The Mere Addition Paradox, Incompleteness and Vagueness *

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Abstract

Parfit’s solution to the mere addition paradox can be articulated in terms of a formal account of parity. This solution is compatible with incomplete critical-level utilitarianism if one allows for vagueness as well as incompleteness. Broome argues against accounts based on incompleteness. He thinks they are based on an intuition of ‘neutrality’, which is most naturally understood in terms of equality. There is no rationale, on Broome’s view, for seeing it as ‘incommensurateness’ which leads to incompleteness. Parity provides one. Broome’s worries that ‘incommensurateness’ makes neutrality implausibly ‘greedy’, and that ‘incommensurateness’ and vagueness are incompatible, do not constitute a knock-down case against views which invoke incompleteness. Similar worries arise for his preferred vagueness view.

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1. Introduction

While Derek Parfit’s ‘mere addition paradox’ has generated a considerable literature, his proposed solution to it has received limited attention. In developing ‘incomplete critical-level generalised utilitarianism’ (ICLGU), Charles Blackorby, Walter Bossert and David Donaldson (1996) have attempted to formalise Parfit’s proposed solution by allowing for non-comparability which leads to incompleteness of ‘at least as good as’ (understood as ‘better than or precisely as good as’). Yet this formalisation is at odds with Parfit’s own discussion which explicitly assumes comparability, if only ‘rough comparability’ (Parfit, 1984, p. 431). In an earlier paper (Qizilbash, forthcoming a) I formalised Parfit’s solution through an analysis of the relation of ‘parity’ (which is also sometimes called ‘rough equality’). I argued that if this is the correct account of Parfit’s solution, it is only consistent with Blackorby, Bossert and Donaldson’s account if that account is adjusted to allow for vagueness.

These attempts to solve the paradox involve incompleteness. Another response - associated with Larry Temkin (1987) - sacrifices the transitivity axiom. In Weighing Lives John Broome rejects both these solutions. He treats transitivity as a logical truth. While he initially allows for the possibility of incompleteness in the context of population problems, his preferred account involves vagueness rather than incompleteness. Furthermore, Broome argues that vagueness and ‘incommensurateness’ which leads to incompleteness are incompatible.

In this paper, I explain my formalisation of Parfit’s solution to the mere addition paradox and show how Blackorby, Bossert and Donaldson’s account has to be amended to allow for vagueness if it is interpreted in terms of parity. I then consider Broome’s objections
to views which involve incompleteness and consider how serious a threat these pose for the
parity view. I also attempt to clarify and evaluate Broome’s account.

The paper is structured as follows: section 2 explains the mere addition paradox and
my formalisation of Parfit’s solution; section 3 relates this formalisation to Blackorby,
Bossert and Donaldson’s ICLGU and introduces vagueness; I consider Broome’s most
serious objections to views based on incompleteness in section 4; in section 5, I consider
Broome’s own account and his suggestion that incommensurateness and vagueness are
incompatible; and section 6 concludes.

2. The Mere Addition Paradox and Parity.

To explain the mere addition paradox, I need first to introduce three other ideas in
Parfit’s *Reasons and Persons*. These are ‘mere addition’, the ‘valueless level’ and the
‘repugnant conclusion’. The valueless level of well-being is some level such that below this
level ‘[i]f lives are worth living, they have ... value for the people whose lives they are. But
the mere fact that such lives are lived does not make the outcome better.’ (Parfit, 1984, p.
412). Adding people to the population is *mere addition* when extra people exist: (1) who
have lives worth living; (2) who affect no one else; and (3) whose existence does not involve
any social injustice (Parfit, 1984, p.420). In some accounts of the paradox (like Temkin,
1987, p. 141), (3) is dropped and I shall follow this practice here. Nothing hangs on this.
Finally, Parfit’s repugnant conclusion (Parfit, 1984, p. 388) runs as follows:

*The Repugnant Conclusion*: For any possible population of at least 10 billion people, all with
a very high quality of life, there must be a 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 thinks that moral theories should not lead us to accept this conclusion.

Before I can present the paradox, some notation and definitions are necessary. I use ‘R’ to mean ‘better than or precisely as good as’. This relation is typically referred to as ‘at least as good as’.

I treat it as a primitive relation. I also use: ‘∨’ for conjunction; ‘¬’ for negation; ‘∧’ for the inclusive ‘or’; ‘∅’, for ‘is a member of’; ‘Y’ for the conditional ‘if ... then’; ‘∀’ for the universal quantifier (‘for all’); ‘ ’ for ‘if and only if’; and ‘≜’ for ‘is not identical to’. Various properties are defined on a set of conceivable alternatives, X. Any binary relation, O, may have the following properties: 

**reflexivity**: ∀x OX, xoX; 
**transitivity**: ∀x, y, z OX, (xOy∨yOz) Y xOz; 
**completeness**: ∀x, y OX, x ≣ y, xOy∧yOx; and 
**symmetry**: ∀x, yOX, xOy Y yOx. 

A relation which is transitive, reflexive and complete is a weak ordering. One which is transitive and reflexive but not necessarily complete is a quasi-ordering. I define ‘better than’ - which is written ‘B’ - and ‘exactly as good as’, which is written ‘E’ in the usual way: 

x B y [xRy∨¬(yRx)]; and xE y [xRy∧yRx]. 

The simplest version of the mere addition paradox (used, for example, in Temkin, 1987, pp. 140-1) goes like this. Consider three states of affairs a, a+, and b. The level of well-being of everyone alive in a is "". This is above the valueless level. The well-being of everyone living in b is $= 0.8"$. b has twice the population in a. The third alternative a+ is identical to a except that it includes some extra people. The number of extra people is equal to the population in a. The extra people’s lives are worth living, but their level of well-being,
(, is below the valueless level. The addition of these people does not, thus, make \( a^+ \) better than \( a \). Furthermore, their lives do not affect anyone else. \( a^+ \) thus arises from mere addition to \( a \). The paradox involves various judgements. Parfit (1984, p. 430) thinks that if one judges that \( bBa \), one might end up accepting the repugnant conclusion. To see why, suppose that the population in \( a \) is 10 billion, and that everyone in \( a \) has a very high quality of life. Suppose also that there is a finite sequence of states of affairs, \( a, b, c, ..., z \). The quality of life of everyone in \( b \) (\( c, d, \) etc.) is \( 0.8^n \) (\( 0.8^{2n}, 0.8^{3n}, \) etc.). People living in \( z \) have a life that is barely worth living. If we judge that \( bBa \), on the grounds that it is better to double the size of the population if the resulting population has a level of well-being which is four fifths the level of well-being of the original population, then we may also judge that \( cBb, dBc, ..., zBy \). By transitivity of \( B \) it follows that \( zBa \). This implies the repugnant conclusion. To avoid it, one might instead suppose that \( aBb \). In fact, all one needs to do is to suppose that \(- (bBa)\). It is also plausible to hold that \( bBa^+ \), since \( b \) involves a more equitable distribution of well-being than \( a^+ \). Since \( a^+ \) is produced by mere addition to \( a \), Parfit thinks that it is not worse than \( a \), i.e. he thinks that \(- (aB a^+)\). Given completeness of \( R \), this implies \( a^+Ra \). However, this implication leads to contradiction. \( a^+Ra \) means \( a^+Ba \land a^+Ea \). If the first disjunct is true then transitivity of \( B \) and \( bBa^+ \) imply \( bBa \). On the other hand, if \( a^+Ea \), then given \( bBa^+ \), BE transitivity implies \( bBa \). To avoid the repugnant conclusion we assumed that \(- (bBa) \). So we are left with a contradiction. This is the paradox.

