



Classifying comparability problems in a way that matters

Henrik Andersson¹ · Anders Herlitz²

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Abstract

How should one understand comparisons in which neither of two alternatives is at least as good as the other? Much recent literature on comparability problems focuses on what the appropriate *explanation* of the phenomenon is. Is it due to vagueness or the possibility of non-conventional comparative relations such as parity? This paper argues that the discussions on how to best explain comparability problems has reached an impasse at which it is hard to make any progress. To advance the discussion we suggest a new classification of comparability problems that focuses on the problems they cause for practical reasoning.

Keywords Decision theory · Value theory · Hard choices · Comparisons · Incomparability · incommensurability

Interesting comparability problems arise when it seems meaningful to compare two alternatives with respect to their value (or choice- or belief-worthiness) but difficult to determine how they actually relate with respect to their value (or choice- or belief-worthiness). Such cases are often referred to as *hard cases*. A major (and often cited) motivation for studying these cases—and comparability problems in general—is that failure to establish that some option is at least as good as every alternative poses a problem for practical reasoning. In fact, some have even argued that it challenges the very possibility of rational choice (e.g. Chang, 2013; Hsieh, 2007).

Here are two examples of hard cases:

Henrik Andersson and Anders Herlitz have contributed equally to this work. Their names are listed alphabetically.

✉ Henrik Andersson
Henrik.Andersson@fil.lu.se
Anders Herlitz
Anders.Herlitz@iffs.se

¹ Lund University, Lund, Sweden

² The Institute for Futures Studies, Stockholm, Sweden

Career Both a career as a lawyer and a career as an academic can seem attractive and meaningful to a student planning their future. However, the two careers differ in such drastic ways so that the student finds it difficult to determine which is better.

Creativity Mozart and Michelangelo are both creative geniuses. However, their creativity seems to be so different in kind so that it is difficult to determine who is the most creative *tout court*.¹

According to an early proposal in the literature dealing with hard cases, we can only say something about how the alternatives in these cases are *not* related, i.e., they are not related by the ‘at least as good’ relation (e.g., Berlin 1969; Raz, 1986; Williams, 1981). Lately, however, it is increasingly common to argue that a positive value relation applies even in hard cases. Two competing explanations stand out.² On one view, hard cases can be explained in terms of vagueness (see Andersson, 2016, 2017; Broome, 1997, 2004, 2022; Constantinescu, 2012; Elson, 2017; Wasserman, 2004). On this view, it is merely indeterminate *which* of the conventional comparatives ‘better than’, ‘worse than’ or ‘equally as good’ obtain. On another view, hard cases should be understood as cases in which none of the conventional comparative relations apply but another positive comparative relation obtains (see Chang, 1997, 2002, 2005, 2016; Griffin, 1986; Parfit, 1984, 2016; Rabinowicz, 2008).³

In this paper, we will argue in favor of a new classification of comparability problems. The paper is structured in the following way. In the first section, we introduce the *Non-Conventional Comparative Relations View* and the *Vagueness View* in more detail, identify the core points of disagreements, and show that the dispute boils down to a disagreement regarding what one takes to be the necessary properties and implications of vague predicates, something which has nothing to do with practical reasoning and rational choice. In the second section, we argue that a new classification of comparability problems that better corresponds to the practical challenges posed by them is needed. In the third section, the benefits of such a classification are highlighted. The fourth section concludes the paper.

1 Explaining hard cases

On one prominent view, comparability problems should be understood with reference to non-conventional comparative relations. Inspired by Derek Parfit’s remarks

¹ Chang (2002, p. 659).

² These accounts are not in a strict sense competing, but adherents of the views treat them as such. We will have reason to return to this later on.

³ We take it that most philosophers who write on the topic acknowledge that some hard cases can be due to ignorance. The disagreement should consequently be framed in terms of how we are to account for hard cases that cannot be given a satisfactory explanation in terms of ignorance. It should also be acknowledged that it is possible to hold the view that *all* hard cases ought to be understood in terms of ignorance. On this view, one object is always at least as good as the other; however, due to ignorance we sometimes cannot determine how they relate. This view has to our knowledge only been defended by Donald Regan who admits to taking on the self-proclaimed role of the ‘designated eccentric’ when arguing for this position (Regan, 1997). So-called epistemicist accounts of vagueness could also be understood to entail such a position (cf. Williamson, 1994).

in *Reasons and Persons* as well as by James Griffin's suggestion that items sometimes are 'roughly equal', Ruth Chang has famously argued for the possibility of a non-conventional comparative relation: 'parity' (Chang, 1997, 2002; Griffin, 1986; Parfit, 1984). Parity, as Chang understands it, is a positive comparative relation that is symmetric, irreflexive and non-transitive. It resembles the relation 'equally as good as' in that neither of the items that are on a par is worse than the other, but it is distinct from 'equally as good as' in that it is irreflexive and non-transitive (cf. Carlson, 2010). On the view that parity is possible, the reason a career in law and a career in academia cannot be compared in terms of *conventional* comparative relations is that they bear a non-conventional comparative relation to each other. The two careers are on a par. Several philosophers have picked up on Chang's idea and defended it in various contexts and in various ways (Carlson, 2010; Fröding & Peterson, 2012; Schoenfield, 2014). Others have argued for the possibility of other non-conventional comparative relations. Wlodek Rabinowicz has, for instance, illustrated that if one applies the fitting attitudes-approach to value, one can, on a conceptual level, identify no less than 12 possible, non-conventional positive comparative relations (Rabinowicz, 2008). And Parfit has argued for the possibility of what he calls 'imprecise equality', which is different in kind from 'equally as good as' (Parfit, 2016).

