise equality, “not worse than” is non-transitive (Parfit 2016: 115). Parfit leaves no room for incomparability. These remarks

about value relations and transitivity map directly onto the relation system described in Section 2: E is transitive; P is non-transitive, and A maps onto (Parfit's sense of) "not worse than" and is non-transitive. Parfit thus invokes a further form of "incommensurability" – imprecise or rough equality which in the system of relations outlined here would be defined as "parity" – in defense of the lexical view (or "discontinuity"). Yet, since Parfit has already invoked one form of "incommensurability" ("discontinuity"), the further invoking of "imprecise equality" is hard to explain. If there is a difference in the *kind* of lives lived at some point in the spectrum, and "discontinuity" (or a "lexical view") is invoked to account for it, it is not obvious why one should also invoke "imprecise equality" or parity. Inasmuch as he does so, Parfit *appears to* double count "incommensurability."²⁰

Why does Parfit invoke "imprecise equality" in spectrum examples? The *imprecise lexical view*, for Parfit, addresses one of the chief weaknesses of standard lexical views. His line of argument runs as follows:

Some ... writers claim that lexical views cannot be applied to actual or possible things that are in the same category and could together form some continuum, with each thing being only slightly different from its neighbours. We cannot defensibly claim that everything above some point on such a continuum is lexically better than everything below this point, since there cannot be a great difference in value of similar things that are just above or just below this point.
(Parfit 2016: 116)

Parfit believes that this objection fails when there is imprecise comparability. When there is imprecise equality, instead of appealing to some single point

in this continuum which separates greater and lesser goods, we can appeal to various zones in which things would be imprecisely equally good, bounded by zones in which it would be indeterminate whether one of two things would be better, or things would be imprecisely equally good.
(Parfit 2016: 116)

This view *appears to be* a close relation of views that invoke "rough equality" or "parity" in the context of mere addition since those views also allow for a zone where parity holds, which is surrounded by vague zones (see Qizilbash 2005a, 2007a and b; and 2018; and Rabinowicz 2009a and b; and 2012). Indeed, Ruth Chang (2016 and forthcoming) defends a similar view that invokes a zone of parity in "continuum" cases.²¹ However, Parfit's motivation – as with the account that invokes vagueness – is to allow for *imprecision*. While semantic vagueness is ruled

out, except at the borderlines of the zone of imprecise equality, in Parfit's view imprecise equality does much the same work that vagueness does on the "discontinuity" view that starts from Griffin. Parfit suggests that the relevant "continuum arguments" assume that "[c]ompared with the existence of many people who would all have some quality of life, there are some much larger numbers of people whose existence would be better, though these people's quality of life would all be slightly lower" (Parfit 2016: 120). He claims that we could reject this assumption by claiming that "such larger worlds would not be better, but would at most be imprecisely equally good" (Parfit 2016: 121). And he believes that this way of rejecting the assumption is less implausible than the Repugnant Conclusion and that the balance of plausibility favors imprecise equality.

Parfit's view does nonetheless run into difficulties. A formal analysis of Parfit's imprecise equality view – presented by Wlodek Rabinowicz (forthcoming) – shows that it has implications that are implausible. I here briefly explain Rabinowicz's version of this argument (which itself follows the analysis of Toby Handfield and Rabinowicz, 2018) in the terminology used here. Consider some point in the finite sequence of population levels. Suppose that we start at some level of well-being w_i and population n_i in the sequence, and we find some somewhat lower w_j and some number, say, 200 billion, which is greater than n_i . I will write this world as $W(w_j, 200 \text{ billion})$. Suppose next that $W(w_j, 200 \text{ billion})$ is on a par with (and so not better than) $W(w_i, n_i)$. Is that enough to violate Property S? If we think of parity in terms of "rough" or "imprecise" equality, it seems that this will not be enough. If worlds that are on a par are roughly equal in value, then we can invoke the "mark of parity" to distinguish parity from incomparability. Consider again $W(w_j, 200 \text{ billion})$, which is on a par with $W(w_i, n_i)$. Parfit (2016, 110) holds the Simple View according to which "[a]nyone's existence is in itself good, and makes the world in one way better, if this person's life is good to live, or worth living." Since at well-being level w_j life is worth living, we can make the world better by increasing the number of people who live at this level and find some $W(w_j, n_j)$, which is much, and thus significantly, better than $W(w_j, 200 \text{ billion})$.²² If so, then by the mark of parity, $W(w_j, n_j)$ is better than $W(w_i, n_i)$, and there is no violation of Property S. Indeed, if this were not so, then if parity is rough equality, $W(w_j, n_j)$ and $W(w_j, 200 \text{ billion})$ would be incomparable rather than on a par (see also Herlitz, 2020: 473–478).²³ If Parfit has in mind a form of "rough equality" when he talks of "imprecise equality," his view does not violate Property S and given the other assumptions I have made based on my reading of Parfit, he must reject Property D and cannot avoid the Repugnant Conclusion.