The paradox involves a number of value judgements and my explanation of it invoked both completeness and transitivity of \( R \). Parfit’s own solution involves the idea that ‘no worse than’ does not imply ‘at least as good as’. If Parfit means \( R \) by ‘at least as good as’ then, this involves relaxing completeness of \( R \), which I have assumed thus far and now drop. Dropping completeness implies that \( R \) is a quasi-ordering. Parfit supposes that while \( a \) is
neither better nor worse than \( a^+ \), nor are \( a \) and \( a^+ \) exactly as good. Since this means that 
\(- (\text{Ra} \leftrightarrow \text{Ra}): \ a^+ \) and \( a \) are B incommensurate. However, for Parfit (1984, p. 431) it is not 
that these states cannot be compared: they are ‘roughly comparable’. He thinks that if \( a^+ \) is 
made somewhat better than \( a^+ \) then the resulting state, improved \( a^+ \), is still not better than \( a^+ \). Parfit goes on to discuss ‘rough comparability’ and illustrates the idea using an example 
involving a comparison between two poets and a novelist.

Parfit here invokes a relation which also appears in the writings of James Griffin 
elsewhere (Qizilbash, 2002 and forthcoming a). My formalization involves distinguishing B-
commensurateness and comparability. This is non-standard since in most texts comparability 
and B-commensurateness are equivalent. To define parity, I introduce another primitive 
relation: ‘comparable to’, which is written ‘C’. If this relation does not hold between 
alternatives, they are ‘incomparable’. I use \( P \) for ‘parity’ and define it as follows: 
\[ xPy \iff xCy \lor (\text{Ra} \land \text{Ra}) \].\footnote{In words, \( x \) and \( y \) are on a par if they are B-incommensurate and comparable. It is a distinct relation which holds between alternatives: when it holds between options it cannot be the case that one is better than the other, or that they are exactly as good. An analysis of various candidate examples of parity suggests that there is a ‘mark of parity’ which distinguishes it from exact equality and incomparability. Consider the following example. \( F \) is an excellent French meal, and \( I \) is an excellent Italian meal. There is also another French meal, \( F' \), which is slightly better than \( F \). Suppose that \( F \) and \( I \) are on a par. If \( F \) and \( I \) are on a par, then a slight improvement (worsening) in \( F \) will not make the resulting meal \( F' \) better (worse) than \( I \). This would not be so if they were exactly as good: so parity is distinct from exact equality. However, if \( F \) and \( I \) are on a par a significant improvement (worsening) in \( F \) would mean that the resulting meal is better (worse) than \( I \). This}
distinguishes parity from incomparability. If $F$ and $I$ are incomparable then one is neither better nor worse than the other and even a significant improvement (worsening) of $F$ may not make $F'$ better (worse) than $I$. The ‘mark of parity’ is this: if $x$ and $y$ are on a par, then a significant improvement (worsening) of one of the options makes it better (worse) than the other.\(^6\)

Returning to Parfit’s discussion of the mere addition paradox, my interpretation is that two of the three options are on a par. If improved $a^+$ is somewhat, but not significantly, better than $a^-$ it is not better than $a$ so that $a^+Pa$. If so, $(aBa^+)$ does not imply $a^Ra$ even though $a^+$ and $a$ are comparable. Furthermore, $bBa^+Pa$ does not imply $bBa$ so that $-(bBa)$ is not contradicted. We can thus avoid the repugnant conclusion and solve the mere addition paradox.

3. ICLGU, Parity and Vagueness.

Charles Blackorby, Walter Bossert and David Donaldson (1996 and 1997) have interpreted Parfit’s solution to the paradox in terms of ‘incommensurability’, by which they mean B-incommensurateness. To understand their formalisation of Parfit’s solution consider first a case with a fixed number of people. Suppose that $w_i$ is the well-being of person $i$ and $i = 1, \ldots, n$, so that $n$ is the number of people in the population.\(^7\) Blackorby, Bossert and Donaldson assume that there is a constant, positive ‘critical-level’ of well-being, $B$. For the constant population case, their position is ‘critical-level generalized utilitarianism’ (CLGU).

This can be represented by a value function which involves transforming levels of well-being using a function $g(.)$ to allow for inequality aversion. The value function of CLGU is:

\[
W_{\text{CLGU}}^c = \sum_{i=1}^{n} \left[ g(w_i) - g(B) \right]
\]