Another prominent view is that comparability problems should be understood in terms of vagueness (see Andersson, 2016, 2017; Broome, 1997, 2004, 2022; Elson, 2017; Wasserman, 2004). To see how vagueness can explain why it is sometimes the case that no alternative can be determined to be at least as good as the other, it is helpful to consider how all comparisons are triadic, and that when one makes a comparison of two items one always compares them *with respect to something*. For example, in the comparison of Mozart and Michelangelo above we are comparing them with respect to creativity. Following Chang, we can call this something with respect to which one makes a comparison a 'covering consideration' (Chang, 1997). Although some covering considerations are very precise (e.g. age, price, length), certain covering considerations seem to be vague (e.g. 'balder'). Proponents of the Vagueness View hold that besides the hard cases that can be explained with reference to lack of knowledge (e.g. it is for epistemic reasons hard to determine whether Socrates' father died at a younger age than Thales' father) hard cases should be explained with reference to how covering considerations are vague. The reason a career in law and a career in academia are hard to compare on this view is that the covering consideration (i.e. 'goodness of career') is vague. When covering considerations are vague, it is not true that neither of the conventional comparative relations holds, but it is *indeterminate* which one holds. Furthermore, most adherents of the Vagueness View adopt a supervaluationist theory of vagueness, which holds that a disjunction may be true while none of its disjuncts are true (see Fine, 1973; Broome, 2009). Consequently, the disjunction 'A is better than, worse than, or equally as good as B' may be true while each disjunct is neither true nor false. While the Vagueness View is compatible with the existence of non-conventional value relations at a conceptual level, proponents of the Vagueness View argue that the three conventional value relations and the phenomenon of vagueness is sufficient in order to account for all value comparisons. Proponents of the Vagueness View thus claim that there is no reason to invoke non-conventional comparative relations and that hard cases can be explained in terms of vagueness.

On a conceptual level it is easy to distinguish between the two views. For instance, if two objects are on a par it is, by definition, determinately false that one of them is at least as good as the other, something proponents of the Vagueness View refute. However, both views aim at explaining more than conceptual possibilities. They aim at providing us with reasons why one conceptualization better explains hard cases than the other. It is here, in providing an explanation of the hard cases, that the views become hard to differentiate.

To see how it is hard to differentiate the views, it is informative to look closer at the arguments in the literature. Consider, first, the so-called Small Improvement Argument which aims to establish that everything need not be related by an ‘at least as good as’ relation and thus the Vagueness View is incorrect (see, e.g., Chang, 2002; Gustafsson, 2013). The argument has the following structure:

Premise 1 It is false that A is better than B and false that B is better than A.

Premise 2 A slightly improved version of A, A+, is better than A.

Premise 3 A+ is not better than B.

Conclusion It is false that A is better than B, false that B is better than A, and false that they are equally as good.

Premise 2 and Premise 3 establish that A and B are not equally as good. ‘Equally as good’ is a transitive relation and, consequently, if A and B where equally as good, then, if A+ is better than A, A+ must also be better than B.⁴ From this and Premise 1 the conclusion follows. The Vagueness View states that for any two (comparable) objects, A and B, it is always true that A is better than B, B is better than A or A and B are equally as good (although it might be indeterminate which of these relations obtain). Thus, if Conclusion is correct, then the Vagueness View is false. (Supervaluationists can accept that it is *neither true nor false* that A is better than B, B better than A, and A and B equally as good, not that all three are false).

The above characterization of the Small Improvement Argument presents the structure of the argument, but to rule out the Vagueness View it must also be shown that there are objects that stand in a relation that satisfies Premises 1, 2 and 3.⁵ Different contenders have been given by adherents of the Non-Conventional Comparative Relations View.⁶ But for every pair of contenders, it turns out that it may be only

⁴ Reuter and Messerli (2017) have suggested that there is no need to assume transitivity. Their argument is a *reductio* that involves premises 1–3 and a fourth premise: $A = B$. From this they claim that one can substitute B in Premise 3 with A. That is, from substituting B with A in Premise 3 they derive that A+ is not better than A which contradicts Premise 2, and from this they conclude that it is not the case that $A = B$. However, they seem to still implicitly assume that ‘equally as good’ is transitive. Without this assumption the substitution cannot be made.

⁵ Furthermore, for the Non-conventional Comparative Relations View to be convincing, it must be shown that A and B can be comparable, even though they are not related by the standard relations. This possibility is argued for by Chang (2002). She employs the *Chaining Argument* in order to establish that alternatives that has the mark of incommensurability can in fact still be comparable. This is a truly interesting argument but we will not discuss the details of it since it is not of relevance for this paper.

⁶ For instance, how do Mozart and Michelangelo relate to each other with respect to creativity? It seems false that Mozart is better than Michelangelo and it seems false that Michelangelo is better than Mozart. We can, moreover, easily imagine a slightly improved Mozart, Mozart+, who, for instance, has produced one more sonata than Mozart. Mozart+ is better than Mozart with respect to creativity. Yet, most would hesitate to say that Mozart+ is better than Michelangelo. If this is true then Mozart and Michelangelo cannot

indeterminate how they relate to each other (Gustafsson, 2013; Rabinowicz, 2009). In other words, for all of the alleged cases of non-conventional comparative relations, adherents of the Vagueness View can counter and say that it is in fact indeterminate how the items relate, and precisely because of this, a small improvement of one of them will not make it determinately better than the other. So even if it is determinate that A+ is better than A, it may be indeterminate whether A+ is better than B and indeterminate whether A is equally as good as B. Thus, in order to provide a convincing argument against the Vagueness View it must be shown that it is determinately true that the objects relate to each other in the way expressed in Premises 1, 2 and 3.

Chang presents two arguments to this effect. The first argument focuses on the phenomenology of the cases. Paradigm cases of vagueness are co-called borderline cases (e.g. ‘is it a heap?’, ‘is he bald?’). These cases, Chang claims, differ from cases in which non-conventional comparative relations have been suggested to obtain. In borderline cases, we tend to be as willing to say that a predicate applies as we are to say that it does not apply (Chang, 1997, p. 682).⁷ For example, if Harry is borderline bald, we are just as willing to call him bald as we are to call him not bald. By contrast, in the cases where Chang thinks that alternatives bear some non-conventional comparative relation to each other we might be willing to say that neither option is better than the other (e.g., Mozart is not better than Michelangelo (with respect to creativity)), but *we are not* as willing to say that one option is better than the other (e.g., that Mozart is better than Michelangelo).