Parfit's view must be amended in some way to avoid that conclusion. One way to do this is to drop the requirement that parity is a form of "rough equality" and allow for the weaker version of the "mark of parity" discussed earlier. On this alternative, as we saw, when parity holds

between items, while some slight change in value may not tilt the balance in favor of one of the items, either some significant increase in value will make it better than the other or some significant decrease will make it worse. Now suppose once more that two worlds $W(w_p, n_i)$ and $W(w_p, 200 \text{ billion})$ in the sequence are on a par. Then on this weakening of the mark of parity, while some significant worsening of $W(w_p, 200 \text{ billion})$ may make it worse, even some significant improvement which involves increasing the number of people who are alive at level w_p may not make the world better than $W(w_p, n_i)$. If so, at w_p , there is no n_i such that $W(w_p, n_i)$ is better than $W(w_p, n_i)$. In this way, the sequence can violate Property S, and given the other assumptions adopted in the system of value relations defined earlier, we can accept Property D and avoid the Repugnant Conclusion. But we must drop the view that parity is “rough equality,” and that involves departing from Parfit’s view as I have interpreted it here.²⁴ As I argued earlier, this way of understanding parity may nonetheless be consistent with interpreting “on a par with” as “in the same neighborhood or league as.”²⁵ It may also be consistent with another (“fitting-attitudes”) view of parity that does not require that parity is “rough equality” (see Rabinowicz, 2009a and forthcoming).

In contrast to Parfit’s view, the view that began from Griffin’s account of “discontinuity” only invokes one form of “incommensurability.” To this degree, it is arguably more parsimonious and does not double count “incommensurability” – and this point may count in its favor. Vagueness is invoked for much the same reason that Parfit invokes “evaluative imprecision”: to allow for a zone rather than a first and single point in the sequence where “discontinuity” sets in. One might speculate about why Parfit did not favor a vagueness view. It may be that he favored a zone of imprecise equality (with rough borders) over vagueness *simpliciter* because he believed that there was no Sorites or Sorites-like structure in the relevant spectrum examples. Yet as I argued earlier, even if we set aside the question of whether there is a Sorites or Sorites-like structure at work in these examples, in the “single-life analogue of the Repugnant Conclusion” when Parfit invokes “discontinuity,” vagueness is arguably relevant. Alternatively, Parfit may not have favored the vagueness view because of various objections to it. It is thus worth asking: what objections are there to this view? And, in particular, do these objections lead one to favor Parfit’s view over the vagueness view?

One objection is that while introducing vagueness makes the threshold less sharp, there is still indeterminacy about a first and unique point in the spectrum below which *any* increase in quantity does not compensate for some fall in quality. The objection is that there *is* such a point, irrespective of whether there is indeterminacy about it. As Handfield and Rabinowicz (2018: 2385) put it, “This is counter-intuitive, whether or not it is indeterminate where this point occurs” (see also Pummer, forthcoming). My reading of this objection is that it presses the point that accepting the

implications of “discontinuity” conflicts with our intuitions since (given the various assumptions made) it implies a first and unique point in the sequence where some reduction in welfare cannot be compensated by an increase in population. Since both Griffin and Parfit invoke “discontinuity,” this objection does not favor Parfit’s view over the position which began from Griffin’s remarks.²⁶

