Introduction

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Comparisons play an essential role in our lives.¹ When considering what patients should get treated first in the emergency room, we compare health conditions. We compare how promising different TV shows are when we decide how to entertain ourselves. We compare the menus of lunch restaurants to decide where to eat. We compare destinations before planning weekend trips. We compare career prospects before choosing what to study – and so on. Many comparisons like these are made without hesitation. To many, but, of course, not all, it is obvious that patients with gunshot wounds should be treated before those with sprained ankles, that *The Sopranos* is better than *Days of Our Lives*, that the local Italian restaurant is better than McDonald's, that a weekend in Paris is better than a weekend in Slough, and that the career prospects of a lawyer are better than those of a race car driver. However, some comparisons are not easy. Feelings of being at a loss and struggling when trying to determine what option is best are familiar to most of us. This book is about those hard comparisons when no option is at least as good as all the alternatives. It is about the situations in which it seems impossible to rank options in conventional ways and it seems as though conventional comparisons themselves are impossible—the book is about what can be broadly called “incommensurability.”

Examples of incommensurability abound. When Sartre's student, during World War II, faced the choice of joining the French resistance in England to fight the occupying Germans or staying in France and take care of his elderly mother, the alternatives seemed incommensurable (Sartre 1975). When asked if Mozart or Michelangelo is the better artist, many think that they are incommensurable (Chang 2002), and when contemplating whether deafness reduces one's health more or less than muteness, the health conditions seem incommensurable (Hausman 2015). Even though the stakes and values involved may differ significantly, these comparisons have one thing in common: they are comparisons in which we cannot determinately judge which alternative is best nor do the alternatives seem equally as good. Furthermore, the phenomenon does not

seem to be merely an epistemic problem. The problem is not lack of knowledge. Studying the alternatives and asking friends or experts will not help determine whether patriotic duties are more important than filial duties, whether music is a higher art than sculpting, or whether hearing is more important than speaking. This book addresses how to make sense of examples such as these, incommensurability in general, its role in ethical theory, and its implications for decision-making.

There is ongoing debate about how to best account for examples such as the aforementioned. Some believe some items simply cannot be compared at all: they are incomparable (Raz 1986). Some believe they are examples of comparisons in which the items relate to each other in non-conventional ways (Chang 2002; Rabinowicz 2008). Some believe they are comparisons in which it is indeterminate which of the conventional rankings hold between the two items (Broome 1997). In this introduction, we do not side with any camp in this debate and therefore use the familiar term “incommensurability” to cover all these possibilities.

The theoretical interest in incommensurability is due to the fact that it indicates that not everything needs to be related by a “better than,” “worse than,” or “equally as good” relation. This is puzzling since often-used comparative predicates allow us to rank all things they apply to using the analogues of these relations. All things that have some length, weight, or age can, for instance, be pairwise compared in terms of longer/heavier/older than or shorter/lighter/younger than, and the comparison, at least theoretically, allows for the possibility of the things being equally as long/heavy/old. These three types of comparatives exhaust all possible relations between things that have length, weight, or age. The possibility of incommensurability indicates that some predicates are different: when two things are incommensurable, neither is determinately better than the other nor are they equally as good as each other. Hence, they are related in some other manner.

The possibility that the three standard value relations might not fully exhaust all possibilities actualizes some very general problems for axiology and normative theory. In axiology, the possibility of incommensurability would entail that conventional, one-dimensional value representations (e.g., real numbers) cannot accurately represent values and that conventional one-dimensional operators in betterness orderings must be complemented with additional ones. In normative theory, it is often assumed that the correct (or most plausible) normative view can always fully determine a course of action that is at least as good as (or at least as choice-worthy as) all alternatives. If courses of action can be incommensurable, that assumption seems misguided. The possibility of incommensurability might be most obviously worrying for consequentialists who believe that one ought to always act such that the act maximizes total goodness, but it is equally troublesome for non-consequentialists who espouse the idea

that one ought to do that which one has most reason to do. If two different acts, X and Y, lead to outcomes that are incommensurable in value, conventional consequentialism fails to provide guidance. If the reasons to do X are neither stronger than, weaker than, nor equally as strong as the reasons to do Y, non-consequentialist views that one should do what one has most reason to do fail to provide guidance. An early example of such potential incommensurability can be found in *The Methods of Ethics*, in which the author Henry Sidgwick (Sidgwick, 1981) discusses the dualism of practical reason. According to Sidgwick, what is morally right can sometimes conflict with what is prudentially right. Since our duty and self-interest are derived from different basic principles, it will be impossible to find a common scale on which the two kinds of right can be weighed. This gives rise to a dualism of practical reason that on some occasions can lead to conflicting requirements and incommensurability.