Adherents of the Vagueness View are unimpressed by this argument. They object that the reason these two cases are different is not that one is a case of non-conventional comparative relations and one is a case of vagueness. There are other differences. The most obvious difference is that one case involves a comparative while standard borderline cases involve monadic predicates (cf. Wasserman, 2004). Although most paradigmatic examples of vagueness concern monadic predicates, also comparatives can be vague. Famous examples include comparatives that are vague due to multidimensionality (see Keefe, 2000, p. 14). Luke Elson writes:

In *comparative* borderline cases, the relevant question is [...] ‘is a Fer than b?’ If Hank has fewer hairs widely distributed over his head, and Henry has more thick hairs concentrated in a ring around his scalp, then it may be indeterminate or unknowable whether Hank is balder, or Henry is balder, or they are precisely equally bald (Elson, 2014, p. 7).

Footnote 6 continued

be equally as good, since in that case the small improvement to Mozart would also have made him better than Michelangelo. Consequently, Mozart and Michelangelo are not related by any of the conventional comparative relations.

⁷ Johan E. Gustafsson has presented an interesting objection to this claim. He notes that even if there is vagueness it need not be the case that we are as willing to judge that a predicate applies as we are willing to judge that it does not apply. In his example, there are two borderline bald men have very similar hair, but one of them, Harry, is more hairy than the other, Larry. “Even though both are borderline cases of baldness, we might be less willing to call Harry more bald than Larry. Yet we would not therefore be less willing to call Harry not bald than to call Larry not bald. Thus the extent to which one is willing to judge that a term applies in a borderline case can be less than the extent to which one is willing to judge that it does not apply Gustafsson” (2011, p. 441).

Following this idea, we can compare the case of Mozart and Michelangelo with a case of comparative vagueness.⁸ Assume that we are to determine who of two borderline bald men, Harry and Curly, is balder. Harry's and Curly's distributions of hair are different; Harry has more hairs, but these are patchy; Curly has fewer hairs, but these are more evenly spread out. What are our intuitions about a case like this? If we are willing to say that Harry is not balder than Curly, but not willing to say that Harry is balder than Curly, then there is no relevant difference between this case and cases where non-conventional comparative relations are supposed to obtain. Those who support the Vagueness View argue that Chang's first argument gives us no reason to not understand hard cases of comparisons in terms of vagueness.⁹

Perhaps envisioning resistance, Chang provides a second argument for the Non-conventional Comparative Relations View:

Perhaps the force of the argument from phenomenology is not altogether clear. In that case, we might allow that there is some "perplexity" over whether one item is better than the other, where this perplexity is consistent with the possibility of semantic indeterminacy. The question then is whether this perplexity has its source in the vagueness of predicates. This question can, I believe, be answered by examining the way this perplexity might be resolved and comparing it to the way borderline cases of a vague predicate might be "resolved." Of course in one way, there is already a "resolution" in a borderline case: it is borderline. But there is a perfectly clear sense in which we can nevertheless ask, How are we to resolve its borderline status? That is, we ask, apart from any context, the following hypothetical: If we had to choose between application or not, how would we do so—what would be a permissible way of resolving the indeterminacy? It is in this broad, intuitive sense of "resolution" that we can ask whether the resolution of perplexity in [...] cases [where non-conventional comparative relations obtain] is like the resolution of indeterminacy in borderline cases (Chang, 2002, p. 682).

According to Chang, the *resolution* in these cases differs. When there is vagueness, she suggests, it is permissible to resolve the indeterminacy by 'arbitrary stipulation' (Chang, 1997, p. 682). That is, when someone is borderline bald, it is permissible to use an arbitrary method (perhaps flip a coin) to determine whether the person should be referred to as bald or not. This does not mean that the question of whether the person is bald or not can be determined by such arbitrary procedure; it is still indeterminate whether he is bald or not, but it is permissible to resolve the indeterminacy arbitrarily. Contrary to this, there are hard cases in which it is not permissible to arbitrarily determine a conventional ranking according to Chang. Say that one is to compare Mozart and Michelangelo with respect to creativity. In such a case, it seems impermissible to flip a coin in order to determine whether Mozart should be referred to as better with respect to creativity. Moreover, if two people provide different rankings of Mozart and Michelangelo this would be a "substantive disagreement in which arguments can be brought to bear" (Chang, 2002, p. 685). The same cannot be said if they had disagreed

⁸ Wasserman's example is similar to the one presented here. "Suppose that Harry has 100 hairs distributed more-or-less evenly across his scalp. Suppose that Curly has 99 hairs that are perfectly distributed across his scalp. Is Harry balder than Curly?" Wasserman (2004, p. 396).

⁹ Andersson (2017), Elson (2014), Wasserman (2004).

about whether a borderline bald person is bald. In the latter case, there would, on Chang's view, be no substantive disagreement but only "a clash of arbitrary decisions in the face of indeterminate application" (Chang, 2002, p. 684). In the case where Mozart and Michelangelo are compared with respect to creativity, there is a *resolutive remainder*. When one assesses whether a borderline bald man is bald or not, there is no such resolutive remainder.

Indeed, it seems almost essential to hard cases that we cannot just make an arbitrary choice between the alternatives. It is hard to refute the following claim by Chang:

Consider a superhard case involving comparison of a particular act of promise keeping and a particular act of bringing about great happiness with respect to moral goodness. As the case is hard, the promise keeping is morally better in some respects—for example, it fulfills one's obligation to keep promises—while the bringing of great happiness is better in other respects—for example, it addresses legitimate interests of many people—and yet it is not obvious that one is morally better than the other overall. Now the question before us is, could the resolution of the case be an arbitrary matter—could the perplexity concerning which is morally better be answered by the flip of a coin? Clearly, the resolution of this superhard case cannot be a matter of arbitrary stipulation but is a substantive matter concerning which is better (Chang, 2002, p. 685).