I follow Parfit in setting the issue of social inequality to one side\(^8\) and focus on the value function of ‘critical-level utilitarianism’ (CLU). This is a special case of (1):
To extend CLGU to the variable population case, Blackorby, Bossert and Donaldson (1996, p. 139) allow for the possibility that vectors of well-being levels, such as \( w = (w_1, w_2, \ldots, w_n) \), are B-incommensurate. These are cases where, for two vectors \( w^* \) and \( w' \), it is false that \( w^* R w' \), and false that \( w' R w^* \). Blackorby, Bossert and Donaldson compare the well-being vector of one population, which I write, \( w_e \), with an alternative situation where one person is added to this population leaving the levels of well-being of existing people unchanged. I write the vector for this latter situation as \( (w_e, \mu) \), where \( \mu \) is the well-being level of the extra person. They suppose that, for every population size, \( n \), and every \( w_0 \in \mathbb{E}^n \), there is a ‘critical set’ of levels of \( \mu \), \( K^n(w) \), such that \( w \) and \( (w_e, \mu) \) are B-incommensurate. Their ‘basic axiom’ - the critical-set population principle - is that this set is bounded and non-empty (Blackorby, Bossert and Donaldson, 1996, p. 139). If someone is added to the population above (below) all critical levels in \( K^n(w) \) the resulting situation is better (worse) than the initial one (Blackorby, Bossert and Donaldson, 1996, p. 140). \( K^n(w) \) is an interval, though no assumption is made about the boundaries of the interval (Blackorby, Bossert and Donaldson, 1996, pp. 140-141). Blackorby, Bossert and Donaldson (1996, p. 141) add two further axioms. One of these - the ‘critical-set extension principle’ - formalizes the idea that if the well-being of each person added to the population is in the critical set, then the resulting well-being vector is B-incommensurate with the initial one. Secondly, they assume that the set of critical levels is fixed and is \( K \). These axioms are used to establish ICLGU. A special case of this is ‘incomplete critical-level utilitarianism’ (ICLU). The latter is the view that, for any population sizes \( n' \) and \( n^* \) and any well-being vectors \( w' \) and \( w^* \), with well-being levels in \( w' \) and \( w^* \) written \( w'_i \) and \( w^*_i \), respectively:
To relate ICLU to the discussion of parity and Parfit’s solution, I use diagrammatic representations. I focus exclusively on the case where one person is added to the population, at a level of well-being $\mu$, leaving the rest of the population with an unchanged well-being vector $\mathbf{w}$. Suppose that all possible levels of well-being of the extra person lie in increasing order on a line. As we move along the line to the right (left), the well-being of the extra person gets better (worse). John Broome (2001) has also used this representative device. I call it a ‘well-being configuration’. It is shown in figure 1.

Figure 1: A Well-Being Configuration.

Where $K$ has finite upper and lower bounds we can describe ICLU in terms of this configuration. Suppose that there is an interval of critical levels such that $(\mathbf{w}, \mu)$ and $\mathbf{w}^e$ are $B$-incommensurate. Levels of well-being in this interval fall in a zone which has a lower bound of $B_1$ and an upper bound of $B_2$. It is shown in figure 2. If $\mu < B_1$, $\mu$ is in the ‘worse zone’ and $\mathbf{w}^eB(\mathbf{w}, \mu)$ while if $\mu > B_2$, $(\mathbf{w}^e, \mu)B\mathbf{w}^e$ and $\mu$ is in the ‘better zone’. If $B_1 \neq \mu \neq B_2$, furthermore, it is false that $\mathbf{w}^eE(\mathbf{w}, \mu)$. If it were true that $\mathbf{w}^eE(\mathbf{w}, \mu)$ and $\mu$ were slightly increased (decreased) it would be in the better (worse) zone. This is clearly not the case if there is a zone or ‘interval’ between the better and worse zones. The zone in between the better and worse zones is, by implication, a zone of $B$-incommensurateness.
While ICLU can involve a $B$-incommensurate zone of this sort, Blackorby, Bossert and Donaldson do not tell us much about the interval. In a later paper, they tentatively suggest that ‘[t]he interval might be chosen, for example, with a lifetime utility level that represents a barely satisfactory level of well-being at the bottom end and one that represents a life that is more than satisfactory but short of flourishing at the top’ (Blackorby, Bossert and Donaldson, 1997, p. 218). My reading of their intuition is that levels of well-being in the better zone are flourishing and those in the worse zone are miserable. The $B$-incommensurate zone is most naturally seen as a zone containing lives that are ‘satisfactory’.

How does this intuition fit with the account of ‘parity’? It suggests that adding people at levels of well-being which are satisfactory would not make the outcome either better or worse. However, adding someone to the population at a level of well-being which is significantly better (worse) than satisfactory would make the resulting outcome better (worse). In other words, if levels of $\mu$ in the $B$-incommensurate zone are ‘satisfactory’, and it is a zone of parity, then only a significant improvement in $\mu$ would make $(w^e, \mu)Bw^e$, and only a significantly worsening of it would make $w^eB(w^e, \mu)$. This would be consistent with my interpretation of Blackorby, Bossert and Donaldson’s intuition. However, some clarification of what is meant by a ‘significant’ improvement or worsening in this context is needed. If we are to be true to Blackorby, Bossert and Donaldson’s intuition, then a
significant improvement is one that leaves µ outside the range of satisfactory lives so that it is a flourishing life. At the other end, a significant worsening in µ leaves µ below any life which is even barely satisfactory, so that in the worse zone life is miserable. The thought is that if µ is a satisfactory level of well-being more than a slight improvement (worsening) in µ is required for it to constitute a flourishing (misera ble) life.¹⁰

There are problems with interpreting the B-incommensurate zone in figure 2 as a zone of parity. Consider a level of µ in the B-incommensurate zone on the edge of the better zone. At this point, (w, µ) is B-incommensurate with w and a tiny increase in µ would imply that (w, µ)Bw. If so, it is false that (w, µ)Pw at this point. A similar argument can be made for a level of µ in the B-incommensurate zone on the edge of the worse zone. So the B-incommensurate zone in figure 2 is not a zone of parity. If the zone of B-incommensurateness is a zone of parity, its borderlines are not sharp. If it has inexact borderlines, we need to introduce vagueness and to elucidate the relationship between parity and vagueness.

There is now a considerable literature on philosophical accounts of vagueness (Keefe and Smith, 1996 *inter alia*). I focus on predicate vagueness. This arises when predicates: have borderline cases; generate Sorites paradoxes; and do not have sharp borderlines. ‘Tall’ has all the characteristics of a vague predicate. There clearly are borderline cases between those which are definitely tall and those which are definitely short and there is no exact borderline between people who are, and are not, tall. Suppose that Jim is tall, and Jason is very short. If Jim is tall, it is plausible that John, who is slightly shorter than Jim, is also tall. Next consider, Mary who is slightly shorter than John. By identical reasoning she is also tall. Repeating this reasoning on a number of occasions we conclude that Jason is tall. However, he is very short so that we are led to contradiction. This is a standard Sorites paradox.

Why is there vagueness if the B-incommensurate zone is a zone of parity? It arises
because ‘significant’ is a vague predicate. In the context of parity, we are concerned with how large an improvement or worsening in a level of well-being is ‘significant’. Vagueness of ‘significant’ implies that ‘significantly better than’ can generate a Sorites paradox. If \( x \) is significantly better than \( y \), it is plausible that something which is a little less good than \( x \), \( x' \), is also significantly better than \( y \). If \( x' \) is significantly better than \( y \), then by the same reasoning, so is something slightly worse than \( x' \), \( x'' \). However, if we repeat this reasoning, we can arrive at the conclusion that \( y \) is significantly better than itself which is false.