However, the possibility of incommensurability can also provide opportunities. The dilemma of Sartre's student can illustrate the importance of creating an identity and meaning in life. The fact that neither option was at least as good as the other means that the student could make the choice in another way: he could invent a solution. Thus, recognizing that moral codes sometimes fail to determine what one ought to do (and thus by recognizing incommensurability) creates a space for agency, individual freedom, and creativity. At a more general level, by accepting that options are sometimes incommensurable with respect to some criteria (e.g., what is morally and prudentially right), theoretical space for other criteria is created (e.g., what is most in line with one's previous choices).

In the rest of this introduction, we will provide some historical background to the philosophical work on incommensurability, as well as an overview of contemporary research on the subject. At the end of the introduction, we will provide summaries of the chapters in this volume.

1 The History of Incommensurability

Philosophical interest in comparability problems dates back at least to the Pythagoreans, a philosophical-mystical movement that was thriving in the sixth century BC. According to Western tradition, based largely on some remarks of Aristotle in his *Metaphysics* (Aristotle, 1984: 986a, 987b, 1080b), the Pythagoreans believed that intrinsic properties of numbers and their ratios (*arithmos*) could explain all there is in the world: "They assumed the elements of numbers to be the elements of everything, and the whole universe to be a proportion or number" (Aristotle, 1984: 986a). As a historian of mathematics put it, "the essence of all things, in geometry as well as in the practical and theoretical affairs of man, is explained in terms of *arithmos*, or intrinsic properties of whole numbers or their ratios" (Boyer and Merzbach 2011: 65). Emboldened by this general belief in the explanatory powers of mathematics, the Pythagoreans

took an interest in studying both relations between mathematical objects and more worldly phenomena. To their great chagrin, however, while studying geometry, they discovered that sometimes whole numbers and their ratios cannot describe all relations, the paradigmatic example being the ratio of the lengths of the side and the diagonal of a unit square, although it has been argued that they first discovered that all whole numbers and their ratios cannot describe all relations by studying pentagons (Von Fritz, 1970).²

In modern times, the term “incommensurability” has been used with two very different meanings. On one hand, it has come to play a prominent role in the philosophy of science and philosophy of language ever since Thomas Kuhn and Paul Feyerabend used the term to describe the possibility that certain propositions cannot be translated from one scientific framework (or conceptual schema) to another (Feyerabend, 1978; Kuhn 1962). If Kuhn and Feyerabend are right about the possibility of such incommensurability, there could, for instance, be propositions within the Pythagorean scientific framework that cannot be translated or even understood within our modern scientific framework. We would have reason to doubt that we could ever, even in principle, understand what the Pythagoreans meant when they described the world.³

The term “incommensurability” has also stood in the center of discussions of potential problems when comparing the value or choiceworthiness of different things in ethics, value theory, and political philosophy. This use of the term can in modern times be traced to Isaiah Berlin, who, in his 1958 lecture “Two Concepts of Liberty,” suggested that the incompatibility between different types of liberties might be an instantiation of a clash between absolute and incommensurable values (Berlin 1969). Following Berlin, in the second half of the twentieth century, there is rich literature that outlines different suggestions as to what one might mean by claiming that values are incommensurable. For instance, Bernard Williams suggested that the claim could mean (i) denial of the idea that there is a unique currency that can be used to compare all values; (ii) denial of the idea that, for each value conflict, there is some independent value that can resolve the conflict; (iii) denial of the idea that, for each value conflict, there is some value an appeal to which can rationally resolve the conflict; or (iv) that there is no rational solution to any value conflict (Williams 1981: 77). Meanwhile, James Griffin suggested that there are five kinds of incommensurability: (a) *incomparability*—neither of two values is more valuable than the other, but they are not equally valuable either, (b) *trumping*—any amount of one value is more valuable than *any* amount of another value, (c) *weighting*—differently weighted values cannot be reduced to an unweighted common scale, (d) *discontinuity*—a certain amount of some value is more valuable than *any* amount of another value, and (e) *pluralism*—there are irreducibly many values (Griffin 1986: 77–92).