It is, however, questionable whether the existence of resolutive remainders settles the issue of whether we ought to accept the Non-Conventional Comparative Relations View or the Vagueness View. There is nothing that commits proponents of the Vagueness View to the idea that we can arbitrarily stipulate how alternatives relate. That is, one can allow for the existence of resolutive remainders within the framework of the Vagueness View.

In fact, there are several possible ways to make room for resolutive remainders when dealing with vague comparatives. For instance, one could claim that the consequences of a choice actualize resolutive remainders, and that this is unrelated to how one explains comparability problems. This becomes very clear when considering comparatives such as "morally better than". When making moral comparisons we ought to treat the topic with a certain amount of respect and flipping a coin seems to be too brute an act to determine what to do. But this would be true for paradigmatic examples of vagueness too. If labelling Harry as balder than Curly has significant consequences, it would seem wrong to determine the labelling with the flip of a coin.

Adherents of the Non-conventional Comparative Relations View might reply that it is not *essential* to vagueness that it gives rise to resolutive remainders, while it is essential in the hard cases they discuss. However, this is rarely how non-conventional comparative relations are defined or how proponents of this view suggest that we understand them, and it is not obvious that proponents of these explanations want to take this route. If resolutive remainders are an essential feature of choice situations in which some alternatives bear a non-conventional comparative relation to each other, then the above-mentioned perplexity ought to appear in all situations in which these relations are supposed to appear. This goes against our experiences. To give an example, there is no reason to assume that non-conventional value relations cannot obtain in insignificant everyday situations. Perhaps the comparison of an apple and a pear in

terms of which is the better afternoon snack could be believed to be a case of e.g., parity. It seems odd to maintain that there must be a resolitional remainder in that case.¹⁰

Moreover, note that it is not sufficient for the proponents of non-conventional comparative relations to claim that it is not essential for vagueness to give rise to resolitional remainders. That claim could be compatible with some cases of vagueness giving rise to resolitional remainders. Proponents of the Non-Conventional Comparative Relations View must make the stronger claim that it is essential for vagueness that it never gives rise to resolitional remainders.

The whole debate between the two camps seems to boil down to whether vagueness has some property that it is typically never associated with or not (i.e. a property which justifies arbitrary resolutions). In fact, Chang admits that it is a genuine possibility that vagueness does not always have this property, i.e. that there might be a kind of vagueness “whose borderline cases are always open to substantive argument. But if there is, it remains to be explained” (Chang, 2002, p. 686). The question then is why one should think it is essential to vagueness that it does not give rise to resolitional remainders. Three features are often suggested to be essential for vague predicates: they admit borderline cases, they lack sharp boundaries, and they are susceptible to sorites paradoxes (Keefe, 2000, p. 6). The lack of resolitional remainders or features that might resemble these are generally not mentioned in the discussions.¹¹ Furthermore, if labelling Harry as bald than Curly has significant consequences, then it is natural to assume that there would be resolitional remainders if we determine the labelling with the flip of a coin.

The claim that it is essential for vague predicates that there is no resolitional remainder seems misguided. By contrast, as illustrated above, one can easily come up with examples of hard cases that support the claim that there can be a resolitional remainder when we have a case of comparative vagueness.

More interestingly, the whole debate around whether hard cases should be understood in terms of vagueness or in terms of non-conventional comparative relations seems to take a halt at the discussion concerning resolitional remainders.¹² In fact, at

¹⁰ It could in fact even be questioned whether there is a resolitional remainder in cases such as the comparison of Mozart and Michelangelo with respect to creativity as well. If one weighs in the consequences of labelling Mozart better than Michelangelo then there might be such a remainder, but if there are no consequences it seems less obvious. Here our intuitions and adherents of non-conventional comparative relations intuitions might, however, come apart.

¹¹ The idea could find some support in the subvaluationist theory of vagueness (cf. Hyde, 1997). According to this theory, a predicate is true if and only if it is true on some precisification, and a proposition is false if and only if it is false on some precisification. This means that for borderline bald Harry, it is both true and false that he is bald. Vague predicates can, consequently, be both true and false. If this theory of vagueness is correct, it could be argued that it is essential for vague predicates that there is no resolitional remainder. For subvaluationism, it is essential that there is no room for substantive disagreement when one person claims that Harry is bald and another claims that he is not bald, since it is both true and false that he is bald. Subvaluationism, however, is heavily disputed and not generally accepted. This in itself can be taken to be a token of the fact that resolitional remainders are not essential features of vagueness; some do indeed find it odd that it is both true and false that Harry is bald. To them it cannot be the case that vague predicates have this feature.

¹² It should be acknowledged that some adherents of the Vagueness View believe that the debate can be settled by appealing to the ‘Collapsing Argument’. We will not go in to details and describe this technical

this point the discussion seems to boil down to the issue of what is essential for vagueness. If we define vagueness such that it never gives rise to resolutional remainders, some hard cases cannot be understood in terms of vagueness but must be due to the existence of non-conventional comparative relations. If we, on the other hand, define vagueness such that it allows for resolutional remainders, then all hard cases could be understood in terms of vagueness. This is a surprising result. The whole debate boils down to how vagueness is defined. However, as we will show in the following sections, what matters to rational choice and practical reasoning seem unrelated to such details.¹³

Nevertheless, the debate has taught us a great deal. One interesting result is that non-conventional comparative relations might be found in a bigger domain than previously thought. They might appear in all cases we standardly refer to as cases of multidimensional vagueness, and not only in the evaluative realm. This seems like a natural conclusion for proponents of the Non-Conventional Comparative Relations View. Why expect there to only be evaluative parity when the formal features that ground parity also can be found within the non-evaluative realm? Another interesting result is that hard cases seem to come in two shapes. There are hard cases that actualize resolutional remainders (or something like them), and hard cases that do not. We turn to the importance of this result now.