To allow for vagueness, one might amend figure 2. In what follows I use a version of supervaluationism (Fine, 1975 and Keefe and Smith, 1996), though one could use other accounts of vagueness and indeed other versions of supervaluationism to make the points that follow.\(^{11}\) Supervaluationism allows for various ‘admissible’ ways of making a rough borderline more precise, or admissible ‘precisifications’ of the borderline. When predicates are vague, supervaluationism only classifies statements as ‘super-true’ (‘super-false’) if they are true (false) for all admissible precisifications. If a statement is true for some admissible precisifications but not others, it is not super-true.\(^{12}\) A further level of vagueness - ‘second-order vagueness’ - is allowed for because ‘admissible’ is vague.

Suppose now that the boundaries of the B-incommensurate zone are inexact. This situation is depicted in figure 3.\(^{13}\) There are vague zones between the B-incommensurate zone and the better and worse zones. Suppose also that the range of admissible precisifications is exact so that there is no ‘second-order vagueness’ and all vagueness is of ‘first-order’. In this figure \( v' \) is the lowest admissible precisification of the lower boundary, and \( v'' \) is the highest admissible precisification of the upper boundary, of the B-incommensurate zone.
Figure 3: B-Incommensurateness with Vague Borderlines.

\[
\begin{array}{ccccc}
\mu<v' & v' & v'' & \mu>v'' \\
- & - & - & - & -
\end{array}
\]

\[
\text{w}^\text{v} \text{B} (\text{w}^\text{v}, \mu) \text{ (The worse zone)} \quad \text{B-Incommensurate} \quad (\text{w}^\text{v}, \mu) \text{Bw}^\text{v} \text{ (The better zone)}
\]

\[
\text{Zone}
\]

\[
\mu
\]

In the zones bordering the B-incommensurate zone, there is first-order vagueness involving different admissible precisifications, which is shown by broken lines. Once this vagueness is accounted for, there is a zone of levels of \( \mu \) which fall in the worse zone - the levels below \( v' \) - and there is a zone of levels of \( \mu \) which fall in the better zone - those which are above \( v'' \). On the parity view, for all levels of \( \mu \) in the B-incommensurate zone \( \text{w}^\text{v} \text{P}(\text{w}^\text{v}, \mu) \). Vagueness and parity are quite distinct.\(^{14}\)

This account must be wrong if the B-incommensurate zone is a zone of parity. To see why suppose that \( \mu \) is in the B-incommensurate zone, on the edge of the vague zone between the B-incommensurate zone and the better (worse) zone. A slight increase (decrease) in \( \mu \) puts \( \mu \) in the vague zone. If the broken lines relate to admissible precisifications of the borderline between the zones, there must be some admissible precisification according to which a point just to the right (left) of the B-incommensurate zone makes \( (\text{w}^\text{v}, \mu) \) better than (worse than) \( \text{w}^\text{v} \). If, for all levels of \( \mu \) in the B-incommensurate zone, \( \text{w}^\text{v} \text{P}(\text{w}^\text{v}, \mu) \), this cannot be right: slightly increasing (or decreasing) \( \mu \) cannot make the difference between states being on a par and one being better (worse) than the other, on any admissible way of making the borderlines more precise. The obvious response to this problem assumes that the borderlines of the vague zones depicted in figure 3 are themselves inexact.\(^{15}\) Making this assumption involves introducing another layer of vagueness. It would then take more than a
slight increase (reduction) in well-being to move from the B-incommensurate zone into the zone of first-order vagueness to its right (left). Furthermore, it would take more than a tiny increase (reduction) in well-being to move from the vague zone to the right (left) of the B-incommensurate zone into the better (worse zone). This adjusted account of the relationship between vagueness and parity involves reinterpreting figure 3 so that the vague zones incorporate second-order vagueness.

4. Intuitions of Neutrality.

In Weighing Lives, Broome’s evaluation of views which relax completeness begins with a discussion of what he calls the ‘intuition of neutrality’, which he finds attractive but eventually rejects. There are actually numerous intuitions relating to neutrality in his book. Broome treats a level of well-being as ‘neutral’ if, at this level, ‘it is neither better nor worse that this life is lived than that it is not lived’ (Broome, 2004, p. 142). Here ‘neutral’ means ‘ethically neutral’. Broome’s terminology is different to mine. In particular, he uses ‘equally as good as’ to refer to the relation I have called ‘exactly as good as’; and my use of ‘B-incommensurate with’ (‘B-incommensurateness’) is equivalent to his ‘incommensurate with’ (‘incommensurateness’). In my terms, Broome begins by assuming completeness of R. This means that each possible distribution of well-being is either better than, worse than or exactly as good as any other conceivable distribution. In the well-being configuration, the implication of completeness is that only one level of well-being, $0$, is neutral. This situation is presented in figure 4. At the neutral level $(w^\circ,\mu)Ew^\circ$. Completeness implies that ‘[n]eutrality marks a sharp boundary between lives that are better lived than not and lives that are better not lived than lived.’ (Broome, 2004, p. 142).

Broome suggests that this conclusion conflicts with intuition because ‘[w]e think intuitively that adding a person to the world is very often ethically neutral. We do not think
that just a single level of wellbeing is neutral, and that a person’s living at any other level is either better or worse than her nonexistence.’ (Broome, 2004, p. 143). This is, in broad terms, what he refers to as ‘the intuition of neutrality’. Broome considers various versions of it. One is this: ‘if a person is added to the population of the world, her addition has no positive or negative value in itself’ (Broome, 2004, pp. 145-146). He rejects this version because if a couple had the choice of having a child whose life would be ‘short and full of suffering’ (Broome, 2004, p. 144) they should definitely not have the child: it would make matters worse. Broome then considers the possibility that the range of lives which is neutral - or ‘neutral range’ - has a lower, but no upper, boundary. It is worth noting that Parfit’s view cannot take this form. There are lives, in Parfit’s examples, which are above the ‘valueless level’: adding people above this level makes the outcome better in Parfit’s terms. So Parfit clearly thinks that there is an upper boundary. If we reject the view that there is no upper boundary, we are left with what Broome calls the ‘more moderate view’: the range of neutral levels has both an upper and lower boundary. This view was adopted in the last section where the neutral range was characterised as a B-incommensurate zone.