The contemporary notion of incommensurability, which is the focus of this book, can be said to originate in the work of Joseph Raz and his focus on the failure of transitivity and the identification of the “mark of incommensurability” (Raz 1986: 325–326). According to Raz, incommensurability (which he equates with incomparability) obtains when “neither of [two options] is better than the other nor are they of equal value” (Raz 1986: 326). He proposes that one can identify incommensurability with the following test:

Two valuable options are incommensurable if (1) neither is better than the other, and (2) there is (or could be) another option which is better than one but is not better than the other.

(Raz 1986: 325)

This passage is important for the development of research on incommensurability in two ways. On one hand, it expresses a focus on *valuable options* (as opposed to previous writings that oscillate between talking about options, values, and the general state of affairs). On the other hand, Raz identifies the “mark of incommensurability” by providing a test that makes salient the general conditions on which most contemporary research on incommensurability focuses. (However, much contemporary incommensurability research disagrees with Raz about whether this indicates incomparability or some other phenomenon such as indeterminacy or parity):

We have here a simple way of determining whether two options are commensurate given that neither is better than the other. If it is possible for one of them to be improved without thereby becoming better than the other, or if there can be another option which is better than the one but not better than the other, then the two original options are incommensurate.

(Raz 1986: 325–326)

Contemporary with Griffin’s and Raz’s discussions in the 1980s and inspired also by work in social choice theory (e.g., Sen 1970; Fishburn 1973), Derek Parfit discussed the possibility that the not worse than relation was not transitive. For Parfit, puzzling results in population ethics indicated the possibility that two things need not always be related with a *precise* better than, worse than, or equally as good relation (Parfit 1984: 431). Each of these three value relations could be “roughed up,” according to Parfit. Much contemporary discussion of incommensurability continues in the tradition started by these three philosophers, and it is against this backdrop the contemporary discussions of incommensurability are placed.

2 Terminology

An important controversy in the background of philosophical discussions of the nature, importance, and implications of incommensurability has concerned what to actually call the phenomena one is interested in. As seen earlier, the term “incommensurability” has been used with many different meanings. This has led to different authors using different terms to refer to the same phenomenon, but it has also led authors to use the same term to refer to different phenomena. To readers not familiar with the literature, this can be very confusing.

The two most common terms in the discourse are “incommensurable” and “incomparable.” Some, such as Joseph Raz, use these terms interchangeably (Raz 1986; Anderson 1993). Others, such as Ruth Chang, argue that “incommensurability” ought to be given its etymologically correct meaning: two things that cannot be placed on the same cardinal scale are incommensurable (Chang 1997, 2015). If two things are incommensurable, we cannot say how much better one is in comparison with the other in terms of some cardinal scale of units of value. It might, however, be possible to say that one of them is better than the other. In situations in which no positive characterization can be given of the comparative relation that holds between two objects, Chang uses the term “incomparable.” She thinks that it is important to distinguish incommensurability from incomparability because she thinks that each notion captures a distinctly important phenomenon.

If a value bearer is neither better than, worse than, nor equally as good as the other, they have commonly been believed to be incomparable. However, as some argue, value bearers can be positively related in more ways than previously believed. For this reason, “incomparable” ought not to be defined in terms of “better than,” “worse than,” and “equally as good,” but rather in terms of a lack of *any* positive, binary, generic comparative relation. Furthermore, it seems reasonable to claim that incomparability is a ternary relation. A is incomparable with B *with respect to* C if and only if no positive, binary, generic comparative relation holds between A and B with respect to C. The third item, C, is what Chang (1997) refers to as the “covering consideration.” It does not make much sense to say that “Paris is better than Slough” *simpliciter*.⁴ Such claims only make sense when we clarify what covering consideration we have in mind; for example, “Paris is better than Slough with respect to a romantic and cultural weekend destination.” The same is true for incomparability claims: we need to specify in respect to what covering consideration the things are supposed to be incomparable.