2 Dispositive and non-dispositive nondeterminacy

The debates between proponents of the Vagueness View and proponents of the Non-Conventional Comparative Relations View reveal that there are differences between different kinds of hard cases. Notably, some hard cases actualize a need for further reasons to determine how to rank options while other hard cases do not.¹⁴ In this section, we argue that a new classification of hard cases ought to be introduced. The aim is to establish that regardless of who is right about the question of whether hard cases should be understood in terms of vagueness or in terms of non-conventional comparative relations, this new classification provides tools for how to think about how to form reasonable decisions when no option is determinately at least as good as every alternative.

Footnote 12 continued

argument but suffice to say that by accepting a highly controversial principle, ‘the Collapsing Principle’, it can be showed that vagueness leaves no room for non-conventional value relations (Broome, 1997). That is, if we accept that most reasonable claim that comparatives can be vague then the Non-Conventional Relations View must be rejected. Even if some defend the contested Collapsing Principle (Andersson & Herlitz, 2018; Constantinescu, 2012) many find the principle questionable and thus the argument seems not to have settled the debate.

¹³ We are not the only ones to point out the possibility of non-conventional comparative relations being the same as vagueness. Johan Gustafsson presents an interesting argument in which he argues that ‘parity’ ought to be construed in terms of vagueness (Gustafsson, 2013).

¹⁴ It should be stressed, as anonymous reviewer for this journal rightly pointed out, that whether there is a need for such a further reason may very well depend on the actual choice situation. The practical implications of the choice should naturally play a significant role here. It is also to be expected that resolutional remainders also will have this dependence on the situation. Evaluations and judgments should be flexible and adopt to practical circumstances and this will have as a consequence that resolutional remainders will depend on the situation. We owe this clarification to the helpful comments from the reviewer.

In order to discuss possible classifications, let us first introduce some additional terminology. Let “F” denote the covering consideration of a comparison, i.e., that with respect to which a comparison is made (e.g. goodness of career, creative genius). Sometimes, that which matters to a comparison is determined by the agent making the comparison (this would, for instance, be the case for comparisons that precede lifestyle choices according to many modern liberals). Sometimes, it is exogenously given (this would, for instance, be the case for comparisons that precede ethical choices according to moral realists). To distinguish hard cases from each other in a useful way, it is helpful to start by separating options that are optimal from options that are maximal with respect to F. Call an option *optimal with respect to F* if and only if it is determinately at least as F as every alternative. Call an option *maximal with respect to F* if and only if it is *not determinately* less F than any alternative.¹⁵

The kinds of hard cases that much of the debates on how to explain hard cases focus on are characterized by the fact that there is no alternative that is optimal with respect to what matters, while there are several alternatives that are maximal with respect to what matters. Neither Harry nor Curly is optimal with respect to baldness, but both are maximal with respect to baldness (since maximality here is defined in terms of being ‘not determinately worse than any alternative’). Neither Mozart nor Michelangelo is optimal with respect to creativity, but both are maximal with respect to creativity. Proponents of the Non-Conventional Comparative Relations View and proponents of the Vagueness View disagree about how to explain that no alternative is optimal with respect to what matters while several alternatives are maximal with respect to what matters, but they agree on the general characterization that there is no optimal alternative, yet there are several maximal alternatives.

In light of this, we can describe the phenomenon that gives rise to the controversies around hard cases in a new way (cf. Herlitz, 2019, 2020, 2022; Herlitz & Sadek, 2021):

Nondeterminacy: x and y are *nondeterminate in their ranking* with respect to F if it is not determined that x is more F than y , not determined that x is less F than y , and not determined that x and y are equally as F .¹⁶

Nondeterminacy poses a possible practical problem if x and y are nondeterminate in their ranking and it is also the case that there is no alternative, z , that is determinately better than both x and y (i.e. x and y are both maximal with respect to F but neither x nor y is optimal with respect to F).

The discussion in the previous section made two things clear. First, there are different metaphysical explanations that can account for nondeterminacy. Second, the metaphysical explanation has no implications for what kind of problems nondeterminacy generates for practical reasoning.

A natural classification of nondeterminacy that is guided by an interest in understanding its implications for practical reasoning abandons the attempts to distinguish

¹⁵ It is worth noting that maximality is typically defined so that an alternative is maximal if it is not worse than any alternative (see, e.g., Sen, 1997), and that our definition thus is more precise in that it refers to what is fully determined to be the case.

¹⁶ It should be clarified that when x is nondeterminate to y , and vice versa, it doesn’t follow that x and y are nondeterminate to all objects in the domain.

nondeterminacy due to vagueness and nondeterminacy due to non-conventional comparative relations. Instead, such a classification is based on the practical implications of the comparison. There are several reasons to favor a classification based on the practical implications over a classification based on metaphysical explanation. First, as argued above, the classifications that are based on what grounds nondeterminacy are at an impasse: distinguishing vagueness from non-conventional comparative relations have no obvious benefits since all the comparison-relevant properties that might be associated with nondeterminacy due to vagueness can be associated with non-determinacy due to non-conventional comparative relations, and vice versa. Second, nondeterminacy constitutes a significant potential *practical* problem: *What can we reasonably do* when some maximal alternatives are nondeterminate in their ranking? Classifying hard cases based on their practical implications facilitates research on this question since it connects the question of how to act reasonably with the question of what kind of nondeterminacy one faces. Third, *what kinds* of practical implications nondeterminacy can have is an important issue that has received surprisingly little attention in the research on hard cases. Classifying hard cases based on their practical implications rather than on metaphysical explanations enables progress in this area by shifting the focus from metaphysical explanations that have no clear practical implications to the question of what reasonable responses to nondeterminacy can be. Fourth, focusing on what a reasonable response requires instead of on the metaphysical underpinnings of nondeterminacy better aligns the classification of hard cases with what decision-making agents have access to. Decision making agents have no access at all to the metaphysical realm in which the true answer to the question of whether something is due to vagueness or non-conventional comparative relations resides.¹⁷ By contrast, decision making agents have *at least more* access to the realm in which the answer to the question of what a reasonable response is resides. A classification based on practical implications is thus itself more practical than a classification based on metaphysical explanations. There is, in other words, good reasons to shift the focus from metaphysical explanations to classifications based on practical implications—and this is so regardless of whether our particular suggested classification is appealing or not.¹⁸

Classifications based on practical implications can take many directions. It seems obvious, however, to start by focusing on how it is reasonable for an agent to respond to the fact that two alternatives are nondeterminate in their ranking. How would a

¹⁷ Of course, it could be questioned whether metaphysics ever could provide a “true answer”. Perhaps that would be to demand too much from metaphysics. “True answer” should rather here be understood as an answer that is as successful as possible according to the reader’s preferred view on what metaphysics can provide. We owe this point of clarification to a helpful reviewer for this journal.