In Weighing Lives Broome is forced to consider this view because of problems with treating the neutral range in terms of exact equality. To explain why, I must introduce Broome’s notation. In this notation (e.g. Broome, 1999, p. 230 and 1996, pp. 177-181) each
possible state is represented by a vector. Each place in the vector stands for a person who lives in at least one of the states of affairs being compared. The corresponding place in each vector compared stands for the same person. In a state where she does not exist, her place contains an S. If she exists her place contains a number which indicates her lifetime well-being. Broome takes well-being to be measurable on a cardinal scale that is interpersonally comparable. Now consider these distributions: \( J = (1, 1, \ldots, 1, S) \); \( K = (1, 1, \ldots, 1) \); and \( L = (1, 1, \ldots, 2) \). Suppose that both 1 and 2 fall in the neutral range. If neutrality is thought of in terms of exact equality, then \( KEJ \) and \( JEL \). By transitivity of R (which implies transitivity of E) \( KEL \). However, everyone except the last person in \( L \) is exactly as well of as they are in \( K \) and the last person is better off. For this reason, Broome thinks that \( LBK \). However, \( LBK \) contradicts \( KEL \) which follows from the transitivity of E. So Broome rejects the proposal that all levels of well-being in the neutral range are exactly as good as non-existence.

Broome then considers the possibility of characterising neutrality in terms of B-incommensurateness and raises a series of doubts about it. First, he thinks that ‘it is arbitrary to call on the idea of incommensurateness’ in this context. He goes on to say that: ‘neutrality is most naturally understood as equality of value’ so that resorting to B-incommensurateness to avoid contradiction ‘looks like a fudge unless we can offer some reason why the neutrality of existence really amounts to incommensurateness rather than equality’ (Broome, 2004, pp. 168-169). Here it is clear that Broome actually sees (exact) equality as the most intuitive way of understanding neutrality: this is his ‘alternative intuition’.

If parity is the only form of B-incommensurateness then Broome’s first doubt is, I think, less worrying. One might argue that while parity is not exact equality, it is a form of equality nonetheless. Broome’s doubt would persist since ‘exactly as good as’ is equivalent to his relation ‘equally as good as’: precision is part of his concept of equality. So parity is
not equality, as Broome understands it. It might be argued that parity is the only form of equality on offer when comparisons are, for some reason, complex. In one of the earlier examples - involving excellent French and Italian meals - complexity arises because of differences in the quality of the meals. In the variable population case, it arises in comparisons between certain distributions because a person (people) exists (exist) in some distributions and not in others. It emerges in Broome’s own representations because when a person exists her well-being is given by a number, while when she does not her place is taken by an $S$.

Since Broome’s first doubt may persist, I add one further comment. One intuition about neutrality is this: adding a person (people) to the world at a specific level of well-being is ‘ethically neutral’ since it is neither better nor worse to add her (them) so that it does not make a difference (from the moral point of view) whether the relevant person (people) is (are) added. It is a matter of (moral) ‘indifference’. This suggests that when adding people is neutral it is exactly as good as not doing so. That may be the basis of Broome’s ‘alternative intuition’ which sees neutrality most naturally in terms of (exact) equality. How do things stand when the options are on a par, rather than exactly as good? The options are comparable, but one is not better than the other. It is plausible that given a choice between these options, it does not matter which option is chosen at any particular point in time (Qizilbash, 2002, p. 148). For this reason, Griffin (1986, p.97 and 2000, p. 287) has suggested that, as regards choice, parity (‘rough equality’ in his terms) can be treated as exact equality. My further suggestion is that, if I have correctly understood Broome’s rationale for his ‘alternative intuition’, neutrality might also be seen as parity. If so, the parity view meets Broome’s ‘intuition of neutrality’ - because it implies a neutral range - and his ‘alternative intuition’ since when options are on a par, one can be indifferent between them.
Broome’s second doubt has to do with the idea that B-incommensurateness and vagueness are incompatible. I discuss it in the next section. His third doubt, which he thinks is the most serious, suggests that B-incommensurateness does not ‘capture adequately the intuitive idea of neutrality’ (Broome, 2004, p. 169). On Broome’s account B-incommensurateness involves a sort of ‘greedy neutrality’. He illustrates this point with a version of the mere addition paradox. These is shown below:

**Broome’s Version of the Mere Addition Paradox**

\[ S = (4, 4, \ldots, 4, 6, S); \]
\[ T = (4, 4, \ldots, 4, 6, 1); \]
\[ U = (4, 4, \ldots, 4, 4, 4); \]
\[ W = (4, 4, \ldots, 4, 4, S). \]

Suppose that 4 and 1 are in the B-incommensurate zone (or neutral range). Broome’s account of this version of the paradox goes as follows. First, we judge that \( U \succ T \) because \( U \) has a greater aggregate of well-being, and a more equal distribution, than \( T \) does. Because 1 and 4 are in B-incommensurate zone, \( S \) and \( T \) are B-incommensurate and \( U \) and \( W \) are B-incommensurate. Broome claims that it cannot be true that \( S \succeq U \). If it were, then, by transitivity of B, \( S \succeq T \), but we know that \( S \) and \( T \) are B-incommensurate. So we would be led to contradiction. But Broome insists that \( S \succeq U \). He thinks this because in moving from \( S \) to \( U \) there are two changes. First, one person has come into existence and the change is neutral because 4 is in the neutral range. Secondly, one person’s well-being has fallen from 6 to 4. This is a bad thing. Broome thinks that the combined effect of a neutral change and a change for the worse implies that \( U \) is worse than \( S \). If \( S \) and \( U \) are B-incommensurate, neutrality is
not what it should be because is ‘swallows up’ the badness of reducing one person’s well-being from 6 to 4. This makes the neutrality involved in a B-incommensurate zone implausibly ‘greedy’. His intuition is that neutrality is not ‘greedy’ and this is his main reason for rejecting neutrality characterised in terms of B-incommensurateness. Broome later suggests that this sort of ‘greedy’ neutrality has even more implausible implications in the context of examples which he interprets in terms of global warming.

How might this example be interpreted if the only form of B-incommensurateness is parity, while 4 and 1 both fall in the zone of parity? Firstly, $S$ and $T$ are on a par. How do $S$ and $U$ stand as regards comparative value? This evaluative comparison is quite different to those discussed above. Those comparisons were restricted to cases where everyone’s well-being was left unchanged when any individual or group was added to the population. Nothing in the parity view commits one to any judgement of $S$ and $U$. One way of arriving at the judgement that $SBU$ on the parity view might run like this. $U$ and $W$ are on a par. $S$ is significantly better than $W$ because 6 is significantly higher than 4, so (given the account of parity) $SBU$. However, there are two reasons to doubt this line of argument. Firstly, it is not obvious that $S$ is significantly better than $W$ because it is not obviously true that 6 is a significantly higher than 4. Secondly, everyone alive in $W$ has the same level of well-being, while in $S$ they do not. Equality in levels of well-being was invoked in the comparison between $T$ and $U$, and if it was relevant to that comparison, it would be relevant to judging whether $S$ is significantly better than $W$. I conclude that, unlike Broome’s intuition that neutrality is not ‘greedy’, the parity view does not imply any confident judgement of the relative value of $S$ and $U$. Since Broome’s case hangs on this intuition, it will only appeal to those who share it.