Introducing the idea of covering consideration also allows us to distinguish *noncomparability* from incomparability. Some covering considerations do not apply to some value bearers, and this allows for noncomparability. For instance, the claim that the color blue is better than the number four with respect to taste seems like an absurdity; what

we have here is an example of noncomparability (Chang 1997). This somewhat absurd comparison problem seems, however, less worrying from the perspective of practical reasoning. Why would we ever need to compare a color and a number with respect to their tastiness?

Some follow Chang's use of the term "incomparable" but interpret "incommensurable" somewhat differently. They use the term to refer to a relation such that if it holds between two items, then neither is determinately better than the other nor are they determinately equally as good (Rabinowicz 2008). "Incommensurability" used as a catch-all term is thus compatible with, among other possibilities, incomparability and parity, and all non-conventional value relations fall under its umbrella. Other terms used to refer to this plethora of possible value relations are "non-determinacy" (Herlitz 2019, 2020) and "triply not true" (Boot 2017).

While we agree that Chang's use of the term "incommensurable" seems etymologically correct and that there is good reason to keep the ideas of not being cardinally measurable and not being comparable apart, since there is no standard umbrella term to denote the range of possible ways to understand hard comparisons, we will co-opt the term "incommensurability" for practical reasons to encompass all non-conventional comparative relations. We will thus use the term "incommensurable" in this introduction but encourage the reader to be aware of the different uses of the term by different authors throughout the book.

3 Reasons to Accept Incommensurability

People are attracted by the possibility of incommensurability for many different reasons. A straightforward reason to accept the prevalence of incommensurability is that some of the things we value (and have reason to value) are very different from one another. For instance, most people value pleasure, social relations, and achieving goals that they set for themselves. For those who accept that there is a plethora of practical reasons and values and adhere to some pluralistic account of reasons and value, it seems highly plausible that these can come into conflict in the sense that we cannot determinately judge how they relate to one another. At the very least, one needs an argument for the opposite view, the assumption that it is always, in principle, possible to determine which of two options is better than the other or that they are equally good. The burden of proof seems to lie with those who reject incommensurability.

In what follows, we will present what seem like the most convincing arguments for the possibility of incommensurability being instantiated.

3.1 Dilemmas

The possibility of incommensurability can be argued for by referring to the existence of moral dilemmas. Consider the situation Sophie faces in the novel *Sophie's Choice* (Styron 1979). When Sophie and her two

children arrive at a concentration camp in Nazi Germany, a guard forces her to choose which child gets to live and which child gets to die. If she does not choose, both children will be killed. In such a horrific situation the alternatives seem incomparable. It is, however, not clear whether this constitutes an example of incommensurability. Perhaps the alternatives are equally as bad and the dilemma instead ought to be understood in terms of conflicting obligations (Sinnott-Armstrong 1988). Or perhaps moral dilemmas only show that some values are irreplaceable. This could mean that even if one alternative is better than another, the value of the outcome cannot fully replace the loss that comes with not choosing the other alternative (Griffin 1997).

3.2 *The Wrongness of Comparisons*

Joseph Raz (1986) introduced the notion of *constitutive* incomparability. He argued that certain things *ought* not to be compared. For example, money ought not to be compared with spending time with one's spouse. Exchanging money for time with one's loved ones has symbolic significance. According to Raz (1986: 348), "Significant social forms, which delineate the basic shape of the projects and relationships which constitute human well-being, depend on a combination of incommensurability with a total refusal even to consider exchanging one incommensurate option for another." To have certain relationships one must thereby conclude that certain values are incommensurable: the relationship itself is partly constituted by the belief that it is not exchangeable for money.