¹⁸ As we move from a metaphysical discussion to a decision-theoretical discussion an objection can be raised, and indeed have been raised by an anonymous reviewer for the journal. The objection states that while there is an impasse in the metaphysical debate this does not discredit the endeavour in general. Rather than abandon the metaphysical debate in favour of the decision-theoretical discussion we should make sure to end the argumentative stale-mate within the metaphysical debate. This is, of course, a possible alternative approach to the topic of hard cases. To this, we would, however, maintain that the metaphysical research has developed beyond what motivated it in the first time. That is, the question of how we should act when facing a hard case? Scholars have at this point sufficient knowledge on the metaphysics to move on and actually provide guidance for these pressing situations. During the last 20 years of intense metaphysical research, it has also been shown how common this choice structure is in pressing choice situations. It is time to take another step towards providing guidance for those situations.

perfectly reasonable individual who, for whatever reason, faces a choice between two alternatives that are nondeterminate in their ranking act? The answer to this question will depend on what kind of nondeterminacy she faces and a classification of nondeterminacy should reflect this fact.

The following distinction seems to do well in capturing this:

- *Dispositive nondeterminacy* A hard case is an instance of dispositive nondeterminacy if and only if there are two alternatives, A and B, that are both maximal and nondeterminate in their ranking with respect to F, and if and only if it is reasonable to choose any alternative that is maximal with respect to F in virtue only of the fact that it is maximal with respect to F.
- *Non-dispositive nondeterminacy* A hard case is an instance of non-dispositive nondeterminacy if and only if there are two alternatives, A and B, that are both maximal and nondeterminate in their ranking with respect to F, and if and only if it is reasonable to choose an alternative that is maximal with respect to F if and only if φ , where φ is a further reason in favor of an alternative that is independent of the reasons that established that A and B are nondeterminate in their ranking with respect to F.

This classification is based on the fact that it is in some cases of nondeterminacy reasonable to merely pick any maximal alternative while this is not true in other cases. In some hard cases, it is not warranted to be indifferent—i.e. what is a reasonable choice is underdetermined. For instance, it does not seem reasonable to be indifferent to what career to pursue if a career as a lawyer and a career as an academic are nondeterminate in their ranking. We call such cases *non-dispositive*. On the other hand, in some hard cases, even if F fails to fully determine a conventional comparative relation between two alternatives, A and B, it is fully determined that one can reasonably choose either. For instance, it seems perfectly reasonable to be indifferent to whether one has an apple or a pear if those are nondeterminate in their ranking with respect to what afternoon snack to have. We call such cases of nondeterminacy *dispositive*. To make the point in a different way: Amartya Sen's proposal that it is sufficient for rational choice that an option is maximal is valid for some but not all cases of nondeterminacy and this fact can constitute a fruitful basis for a classification of comparability problems (see Sen, 1997). The distinction between dispositive and non-dispositive nondeterminacy distinguishes these cases from each other.

Rather than focusing on the underlying explanation of hard cases, the distinction in terms of dispositive and non-dispositive nondeterminacy relies on the practical problems hard cases actualize (or lack thereof). Sometimes, reasons that apply to a choice underdetermine what an agent has most reason to do while it is still determined that an agent can reasonably choose a maximal alternative (dispositive nondeterminacy). This tells us something about the nature of practical reasons and how they sometimes relate to our conceptions of reasonable behavior: practical reasons do not always have to fully determine a best alternative in order to sufficiently guide reasonable behavior. However, sometimes it is the case that the reasons that apply to a choice underdetermine what an agent has most reasons to do and it is also underdetermined what a reasonable course of action is (non-dispositive nondeterminacy). This also tells us something about the nature of practical reasons and how they sometimes relate to our

conceptions of reasonable behavior: in order for reasonable behavior to be at all possible when there is non-dispositive nondeterminacy, some special kind of reason that justifies determinate conventional rankings of alternatives that are nondeterminate in their ranking must exist. This seems to be a common conception, e.g., a similar point is made in less general terms by Chang when she presents what she calls ‘hybrid voluntarism’ according to which voluntarist reasons are reasons with this special property (Chang, 2013).

It is worth pointing out that the distinction between dispositive and non-dispositive nondeterminacy has analogues that are useful also for those who are committed to specific metaphysical views and prefer talking about for example indeterminacy, parity or incommensurability instead of nondeterminacy. Those who favor vagueness explanations can fruitfully draw a distinction between dispositive and non-dispositive indeterminacy to distinguish cases in which any admissible precisification is reasonable (dispositive) from cases in which one needs further reasons that justify a specific admissible precisification (non-dispositive). Likewise, those who favor non-conventional comparative relations explanations can distinguish between dispositive and non-dispositive non-conventional comparative relations to distinguish cases in which any option that is not worse than any alternative is reasonable (dispositive) from cases in which one needs further reasons to justify the selection of an option that is not worse than any alternative (non-dispositive).

It should be emphasized that whether a case of nondeterminacy is dispositive or not might well be dependent on the agent facing the choice.¹⁹ For instance, an apple and pear might be dispositively nondeterminate in their ranking for Sarah who has committed herself to a lifestyle of music and wants to focus her energy on that, while the very same apple and pear might be non-dispositively nondeterminate in their ranking to Ellen who more than anything aspires optimization of her decisions and who cherishes spending time contemplating quotidian micro-decisions. This is, we contend, not a problem with our distinction since it still serves a purpose for the individual who faces the hard case.