Broome (2004, pp. 202-205) later uses similar examples and interprets them in terms
of global warming. One example involves subtracting someone from the world, whereas I am restricting attention to examples of addition. Another involves adding one person to the world in the B-incommensurate zone, while lowering the well-being of an existing person. The two distributions compared are: \( Q = (4, 4, \ldots, 4, 4, S) \); and \( R = (4, 4, \ldots, 4, 2, 4) \). The comparison between \( Q \) and \( R \) is clearly similar to that between \( S \) and \( U \). One person’s lifetime well-being has fallen while another person has been added in the neutral range in the move from \( Q \) to \( R \). Broome (2004, pp. 202-5) characterises the effects of global warming in terms of reproducing this example ‘scaled up a hundred-million-fold’. He interprets the reduction of well-being from 4 to 2 as a shortening of life, so that global warming effectively kills people. I’m not convinced that the effects of global warming are best characterised through a comparison between \( Q \) and \( R \). Future generations will lead miserable lives if global warming is not checked. This is not captured by the comparison. If, as a result of global warming, the lives of future generations are significantly worse than a satisfactory life, the parity view implies that this result of global warming is a bad thing. The ‘greediness’ of neutrality does not block this conclusion.

I have discussed ‘greedy’ neutrality at some length because of the importance Broome assigns it in rejecting views based on B-incommensurateness. Yet it turns out that his own vagueness account turns out to be ‘greedy’ in the same way (Broome, 2004, p. 182). So even if one accepts Broome’s worries about ‘greedy neutrality’, greediness does not favour his own account over the parity view. The greediness of the neutrality would only threaten the parity account if it undermined the view that there is a range of levels of well-being such that adding a person (or group) at these levels, leaving everyone else at the same level of well-being, is on a par with not doing so. Broome’s discussion of examples of addition does not manage that because it exclusively focusses on examples where one person has been added to
the world, while an existing person’s well-being is reduced.20

5. Broome’s Vagueness View.

Broome’s own account involves treating the ‘neutral level’ as a vague concept. His
claim is that the boundary between better and worse zones is vague: lives that fall in it are
‘borderline lives’ (Broome, 2004, p. 180). Earlier, as we saw, Broome took the neutral level
to mark a sharp boundary between lives which are better, and those that are worse, than non-
existence. That was the crucial implication of completeness for the neutral level. It conflicted
with the ‘intuition of neutrality’ and must be rejected if there is vagueness about the neutral
level. Instead the correct picture must be that presented in figure 5: there is a rough boundary
between the better and worse zones. Broome characterises it as a single vague zone with
exact boundaries. In figure 5 its limits are 0’ and 0’’.

Figure 5: One Vague Zone with Exact Boundaries.

A supervaluationism account of figure 5 allows Broome to preserve completeness to some
degree. I shall here express Broome’s view in terms of the version of supervaluationism that I
introduced earlier, rather than using the version Broome himself employs. No claim I am
discussing hangs on the difference between these versions of supervaluationism. A
supervaluationist reading of figure 5 implies that each level of well-being in the vague zone
is a precisification of the boundary between the better and worse zones. Since it is true for
each such precisification that adding someone to the world is exactly as good as not doing so, and adding someone above (below) this level makes things better (worse) than not adding the person, completeness is true for each precisification. Since it is true for each precisification it is super-true. To this degree, supervaluationism ‘saves’ completeness while allowing a rough borderline between the better and vague zone. That is the beauty of Broome’s account: it is consistent with all the axioms of utility theory, for each precisification. It is important for the coherence of Weighing Lives since he needs these axioms for the measurability of well-being. However, the rough borderline is not best understood as a ‘neutral range’ since each level of well-being on the borderline is only ‘neutral’ on one precisification (Broome, 2004, p. 206). On other precisifications it falls in the better or worse zones. How plausible is Broome’s account?

My main worry about it is that Broome does not explain why the ‘neutral level’ is vague. He simply assumes that it is and traces the consequences of vagueness (Broome, 2004, p.180). This assumption sits uneasily with Broome’s ‘alternative intuition’ that neutrality involves equality rather than B-incommensurateness, while equality in turn involves exactness. As we saw, this exactness implies a neutral level which marks a precise boundary between lives which are better lived than not, and those which are better not lived than lived. It does not elucidate vagueness. Broome’s suggestion that ‘the terms “better than” and “worse than” will inherit vagueness from the vagueness of the neutral level’ (Broome, 2005, p. 181) does not help. In fact, introducing vagueness might appear to be a ‘fudge’ in the same way that Broome worries that recourse to B-incommensurateness is a ‘fudge’. Vagueness certainly has helpful consequences for his account and it would certainly be convenient for Broome if the ‘neutral level’ is vague.

Two aspects of Broome’s vagueness view pose problems for views involving B-
incommensurateness. They follow from a principle he has defended elsewhere: the ‘collapsing principle’.\(^{21}\) Firstly, this principle implies that vagueness and B-incommensurateness are incompatible (Broome, 2004, pp. 173-5). It thus rules out the picture described in figure 3 (with or without second-order vagueness). Secondly, it implies that, as Broome puts it, borderline cases of ‘\(A\) is better than \(B\)’ coincide with borderline cases of ‘\(B\) is better than \(A\)’.\(^{22}\) This also rules out the picture in figure 3, because it implies that there is only one vague zone between the better and worse zones. Broome (2004, p. 174) freely admits that he has not convinced everyone of the collapsing principle. It has been rejected by Ruth Chang (2002a) and Erik Carlson (2004). No argument that depends on it can be regarded as completely sound. Before I assess Broome’s view, I need to try to make sense of the vagueness in it since I am not convinced that he has adequately explained it.