Another objection to views that invoke vagueness in the context of spectrum examples is that while in the case of many vague predicates the indeterminacy – say about whether or not someone is “bald,” “tall,” or “poor” – can be defused by arbitrary stipulation, it would be odd to attempt to defuse controversies in the context of spectrum examples in value theory in this way. It is (arguably) odd because these controversies involve substantive value judgments (see Chang, forthcoming; and 2002a: 137–139). Yet, it is recognized that there are debates in ethics and public policy in which substantive value judgments are in play where arbitrary stipulations might be invoked to address vagueness or imprecise thresholds.²⁷ As John Rawls (2001, 35) notes, “To some degree all our concepts, and not only our moral and political concepts, are vague and subject to hard cases.” It would be surprising if population ethics did not involve vague concepts or imprecise thresholds. Let us suppose, nonetheless, that this response to the objection proves unconvincing. Does this objection necessarily favor “discontinuity” views that invoke rough equality or parity, where – as in Parfit’s view – the zone of parity or rough equality is bordered by vague zones over those that invoke only vagueness. To the degree that Parfit’s view invokes vague zones, the same objection might be leveled at it. For example, in the zone where it is indeterminate whether one world is better than or imprecisely equal in value to the other, it might be argued that what is at stake is a substantive value judgment rather than a vague borderline, and that arbitrary stipulation cannot be used to decide what value relation holds as it might be in cases of vagueness.

5 Conclusions

Two distinct approaches to avoiding the Repugnant Conclusion and addressing spectrum examples emerge from James Griffin’s *Well-Being* and Derek Parfit’s later work. In one, only one form of “incommensurability” – “discontinuity” – is invoked in the slide from a high quality of life to a life barely worth living, while vagueness is invoked to address the presence of borderline cases and imprecise borders. In Parfit’s case, imprecise equality is invoked to allow for imprecision in valuation, while vagueness is invoked only to allow for the absence of sharp borderlines of the zone of imprecise equality. In this chapter, an account of value relations has been presented that is consistent with a reading of Griffin’s and Parfit’s views and that allows for a distinct relation of parity understood

as rough equality. It is argued on the basis of this reading and account that Parfit's invocation of imprecise equality cannot plausibly address some of the implications of allowing for "discontinuity" or a lexical view of the sort Parfit defends if it is interpreted in terms of parity understood as rough equality. The implied way of distinguishing cases of parity and incomparability if parity is rough equality – the "mark of parity" – must be weakened to make this view plausible. Parfit's view also appears to double count "incommensurability" by invoking both "discontinuity" (i.e. a lexical view) and imprecise equality in the context of these examples. When the respective merits of the two views – the one invoking only vagueness and the other invoking parity understood as "rough equality" in the context of "discontinuity" in avoiding the Repugnant Conclusion – are compared, this point arguably favors the view that does not invoke imprecise equality.

Notes

- 1 For helpful comments and exchanges on a very early version, I thank Roger Crisp as well as Chrisoula Andreou, Gustaf Arrhenius, John Broome, Krister Bykvist, Ruth Chang, Anders Herlitz, Wlodek Rabinowicz and other participants at the Workshop on "Incommensurability: Vagueness, Parity and Other Non-Conventional Value Relations" at the Institute for Future Studies, Stockholm in December 2019. I am extremely grateful to Henrik Andersson, Anders Herlitz, and Wlodek Rabinowicz for very helpful exchanges and insightful comments on an earlier version. I acknowledge a debt of gratitude to Derek Parfit. To the degree that it contains any insight, this chapter is dedicated to the memory of James Griffin. Any error is mine.
- 2 Griffin's first influential discussion of the subject predates this: see Griffin (1977).
- 3 Because there are a variety of senses of "incommensurability" in this literature, I place the word in inverted commas throughout the chapter.
- 4 In his discussion, Griffin (1986: 77) distinguishes various senses of "incommensurability" – where "incomparability" is the "strongest" sense (since it bars all comparisons in terms of "better" "worse" and "equal in value"), whereas "weaker" versions include "discontinuity," which allows for such comparisons.
- 5 To the degree that "rough equality" is a form of "incommensurability" (as Griffin implies, see Griffin, 1986: 97), and "rough equality" can be understood in terms of a vague ordering, then "incommensurability" can be a form of "vagueness" in Griffin's terms. For this reason, while Griffin (2000: 287) notes that he himself never says that "incommensurability is vagueness," Broome (2000: 30) takes him to make this claim. Nonetheless, the discussion of "incommensurability and vagueness" (which starts from Broome, 1997, 2000; and 2004; see also Rabinowicz, 2009b and Qizilbash, 2012) typically treats these as mutually exclusive, so that the implicit notion of "incommensurability" is what (in this chapter) I define as "incommensurateness." Because, as will become clear, "rough equality" understood as a distinct relation is not a form of "vagueness," it makes sense to ask "rough equality or vagueness"?
- 6 See also Arrhenius and Rabinowicz (2005).
- 7 I am using "or" in its inclusive sense in outlining the account of value relations.