However, some might worry that it makes the distinction of little help when providing a general, objective, classification of hard cases. While we can see how a more objective classification could seem preferable, there are several reasons to accept our more subjective approach. We believe it is a strength of our proposal that it puts the agent in the centre. Rational choice concerns what agents do. A fully objective account that does not take the circumstances of the agent into account will not be an appealing account. As we already noted above, sometimes, that which matters to a comparison is determined by the agent making the comparison. An account that does not take this as a starting point will inevitably fail.

3 Benefits of the new classification

A classification in line with the one just sketched out raises several questions. For instance: Is it always reasonable to use conventional decision methods to discard

¹⁹ We thank an anonymous reviewer for pushing us to clarify this.

ineligible alternatives (i.e. to discard non-maximal alternatives as unreasonable)? What sort of φ can make a choice reasonable in cases of non-dispositive nondeterminacy? Debating—or even settling—whether we should understand nondeterminacy in terms of vagueness or in terms of non-conventional comparative relations gives us no insights in these areas. By contrast, framing the phenomena in terms of dispositive and non-dispositive nondeterminacy (and other kinds of nondeterminacy) makes it easier to identify these issues and to do research on them.

Furthermore, there are purely conceptual benefits with this distinction. The upshot of distinguishing dispositive nondeterminacy from other kinds of nondeterminacy is that it provides a conceptual tool for delineating a kind of hard case that does not pose any serious challenges for practical reasoning and choice theory without making any direct reference to metaphysical phenomena such as vagueness or non-conventional comparative relations. In other words, some hard cases are actually *easy-to-choose-hard-to-compare-cases*.

Moreover, and as indicated already in the previous section, the distinction between dispositive and non-dispositive nondeterminacy corresponds to a distinction between how certain formal decision strategies can be brought to bear on cases of nondeterminacy. In cases of dispositive nondeterminacy there are formal decision strategies the application of which suffices to determine a reasonable choice. Decision strategies that take into account the possibility of dispositive nondeterminacy have to be defined differently depending on which explanatory framework one uses, but the choice of explanatory framework has no implication for what the decision methods imply. If one explains dispositive nondeterminacy as a special instance of when a non-conventional comparative relation obtains, one can follow Sen and replace optimality requirements with maximality requirements in rational choice theory in order to determine what is reasonable (Sen, 1997). If one explains dispositive nondeterminacy as a special kind of vagueness, one can formulate a decision rule according to which all alternatives that are best on some admissible precisification are reasonable (Broome, 2009; Herlitz, 2019). If one explains dispositive nondeterminacy within a fitting attitudes-approach to value, one can state that it is a kind of situation in which any alternative that is highest ranked on some permissible preference ordering is reasonable (Rabinowicz, 2008). Importantly, in cases of dispositive nondeterminacy maximality, best on some admissible precisification, and highest ranked on some permissible ordering *suffices for a choice to be reasonable*.²⁰

By contrast, in cases of non-dispositive nondeterminacy there is no formal decision strategy the application of which suffices to determine a reasonable choice. Maximality, best on some admissible precisification and highest ranked on some permissible preference ordering are criteria that can be used also in cases of non-dispositive nondeterminacy, but instead of identifying reasonable alternatives, these criteria can at best only help one discard unreasonable alternatives when the hard case is an instance of non-dispositive nondeterminacy. The formal criteria might, in these cases, be used to reflect the side-constraints that reflect the necessary criteria for reasonable choice,

²⁰ Things, however, become more complicated in a situation where the agent faces a sequence of choices. In such a situation the agent runs the risk of being money pumped. The decision strategies thus need to be developed in such a way that this possibility is eliminated.

but they are insufficient in that one must introduce further reasons in order to identify which of the remaining alternatives to choose.

The biggest challenge, however, for classifications similar to the one sketched above will be to describe the conditions under which nondeterminacy is dispositive and under which it is non-dispositive. It should, however, be stressed that there is in this respect no difference between classifications based on practical implications and those based on metaphysical distinctions. Those who believe that some cases are hard because of vagueness owe us an answer to the question of when vagueness occurs. How are these cases separated from hard cases that are hard because we have too little information? Those who believe that some cases are hard because there are non-conventional comparative relations also owe us an answer to the question of when such relations occur? How are these cases separated from hard cases that are hard because we have too little information, or because of vagueness? That being said, it remains important to clarify the conditions under which the nondeterminacy is dispositive and those for which it is non-dispositive. A classification that is based on the practical implications of hard cases must provide a satisfactory account of these conditions. This should be taken to be an important desideratum when developing such a classification.

Although there is no space to give a definitive answer to the question ‘How can a decision maker distinguish between dispositive and non-dispositive cases of nondeterminacy in practice?’ here, a rough answer can be given. In light of the discussion above, certain features indicate whether a hard case is non-dispositive or dispositive. First, nondeterminacy seems to be non-dispositive when stakes are high. If A and B are maximal and nondeterminate in their ranking and if there are significant consequences whether one chooses A, B or is indifferent between them, then we have reason to believe that we are facing non-dispositive nondeterminacy. This of course leads to the question of what it means that stakes are high. It is hard to give a general answer to that question, but we believe that it is at least sometimes obvious that the stakes are high. For instance, if A and B are different career paths that an agent can embark on, the stakes are tremendously high; the choice determines a significant part of the nature of the agent’s life (see Chang, 1997, p. 23; Raz, 1986, p. 332). Similarly, if A and B are different allocations of scarce health-resources where one alternative is better for the worse off in society and the other alternative generates significantly more health benefits overall, the stakes are very high; the choice has life and death implications (Herlitz, forthcoming). Likewise in population ethics in which nondeterminacy recently has been proposed as one of the most plausible ways of avoiding the Repugnant Conclusion (see, e.g., Parfit, 2016; Qizilbash, 2007): if A and B are different populations of different size and where individuals have different levels of wellbeing, the stakes must be considered high; the choice concerns who will live and it will determine how good the lives of those who live will be.