Elizabeth Anderson (1993) has developed a similar argument in favor of incommensurability. Sometimes when we make a comparison, it makes no sense to compare the two goods, all things considered. If the value of an object is understood in terms of its being rational to value the object, then, since it is not rational to make an all-things-considered comparison, the objects must be incommensurable. Anderson outlines the following conditions under which she believes incommensurability (which she, following Raz, thinks of as incomparability) is present:

- (1) The goods in question meet the standards measured by the scale in very different ways.
- (2) There are no gross differences in the degree to which each good exemplifies its own way of meeting the standards.
- (3) Meeting the standard in one way is not categorically superior to meeting it the other way.

(Anderson 1993: 55)

3.3 *The Small Improvement Argument*

The currently most influential argument in favor of incommensurability is the so-called small improvement argument. In the context of axiology

and normativity more generally, it has, among others, been advanced by Joseph Raz (1986), Derek Parfit (1984), Walter Sinnott-Armstrong (1985), and Ruth Chang (2002). However, a similar argument has been discussed in the context of preference relations since the 1950s (Savage 1954; Luce 1958; de Sousa 1974).

The argument, which is meant to establish that the “at least as good as” relation does not exhaust the domain of value relations, takes the following form:

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

Premise 2: A+ is better than A.

Premise 3: A+ is not better than B.

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

Premises 2 and 3 establish that A and B are not equally as good. Betterness is transitive across equal goodness, so if A and B are equally as good, then, if A+ is better than A, A+ must also be better than B. From this and Premise 1, the conclusion follows.

This is, however, only the structure of the argument. Examples that satisfy the structure described in the small improvement argument must be given in order to conclude that things can be incommensurable. The choice between two different holiday destinations could be such an example. If we compare a week in Iceland with a week in Seoul, it is likely that we will find neither to be better than the other, and if we slightly improve one of the alternatives, it will still not be judged to be better than the other. A small improvement of the meal during the flight to Reykjavik would not make the trip to Iceland clearly better than the week in Seoul. In the literature, many similar examples are given.

3.4 Solving Difficult Problems in Ethical Theory

Another powerful, but indirect, argument that some options are incommensurable can be derived from contemporary research on paradoxes in ethical theory. Accepting incommensurability seems to provide a way of avoiding or explaining certain paradoxes. Many paradoxes in ethical theory rely on the background assumption that all options are related by an “at least as good” relation and that this relation is transitive. That is, if A is at least as good as B, and B is at least as good as C, then A must be at least as good as C. If that assumption is valid, then it seems that paradoxes can be established. The prime example of such a paradox is the fact that there are compelling arguments in favor of the so-called repugnant conclusion, although this seems deeply counterintuitive. That is, consider two possible populations, X and Y, with perfect equality and in which

everyone has lives worth living. Everyone in population Y has slightly lower well-being than the people in population X, but the population in Y is much bigger so that with respect to the total sum of well-being, Y is better than X. It seems that for all such pairs of populations, the Y population is better than the X population. By transitivity, this means that the following deeply counterintuitive proposition is true:

For any possible population of at least ten billion people, all with very high quality of life, there must be some much larger imaginable population whose existence, if other things are equal, would be better, even though its members have lives that are barely worth living.
(Parfit 1984: 388)

Similarly structured arguments have been developed to support other deeply counterintuitive ideas – for instance, that there is a number of headaches that is so large so that it would be better to cure them than to save a life (Norcross 1997; Voorhoeve 2014; Herlitz 2018).⁵

One reason to accept the possibility of incommensurability is that it potentially provides a way of avoiding these paradoxes (Griffin 1986; Blackorby et al. 1996, 1997; Broome 2004; Qizilbash 2007; Chang 2016; Rabinowicz 2021). To establish the repugnant conclusion, all populations of X- and Y-type must relate to each other via a chain of “at least as good” relations. It is this fact that enables the series of inferences that leads one from saying that a population of 20 billion people with fantastic lives is better than a population of 10 billion people with slightly better lives to the conclusion that a population of people with lives barely worth living is better than the population of 10 billion people with amazing lives, as long as the population of people with lives barely worth living is large enough. If populations could be incommensurable, that series of inferences would be blocked. If some X- and Y-type populations were incommensurable, the repugnant conclusion would be avoided.