- 8 Sometimes “incommensurable” is used in this sense. See, for example, Rabinowicz (forthcoming).
- 9 This “mark” is distinct from what Joseph Raz (1986b: 325–326) calls the “mark of incommensurability.” Raz uses the “mark of incommensurability” to determine whether or not options are, in the terms I am using, *incommensurate*. If, of two options, “neither is better than the other,” but “it is possible for one of them to be improved without thereby becoming better than the other, or if there can be another option which is better than the one but not better than the other, then the two original options are incommensurate.” While Raz’s mark distinguishes cases of exact equality from incommensurateness, it does not distinguish cases of parity or rough equality from incomparability since in both cases items are incommensurate.
- 10 On the related matter of whether a zone of parity (understood as “rough equality” or otherwise) can be “wide” see Qizilbash (2018: 96–99).
- 11 See, in particular, Andreou (2021b: 19), who writes that on her view, “[p]erhaps every pair of options can be located in a shared league with either an upper bound or a lower bound.”
- 12 Indeed, this is the natural way to read Mill’s discussion of “higher” and “lower” pleasures. See Mill (1962: 259). Roger Crisp (1997: 30–31) provides a reading along these lines.
- 13 The proof runs as follows. Suppose to the contrary that a sequence of levels of well-being, $w_1, w_2, \dots, w_k$ has Property S, as well as Property D. Then it follows that there is a sequence of numbers, 10 billion, $n_2, \dots, n_k$ such that $W(n_2, w_2) B W(10 \text{ billion}, w_1)$; $W(n_3, w_3) B W(n_2, w_2)$; ...; $W(n_k, w_k) B W(n_{k-1}, w_{k-1})$. It then follows from transitivity of B that $W(n_k, w_k) B W(10 \text{ billion}, w_1)$. But the sequence has Property D so that $W(10 \text{ billion}, w_1) B W(n_k, w_k)$. Asymmetry of B then implies that not $W(n_k, w_k) B W(10 \text{ billion}, w_1)$. This is a contradiction.
- 14 I thank John Broome for pressing this point. Nonetheless, Erik Carlson (2005) provides a formulation of spectrum examples that suggests that Binmore and Voorhoeve’s examples may not capture the intuitions in these examples. In the population context, the equivalent formulation would ensure that there is a sequence of discrete steps that ends with a life barely worth living.
- 15 John Broome (2010) uses the same line of argument and a “badness function” involving “asymptotes” against an argument for “a certain sort of discontinuity.”
- 16 This is not a claim about whether there is some pair of worlds *outside the spectrum* where some number of people living at some level of well-being is better than any number of people living at some somewhat lower level of welfare which might, for example, fall below a life barely worth living. There is nothing unintuitive about that claim. I thank John Broome for raising this possibility.
- 17 It is worth noting that in the endnote in which Griffin (1986: 338–340) makes these remarks, he discusses Parfit’s “mere addition paradox.” His remarks are, nonetheless, relevant to spectrum cases in population ethics, with or without “mere addition.”
- 18 For critical discussions of Griffin’s “discontinuity” view when it is used in the context of population ethics, see Arrhenius (2000: 92–100) and Ryberg (1996: 210–212).
- 19 John Broome has argued that invoking worlds that are incommensurate (as they are when they are on a par or roughly equal) in the context of mere addition is *ad hoc*. On this, see Broome (2004; and 2007), as well as Qizilbash (2007a, 2007b, and 2018) and Rabinowicz (2009a).