Second, non-dispositive nondeterminacy seems implausible when the costs involved in introducing new (valid) reasons are very high. One reason why it is reasonable for an agent to merely pick any maximal alternative when she, for instance, chooses an afternoon snack is that the stakes are very low, but what fundamentally makes it overly exigent to demand of her to introduce new reasons is that it is unreasonable to demand an effort of her when so little is at stake. Introducing new reasons requires at the very least identifying a valid reason, and this is too high a cost in some

contexts. When the stakes are extremely small, it seems unreasonable to demand of an agent to take on any cost to make a choice. It is also worth pointing out that the costs involved in identifying a valid reason can be very high. What counts as a valid reason plausibly depends on context, and in some contexts, it is very costly to identify valid reasons that can determine which maximal alternative to choose. For instance, if the nondeterminacy arises in a social choice situation in which a large group of people will be affected by the choice, it might be suggested that the only kinds of reasons that are valid when one chooses between maximal alternatives are reasons that reflect the opinions of the affected people. Learning the opinions of a large group of people can be very costly. It seems unreasonable to demand that social planners take on this cost when the stakes are relatively low, for instance if the social planner decides which store to purchase office supply from.

It can now be generally suggested that nondeterminacy is dispositive if the stakes are relatively low and the costs involved in identifying a valid reason that applies to the choice and can determine which of several maximal alternatives that are nondeterminate in their ranking to choose are relatively high. Conversely, nondeterminacy is arguably non-dispositive when the stakes are relatively high and the costs involved in identifying a valid reason that applies to the choice are relatively low. Again, this is just a possible rough answer to the question of how to distinguish non-dispositive nondeterminacy from dispositive nondeterminacy. Much more can and needs to be said. For instance, what does it precisely mean that the stakes are relatively low and the costs relatively high? The full characterization cannot be determined at the level of generality of this paper, but we are hopeful that more precise views can be defined in more specific areas.

4 Discussion

In this paper, we argued that the current debate around how to best explain hard cases has little bearing on how to respond to, and make reasonable choices when facing, hard cases. The debate between proponents of the Vagueness View and proponents of the Non-Conventional Comparative Relations View is little more than a disagreement about what the necessary implications of vague comparatives are. Do vague comparatives always fully determine reasonable choice or do they sometimes fail to fully determine reasonable choice? This issue has implications for whether one *calls* certain hard cases instances of non-conventional comparative relations such as parity or whether one can call all hard cases instances of indeterminacy, but it tells us nothing about how to *act* in hard cases.

In order to bring the debate on what fundamentally matters in hard cases forward—the implications for practical reasoning—we argued that a new classification that is neutral with respect to whether the Vagueness View or the Non-Conventional Comparative Relations View should be introduced. We provided a first sketch of such a classification by defining hard cases in terms of *nondeterminacy* in a way which ought to be acceptable to proponents of both of the currently dominant views. We then distinguished between two kinds of nondeterminacy. On the one hand, there is a kind of nondeterminacy which is dispositive, i.e. although some maximal alternatives are

nondeterminate in their ranking it can still be fully determined what one is permitted to choose. On the other hand, there is a kind of nondeterminacy which is non-dispositive, i.e. some alternatives are nondeterminate in their ranking and it cannot be determined what one can reasonably choose.

Shifting the debate toward the issue of whether hard cases are instances of dispositive or non-dispositive nondeterminacy allows one to ask and pursue new and arguably much more pressing questions. When is nondeterminacy non-dispositive? How can one establish that an instance of nondeterminacy is non-dispositive? What is it to act reasonably in the face of non-dispositive nondeterminacy? What kinds of reasons can justifiably be brought to bear on the question of what one ought to choose when two alternatives are non-dispositively nondeterminate in their ranking? It is by answering these questions that we can make progress on how to reasonably respond to hard cases.

There is no space to address these questions in a satisfactory manner in this paper, but we still want to take the opportunity to present some ideas that to us seem worth pursuing. As mentioned above, one hypothesis is that nondeterminacy is non-dispositive when the stakes—to the agent or from some objective point of view—are significant. This seems plausible but requires a theory of what makes “stakes” significant. When it comes to identifying non-dispositive nondeterminacy, it seems worthwhile to further study whether the experience of resolutive remainders can be used as a heuristic, or whether it is more fruitful to look at the stakes and the differences between the options. What it is to act reasonably when nondeterminacy is non-dispositive raises two different kinds of questions. One set of questions concern whether reasonable agents are constrained by rationality requirements so that a reasonable agent will respond to non-dispositive nondeterminacy in a way that does not violate rationality requirements such as basic contraction consistency and acyclicity (Herlitz, 2019, 2020, 2022). A second set of questions concerns what sort of substantive reason a reasonable agent invokes to guide his or her choice. This will plausibly depend on the choice situation. If it is a prudential choice, Chang’s hybrid voluntarism according to which agents can create reasons for herself through commitments seem plausible (Chang, 2013). If it is a moral or a social choice, some other kind of substantive reason seems more plausible, perhaps one that is generated through public deliberation (Daniels, 2008; Herlitz & Sadek, 2021).

Nevertheless, the main purpose of this paper is not to provide tools that decision makers can use in order to identify what sort of hard case they are facing. Instead, we wish to draw the attention to a largely overlooked distinction pertaining to the different problems hard cases might cause for choice theory and practical reasoning, and suggest that it is more fruitful to speak about hard cases by using a classification that reflects the actual problems caused by hard cases. This classification is based on the very reason why people care about hard choices, and it reflects a significant difference between different hard cases. It allows for rational choice approaches to be evaluated for specific subsets of hard cases without being evaluated at an overly general level, and it is a classification that is desirable since the alternative, currently widespread, approach is to classify hard cases in terms of conceptions of non-conventional comparative relations and vagueness that leave the problem for practical reasoning and rational choice unspecified.

In this paper we have presented the structure of a new classification. Much more research needs to be made in order to provide a satisfactory account. With this paper we hope that the research community can refocus from attempting to make a metaphysical distinction of hard cases to make a classification grounded on practical implications that indeed will facilitate and be relevant for decision making.

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Declarations

Conflict of interest No conflict of interest.

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