4 Places of Incommensurability

Incommensurability can be possible in many fields, in both ethics and other areas. Whenever one can make a small improvement argument, one can make a case for incommensurability, and this seems possible any time one makes multidimensional comparisons. Multidimensional comparisons are ubiquitous. In ethical theory, they are almost always present since plausible conceptions of well-being are multidimensional (Griffin 1986). At the very least, they typically ascribe value to both life extensions and improvements in the quality of life within time periods. All ethical theories that ascribe importance to individual well-being and its distribution thereby either must explain what is wrong with the small improvement argument or accept that alternatives that differ with respect

to how well they extend lives and how well they improve the quality of life within time periods can be incommensurable (Herlitz 2017).

As often is the case, discussions in ethics have close cousins in aesthetics. Examples meant to establish that there is incommensurability in the domain of morality are often examples that belong to aesthetics (this is probably because they are less likely to be offensive or dependent on substantive moral theories). It does not seem absurd to claim that the aesthetic values of two pieces of art—an archetypical type of multidimensionality—are incommensurable.

Multidimensional comparisons are also common outside of ethics and aesthetics. Anyone who accepts that both observations in support of the theory and simplicity count in favor of a scientific theory will face the possibility that one theory is supported by more observations while a competing theory is simpler, such that neither theory has more that counts in its favor. Will one additional minor observation necessarily tilt the scale and provide sufficient evidence to abandon one of the theories? Similar arguments can be presented in epistemology, where reasons to believe can be of different types.

Moreover, incommensurability should be relevant to all fields of research that somehow consider trade-offs. Roughly, trade-offs involve compensation – i.e., the loss of one good is compensated for by the gain of another. Justifications of trade-offs thus seem to presuppose that the goods can be compared and adequately ranked such that the trade-offs constitute a satisfactory compensation.

The relevance for decision theory is also obvious. This is a natural connection considering the close ties between axiology and decision theory, but there are also other reasons that speak in favor of the possibility of incommensurable options. A prime example of this is the possibility of incommensurable probabilities that was discussed by Keynes (1921). More recently, Włodek Rabinowicz (2017, 2020) has considered this possibility and connected the discussion even more firmly to incommensurability within axiology.

5 Accounts of Incommensurability

A significant part of contemporary research on incommensurability has focused on how to explain the phenomenon. What explains the presence of the mark of incommensurability?

5.1 *Parity*

While the small improvement argument seems to suggest that value bearers can be incomparable, it has been questioned whether this must be the case. It has been argued that value bearers that stand in the relation described by the argument may nevertheless be comparable. Intuitively,

there is something to this suggestion. Parfit, for example, argues that things that are related as described by the small improvement argument can be roughly comparable (1984: 431). In his example, a certain novelist may be neither better than, worse than, nor equally as good as a certain poet, but they can be roughly comparable.⁶

Chang has presented a formal argument that is meant to establish that those value bearers that are related as described by the small improvement argument can nevertheless be comparable. Her so-called chaining argument can roughly be described as follows:

Imagine that we make a small unidimensional change to the novelist. After a series of such changes, we could end up with a very bad novelist. This very bad novelist is clearly worse than the poet. Yet it also seems to be the case that “between two evaluatively very different items, a small unidimensional difference cannot trigger incomparability where before there was comparability” (Chang 2002: 674). This means that if the very bad novelist is comparable to the poet, then so must the original novelist be.

Chang argues that value bearers related in the manner described by the small improvement argument are neither better than each other, equally as good as, nor incommensurable but “on a par.” According to Chang, this is a fourth *sui generis* and previously overlooked value relation. The soundness of her chaining argument has, however, been questioned (Boot 2009; Elson 2014a; Andersson 2016b).