- 20 One might argue in his defense that Parfit invokes one form of “incommensurability” – “imprecise equality” – to address an objection that is addressed to another – to “discontinuity” setting in at some point in the sequence. On this argument, Parfit *does not* double count “incommensurability.” I am grateful to Wlodek Rabinowicz for this point. Yet if evaluative imprecision is invoked to rebut the relevant objection, one must inevitably ask, Why invoke “imprecise equality” – or incommensurateness more generally – rather than vagueness? Invoking “imprecise equality” surely requires more in the way of explanation, and, to avoid the concern about “double counting,” the explanation should not be about qualitative differences in the of lives lived in the spectrum since those differences are invoked to explain the presence of “discontinuity.”
- 21 Unlike Parfit, Chang (2016: 210; and forthcoming) drops the lexical view while invoking a zone of parity in addressing spectrum cases.
- 22 This would be so even if one allows for vagueness at the borderline of the zone of parity.
- 23 Handfield and Rabinowicz (2018) and Rabinowicz (forthcoming) discuss this sort of case in terms of “radical incommensurability” and its persistence. Anders Herlitz (2020) provides an illuminating discussion that uses and refines these terms and relates them to the literature on parity.
- 24 For a formal analysis and critical discussion of Parfit’s imprecise equality view, see also Jensen (2020). Because Parfit’s view invokes “discontinuity,” some standard criticisms leveled at Griffin’s views also apply to Parfit’s.
- 25 These contrasting ways of distinguishing parity and incomparability in the context of the Repugnant Conclusion are closely related to the helpful distinction between “strong” and “weak non-persistence” advanced by Herlitz (2020: 475–478).
- 26 My reading of this objection may, of course, be contested. In particular, it can be argued that while on the vagueness view there is a single point where “discontinuity” sets in, this is not so on Parfit’s view. I am grateful to Wlodek Rabinowicz for this point. Nonetheless, Handfield and Rabinowicz (2018: 2385) also suggest that if we want to avoid “discontinuity” (or “radical inferiority” in their terms) setting in at some determinate point in the spectrum, and still insist that there is “discontinuity” between the first and last element, then to preserve transitivity of “better than” we must posit either an implausible (or “radical”) form of incommensurateness or an implausible (or “radical”) form of indeterminacy or vagueness. Here again, the implications of accepting “discontinuity” appear to make *both* accounts – of “imprecise equality” in as much as it is a form of incommensurateness and of vagueness – implausible. In the absence of further analysis, the objection does not favor one account over the other. Henrik Andersson (2021) provides a more extensive and helpful discussion of some of Handfield and Rabinowicz’s objections.
- 27 Perhaps the best-known example is abortion (see, for example, Williams 1995: 214), which has also been discussed in terms of a spectrum example (see Temkin 2000).

References

- Andersson, H. (2021), ‘Spectrum Arguments, Indeterminacy, and Value Superiority’ in H. Andersson and A. Herlitz (eds.), *Value Incommensurability: Ethics, Risk and Decision-Making* (Routledge).
- Andreou, C. (2015), ‘Parity, Comparability and Choice’, *Journal of Philosophy* CXII: 5–22.