To make sense of his view, I focus on one specific vague predicate which implies a unique vague zone. To my mind, the most obvious contender is ‘high’. Just as ‘tall’ is vague, ‘high’ is: it involves borderline cases; there is a rough borderline between cases which are, and are not, high; and one can run a Sorites paradox on ‘high’. Suppose that it is better (worse) to add people to the world if their well-being is high (low). Levels of well-being in the better (worse) zone are high (low). The vague zone which runs between the better and worse zones marks the rough borderline between levels which are unambiguously high and low. A supervaluationist account can preserve completeness by treating each level of well-being in the vague zone as a precisification of the borderline between ‘high’ and ‘low’. This is consistent with the account of the single vague zone in figure 5. Is it consistent with other aspects of Broome’s account? I don’t think it is. To see why, consider how Broome thinks we should set the borderlines of the vague zone. He writes that the upper limit of the zone must be set ‘fairly high’ and that the lower limit must be set ‘fairly low’ (Broome, 2004, p. 264). If
so, my guess is that at the upper boundary it must be super-true that the level of well-being is high, and at the lower boundary it must be super-true that the level of well-being is low.

Indeed, Broome’s discussion also suggests that even high levels of well-being may not fall in the better zone. He tells us that they are ‘either within the zone of vagueness or they are not’ (Broome, 2004, p. 182).

Broome’s discussion of how to set the boundaries of the vague zone clearly involves two predicates: ‘fairly high’ and ‘fairly low’. It is easy to show that both are vague. This pair of vague predicates does not obviously generate one vague zone between the upper and lower boundary. There are cases which are not definitely fairly high, while definitely not being fairly low. So Broome’s account is not best understood in terms of the vagueness of ‘high’.

However, the vagueness of the predicates invoked in his discussion of how to set upper and lower boundaries might conflict with his view that - as he puts it - borderline cases of ‘$A$ is better than $B$’ and of ‘$B$ is better than $A$’ are the same. The vagueness of these predicates suggests that there are two vague zones between the better and worse zones, as there are in figure 3.

The second aspect of Broome’s view which poses a problem for the parity account is the claim that B-incommensurateness and vagueness are incompatible. As long as vagueness of ‘better than’ is, as Broome thinks it is, very widespread, this claim has a radical implication which reaches well beyond the subject matter of *Weighing Lives*. The implication is that B-incommensurateness simply does not exist. Broome explains his argument in terms of what is typically taken to be a strong (or canonical) example of B-incommensurateness: Jean-Paul Sartre’s example of a young man deciding about whether to go to Britain to fight for the liberation of France or stay at home to look after his mother. For ease of exposition, I focus instead on the parity view as it is described by figure 3, since the argument is equally
applicable to it. If Broome’s argument is successful, it should undermine the parity view.

Figure 3 involves two vague zones on either side of the B-incommensurate zone. Consider a point in the vague zone to the right of the B-incommensurate zone. Here it is not super-false that \((w^e, \mu)Bw^e\), since \((w^e, \mu)\) is better than \(w^e\) on some precisifications but not others. Furthermore, there are levels of \(\mu\) that are lower than those in this vague zone - those in the B-incommensurate zone - where it is false for all precisifications that \(w^eB (w^e, \mu)\): \(w^eB (w^e, \mu)\) is thus super-false. Broome finds this position unsustainable, since there is an asymmetry between the options as regards the super-falsity of whether one is better than the other. This leads him to conclude that \((w^e, \mu)B w^e\) in the vague zone to the right of the B-incommensurate zone. Since this rules out vagueness, it leaves us with a contradiction. So Broome thinks that vagueness and B-incommensurateness are incompatible.

The argument relies on an asymmetry between options as regards the super-falsity of whether one is better than the other. It is this asymmetry which is the key to the collapsing principle. A similar asymmetry can cause problems for Broome’s own view depicted in figure 5. Consider a level of \(\mu\) on the boundary of the vague zone which borders the better zone. Suppose that, in this case, on all precisifications but one \((w^e, \mu)B w^e\). Here one might say that it is nearly super-true that \((w^e, \mu)B w^e\) and nearly super-false that \(w^eB (w^e, \mu)\). Indeed, given that there is bound to be second-order vagueness (which is not allowed for in figure 5) if one had defined the range of admissible precisifications slightly differently, it would be super-true that \((w^e, \mu)B w^e\) and super-false that \(w^eB (w^e, \mu)\). One might well conclude here that this asymmetry favours \((w^e, \mu)\) and that \((w^e, \mu)B w^e\). If so, the logic of asymmetry would imply that the point on the edge of the vague zone is not in the vague zone but in the better zone. One can repeatedly apply this argument for what is left of the vague zone. As a consequence, the vague zone will ‘collapse’, step by step, into the better zone. It is
easy to see that if one runs the same argument at the edge of the worse zone, the vague zone will instead ‘collapse’ into the worse zone.

Broome (1997, pp. 78-9) has actually considered a related argument in his initial statement and defence of the collapsing principle. He states the argument in terms of degrees of truth. He is aware that the argument would undermine the collapsing principle and attempts to avoid the difficulty by claiming that truth values are non-comparable. Yet he still finds it intuitively compelling that if there are two statements one of which is ‘nearly [super-] true’ and another ‘nearly [super-] false’, the first must be more true, so that their truth value is comparable (Broome, 1997, p. 81). If so, he should find it hard to resist the argument I have just made against the collapsing principle. His way of avoiding this problem seems to be this: there is a sharp boundary between cases which are ‘super-true’ and those which are indeterminate. If so, as we move from the better zone to the vague zone in figure 5, truth values fall dramatically, so that at points on the edge of the vague zone bordering the better zone it is not nearly super-true that \((w^e, \mu)B w^e\). However, if there were second-order vagueness - and Broome (2004, p. 180) does not think such vagueness poses a problem for his view - there is no sharp boundary between the better zone and the vague zone in figure 5. Furthermore, it is more plausible that a statement which is not super-true for some exact specification of the set of admissible precisifications is nonetheless nearly super-true, if it is super-true on some alternative specification of this set. I myself would not endorse the argument I have made here: I do not think that asymmetries as regards super-truth and super-falsity undermine vagueness. So I do not accept the logic of asymmetry or the collapsing principle. My purpose in making the argument is to show that the thrust of Broome’s logic of asymmetry counts as much against his own view as it does against the view that B-incommensurateness and vagueness can co-exist.
6. Conclusions.

Parfit’s solution to the mere addition paradox can be articulated using a formal account of parity. Like Blackorby, Bossert and Donaldson’s ICLU, this articulation involves incompleteness because parity is a form of B-incommensurateness. However, the parity account is only compatible with ICLU if the B-incommensurate zone has inexact borderlines. In *Weighing Lives* Broome raises a number of doubts about views which invoke B-incommensurateness. He thinks that these are based on an intuition of neutrality which he eventually rejects. The parity view responds to his doubt that neutrality is a form of equality rather than B-incommensurateness. As regards choice at a point in time, when options are on a par it does not matter which is chosen, just as would be the case if they were exactly as good. Broome’s other arguments - involving ‘greedy’ neutrality and the incompatibility of vagueness and B-incommensurateness - do not make a ‘knock down’ case for his own vagueness view over views involving incompleteness. His vagueness view also involves greediness. It can also be undermined by claims about the asymmetry of options with regard to the super-truth or super-falsity of whether one is better than another. The attraction of Broome’s view lies in the fact that it preserves a zone between the better and worse zones which is compatible with completeness for each precisification of the zone.