- Andreou, C. (2021a), 'Parity Without Imprecise Equality', in H. Andersson and A. Herlitz (eds.), *Value Incommensurability: Ethics, Risk and Decision-Making* (Routledge).
- Andreou, C. (2021b), 'Incomparability and the Huge Improvement Argument', *American Philosophical Quarterly* 58/4: 307–318.
- Arrhenius, G. (2000), *Future Generations: A Challenge for Moral Theory* (Uppsala: University Printers, Ekonomikum).
- Arrhenius, G. (2016), 'Population Ethics and Different-Number-Based Imprecision', *Theoria* 82: 166–181.
- Arrhenius, G. (forthcoming), *Population Ethics: The Challenge of Future Generations*. (Oxford University Press).
- Arrhenius, G. and Rabinowicz, W. (2005), 'Millian Superiorities', *Utilitas* 17: 127–146.
- Binmore, K. and Voorhoeve, A. (2003), 'Defending Transitivity from Zeno's Paradox', *Philosophy and Public Affairs* 31: 272–279.
- Blackorby, C., Bossert, W. and Donaldson, D. (1996), 'Quasi-Orderings and Population Ethics', *Social Choice and Welfare* 13: 129–151.
- Blackorby, C., Bossert, W. and Donaldson, D. (1997), 'Critical-Level Utilitarianism and the Population-Ethics Dilemma', *Economics and Philosophy* 13: 197–230.
- Blackorby, C., Bossert, W. and Donaldson, D. (2005), *Population Issues in Social Choice Theory, Welfare Economics and Ethics* (Cambridge University Press).
- Broome, J. (1997), 'Is Incommensurability Vagueness?' in R. Chang (ed.), *Incommensurability, Incomparability, and Practical Reason* (Harvard University Press).
- Broome, J. (2000), 'Incommensurable Values', in R. Crisp and B. Hooker (eds.), *Well-Being and Morality: Essays in Honour of James Griffin* (Oxford University Press).
- Broome, J. (2004), *Weighing Lives* (Oxford University Press).
- Broome, J. (2007), 'Reply to Qizilbash', *Philosophy and Phenomenological Research* LXXV: 152–157.
- Broome, J. (2010), 'No Argument Against the Continuity of Value: Reply to Dorsey', *Utilitas* 22: 494–496.
- Broome, J. (2012), *Climate Matters: Ethics in a Warming World* (Norton & Company).
- Carlson, E. (2005), 'Intransitivity without Zeno's paradox', in T. Rønnow-Rasmussen and M. Zimmerman (eds.), *Recent Work on Intrinsic Value* (Dordrecht: Springer).
- Chang, R. (1997), 'Introduction', in R. Chang (ed.), *Incommensurability, Incomparability, and Practical Reason* (Harvard University Press).
- Chang, R. (2002a), *Making Comparisons Count* (Routledge).
- Chang, R. (2002b), 'The Possibility of Parity', *Ethics* 112: 659–688.
- Chang, R. (2005), 'Parity, Interval Value and Choice', *Ethics* 115: 331–350.
- Chang, R. (2016), 'Parity, Imprecise Comparability and the Repugnant Conclusion', *Theoria* 82: 182–214.
- Chang, R. (forthcoming), 'How to Avoid the Repugnant Conclusion', in J. McMahan, T. Campbell and J. Goodrich (eds.), *Ethics and Existence. The Legacy of Derek Parfit* (Oxford University Press).
- Crisp, R. (1997), *Mill on Utilitarianism* (Routledge).