References


**Notes**

1. In earlier work (Qizilbash 2002 and forthcoming a) I refer to it as ‘narrowly at least as good as’ and distinguish it from another notion of ‘at least as good as’.

2. Since Broome’s system of relations is distinct this is not his own definition, but it translates his notion into my system. The most recent version of Broome’s system is in Broome (2004, pp. 20-23).

3. I follow Parfit’s practice and use ‘p’s quality of life’ and ‘p’s level of well-being’ equivalently in this paper.

4. Parfit’s own example is more complicated. He supposes that the extra people may live on another planet, so that other people may not even know of their existence. Their addition does not, then, necessarily make $a'$ socially unjust. If their addition leads to any ‘natural inequality’ that does not make $a'$ worse than $a$ (Parfit, 1984, pp. 422-425). Parfit includes a fourth alternative (‘divided $b'$) to deal with complications relating to inequality.

5. I give a full account of the relation system described here in Qizilbash (forthcoming a).

6. In fact, this ‘mark’ can be used to define parity, if one uses ‘better than’ as primitive (as Broome does). See Qizilbash (2002, pp. 152-3).

7. The existence of parity can also undermine the representation of well-being in terms of a numerical index. I ignore this complication in this paper.

8. To deal with this complication one might assume that the added member of the population lives on another planet.

10. One problem with treating the B-incommensurate zone as a zone of parity arises if all the options in the zone are ‘roughly equal’ in the ordinary sense of the term. If they are, the zone is narrow. John Broome has sometimes contended (in conversation) that the zone between the better and worse zones can be very wide (for a related argument in the context of Griffin’s rough equality view, see Broome, 2000, pp. 29-30, Griffin, 2000, pp. 287-288, and Qizilbash, 2002, pp. 153-155). Even if the zone of parity is narrow, once we allow for vagueness, the zone between the better and worse zones may be wide. In *Weighing Lives*, Broome (2004, p. 264) thinks that the problem of ‘greedy’ neutrality suggests that the zone between the better and worse zones should not be too wide.

11. Broome (2004, p. 186) uses an alternative version of supervaluationism in *Weighing Lives*, but no claim in this paper hinges on the difference between these accounts.

12. In this account, a statement ‘S’ is ‘super-true’ (‘super-false’) if and only if ‘S’ is true (false) on all admissible precisifications. In the account Broome uses, we may assert (deny) ‘S’ if and only if ‘S’ is true (false) under every ‘sharpening’. When I say that ‘S’ is super-true (super-false), in Broome’s language we may assert (deny) ‘S’. Also Broome uses ‘sharpening’ for what I call a ‘precisification’. It is also worth noting that when I use ‘precisification’ in this paper I am assuming that these are ‘complete’ precisifications: they make the vague statement as precise as possible. I exclude all partial (i.e. ‘incomplete’) precisifications.

13. This picture is a close relation of one presented by Chang (2002a, p. 168).

14. James Griffin’s use of the term ‘rough equality’ to describe the relation I have termed ‘parity’, and Parfit’s use of ‘rough comparability’ in this context can confuse readers into thinking that parity is vagueness. It led Broome to think that Griffin thought B-incommensurateness is vagueness. But parity is not vagueness. Nor is B-incommensurateness. On this see Broome (2000, pp. 30-31), Griffin (2000, p. 287) and Qizilbash (2000).

15. Another way of objecting to the picture in figure 3 suggests that the vagueness of ‘significantly better than’ and ‘significantly worse than’ generates a pair of vague zones for each level of µ in the B-incommensurate zone. My response to this point is that what makes a level of well-being significantly better (or worse) than a point in the zone of parity is that it is a flourishing (or miserable) life. The amount by which a level of well-being must rise (fall) to cross over to being flourishing (miserable) zone will, for this reason, depend on where it is in the zone of parity. I discuss this point at greater length in earlier work (Qizilbash, forthcoming a).

16. These versions of the ‘intuition of neutrality’ can be traced to Narveson (1967 and 1973).

17. In fact, in Broome’s discussion this follows from what he calls the ‘principle of personal good’ (Broome, 2004, p. 120).

18. If this is the right way to characterise the ‘alternative intuition’ it can also be traced to Narveson. He (Narveson, 1967, p. 66) expresses his view as follows: ‘having children ... is normally a matter of moral indifference’.
19. There is, nonetheless, a difference between parity and exact equality when considering choices over time, because parity is non-transitive while exact equality is transitive. See Qizilbash (2000, pp. 151-5).

20. Broome’s reason for focussing on these examples is probably his view that if adding people is neutral, such addition cannot justify any sacrifice of the well-being of existing people. As he puts it ‘neutrality cannot count against other values’ (Broome, 2004, p. 203). This is the intuition that neutrality is not ‘greedy’. It might be consistent with the ‘alternative intuition’ that neutrality is best thought of as exact equality. That is presumably why Broome (2004, pp. 214 and 264) thinks that the ‘greediness’ problem suggests that the vague zone should be narrow. My hunch (which is consistent with the view I take in the text) is that the parity view would imply that if addition of a person (or people) is on a par with the status quo, it cannot justify any significant sacrifice of other values (where such values would include well-being, equality etc.). It suggests that on the parity view neutrality cannot be particularly greedy. This is no more than a hunch. If this is the correct way to develop the parity view, it’s not obvious to me whether not being particularly greedy would still make the parity view implausibly greedy in terms of Broome’s intuition.

21. In the terms I am using in this paper, this would read: ‘For any predicate $F$ and any two things $A$ and $B$, if it is super-false that $B$ is $F$-er than $A$, but it is not super-false that $A$ is $F$-er than $B$, then $A$ is $F$-er than $B$’ (Broome, 2004, p. 174). For earlier versions see Broome (1997, pp. 74-7).

22. Carlson (2004, p. 223) terms this ‘vagueness symmetry’.

23. My own view (in Qizilbash, forthcoming b) is that evaluative judgements can be indeterminate when their objects are expressed in terms of vague predicates. Since vague predicates are pervasive in ordinary language, there will be considerable indeterminacy in practical reason.