- Griffin, J. (1977), 'Are There Incommensurable Values?' *Philosophy and Public Affairs* 7: 39–59.
- Griffin, J. (1986), *Well-Being: Its Meaning, Measurement and Moral Importance* (Clarendon Press).
- Griffin, J. (2000), 'Replies', in R. Crisp and B. Hooker (eds.), *Well-Being and Morality: Essays in Honour of James Griffin* (Oxford University Press).
- Gustafsson, J. (2019), 'Population Axiology and the Possibility of a Fourth Category of Absolute Value', (with a Corrigendum). *Economics and Philosophy* 36: 81–111.
- Handfield, T. and Rabinowicz, W. (2018), 'Incommensurability and Vagueness in Spectrum Arguments: Options for Saving Transitivity of Betterness', *Philosophical Studies* 175: 2373–2387.
- Herlitz, A. (2020), 'Spectrum Arguments, Parity and Persistency', *Theoria* 86: 463–481.
- Jensen, K. (2020), 'Weak Superiority, Imprecise Equality and the Repugnant Conclusion', *Utilitas* 32: 294–315.
- Knapp, C. (2007), 'Trading Quality for Quantity', *Journal of Philosophical Research* 32: 211–233.
- Mill, J.S. (1962), *Utilitarianism* (William Collins and Co. Ltd).
- Nebel, J. (2015), 'Incommensurability in Population Ethics' BPhil Dissertation. (Oxford University).
- Parfit, D. (1984), *Reasons and Persons* (Oxford University Press).
- Parfit, D. (1986), 'Overpopulation and the Quality of Life', in P. Singer (ed.), *Applied Ethics* (Oxford University Press).
- Parfit, D. (2016), 'Can We Avoid the Repugnant Conclusion?', *Theoria* 82: 110–127.
- Pummer, T. (2018), 'Spectrum Arguments and Hypersensitivity', *Philosophical Studies* 175: 1729–1744.
- Pummer, T. (forthcoming), 'Sorites On What Matters', in J. McMahan, T. Campbell and K. Ramakrishnan (eds.), *Essays in Honour of Derek Parfit*. Vol. 2 (Oxford University Press).
- Qizilbash, M. (2002), 'Rationality, Comparability and Maximization', *Economics and Philosophy* 18: 141–156.
- Qizilbash, M. (2005a), 'The Mere Addition Paradox, Parity and Critical-Level Utilitarianism', *Social Choice and Welfare* 24: 413–431 (and Erratum Note).
- Qizilbash, M. (2005b), 'Transitivity and Vagueness', *Economics and Philosophy* 21: 109–131.
- Qizilbash, M. (2007a), 'The Mere Addition Paradox, Parity and Vagueness', *Philosophy and Phenomenological Research* LXXV: 129–151.
- Qizilbash, M. (2007b), 'The Parity View and Intuitions of Neutrality', *Economics and Philosophy* 23: 107–114.
- Qizilbash, M. (2012), 'Incommensurability or Vagueness? A Comment on Rabinowicz and Sugden', *Proceedings of the Aristotelian Society* CXII: 331–336.
- Qizilbash, M. (2018), 'On Parity and the Intuition of Neutrality', *Economics and Philosophy* 34: 87–108.
- Rabinowicz, W. (2009a), 'Broome and the Intuition of Neutrality', *Philosophical Issues* 19: 389–411.

- Rabinowicz, W. (2009b), 'Incommensurability and Vagueness', *Proceedings of the Aristotelian Society* LXXXIII: 71–94.
- Rabinowicz, W. (2012), 'Value Relations Revisited', *Economics and Philosophy* 27: 133–164.
- Rabinowicz, W. (forthcoming), 'Can Parfit's Appeal to Incommensurabilities in Value Block the Continuum Argument for the Repugnant Conclusion?', in J. McMahan, T. Campbell and J. Goodrich (eds.), *Ethics and Existence. The Legacy of Derek Parfit* (Oxford University Press).
- Rawls, J. (2001), *Justice as Fairness. A Restatement*. E. Kelly (ed.) (The Belknap Press of Harvard University Press).
- Raz, J. (1986a), 'Value Incommensurability: Some Preliminaries', *Proceedings of the Aristotelian Society* 86: 117–134.
- Raz, J. (1986b), *The Morality of Freedom*. (Clarendon Press).
- Ryberg, J. (1996), 'Parfit's Repugnant Conclusion', *The Philosophical Quarterly* 46: 202–213.
- Sen, A. (1979), *Collective Choice and Social Welfare* (North Holland).
- Temkin, L. (1996), 'A Continuum Argument for Intransitivity', *Philosophy and Public Affairs* 25: 175–210.
- Temkin, L. (2000), 'An Abortion Argument and the Threat of Intransitivity' in R. Crisp and B. Hooker (eds.), *Well-Being and Morality. Essays in Honour of James Griffin* (Oxford University Press).
- Temkin, L. (2012), *Rethinking the Good: Moral Ideals and the Nature of Practical Reasoning* (Oxford University Press).
- Williams, B. (1995), 'Which Slopes Are Slippery?' in *Making Sense of Humanity and Other Philosophical Papers* (Cambridge University Press).