5.2 *Vagueness*

The claim that there is a fourth positive comparative relation has been challenged by those who hold a more conservative view of comparative relations. It has been argued that there is no need to assume that value bearers can be on a par or even incomparable. Epistemic explanations may suffice to account for some of the alleged cases of parity and incomparability (Regan 1997), whereas other cases could possibly be accounted for in terms of vagueness. This view has been defended by John Broome (1997). He presented his collapsing argument to show that vagueness crowds out non-conventional comparative relations. The argument is meant to establish that if we assume that there is vagueness, then there is no room left for comparative relations such as incomparability and parity. His argument, however, depends on the collapsing principle, which many find hard to accept (Carlson 2004, 2013; Elson 2014b; Gustafsson 2018; Andersson and Herlitz 2018).

This vagueness approach is, however, not dependent on the collapsing argument. Others have argued that the possibility of vagueness allows us to be skeptical of claims about parity and incomparability (Andersson 2017; Elson 2017). A consequence of vagueness is that we cannot be

determinately certain that the result of the small improvement argument holds, and for that reason, we should be conservative and not embrace the possibility of further comparative relations (Wasserman 2004; Klocksiem 2010; Gustafsson 2013).

5.3 Formal Accounts of Incommensurability

Presenting examples of purported non-conventional comparative relations raises the question of how they should be analyzed. Some have argued that parity can be understood in terms of the three standard comparative relations (Gert 2004; Carlson 2010). Similarly, Nien-hê Hsieh (2005) has argued that non-conventional relations are to be understood in terms of “clumpy values”: values do not provide fine-grained orderings but rather place items in clumps, so equally as good items can appear to be, for example, on a par.

Chang (1997) has suggested that the evaluative difference between two things that are on a par can be understood as a nonzero unbiased difference. It is nonzero because it has a magnitude—just as when one thing is better than another there is a nonzero difference—and it is unbiased because the difference does not have a valence—in the same way as the difference between two things that are equally as good is unbiased.

Inspired by Joshua Gert’s account, Wlodek Rabinowicz (2008, 2012) has provided a fitting attitudes account (henceforth FA) of non-conventional value relations. The FA accounts for value in terms of a normative component (e.g., fittingness) and an attitudinal component (e.g., favor). Goodness could consequently be analyzed in terms of fittingness to favor. If we acknowledge that there can be two levels of normativity – i.e., requirement and permissibility – this account can also encompass conventional and non-conventional value relations. For example, X is better than Y if and only if it is rationally required to prefer X to Y, and X and Y are on a par if and only if it is rationally permissible to prefer X to Y and also rationally permissible to prefer Y to X. The two levels of normativity and preferences, including preference gaps, can be combined in 15 different ways, which entails that the FA have the conceptual space for as many as 15 possible value relations.

6 Problems for Normative Theory

Incommensurability poses problems for normative theory. If incommensurability is possible, it is possible that there is no available option that is at least as good or choiceworthy as all the alternatives. It might be the case, for instance, that two options are better than all other alternatives, but they are not equally good. Some have suggested that this means that it is impossible to act rationally.

6.1 No Optimal Option, Seemingly Solved by Changing to Maximal

According to standard rational choice theory, choosing an option is rational if and only if that option is at least as good as every alternative (i.e., it is an option that is *optimal*). If incommensurability is possible, it will be possible that no option is optimal, which would mean that it is impossible to make a rational choice. For instance, if an agent faces the choice between an apple, a pear, and an orange, and if the apple is incommensurable with both the pear and the orange while the pear is better than the orange, there is no optimal option. Neither the apple nor the pear is at least as good as all the alternatives since they are incommensurable with each other, and for an option to be at least as good as another option it must be either better than or equally as good.

This appears to be a significant problem. However, there are some proposed solutions to it. Somewhat depending on how one explains incommensurability, one can revise the criterion for what makes a choice rational (Herlitz 2019). For instance, one can follow Amartya Sen (1997) and say that choosing an option is rational if and only if that option is not worse than any alternative – i.e., it is an option that is *maximal*. With this definition of what it is to choose rationally, it follows that it is rational to choose either the apple or the pear. The orange is worse than the pear and is thereby not a rational choice, but neither the apple nor the pear is worse than any alternative (they are both incommensurable with one available alternative—each other—but being incommensurable with is not the same as being worse than). This works well if incommensurability is some non-conventional comparative relation and similar moves can be made by those who believe that incommensurability is vagueness. If the incommensurability is due to vagueness (i.e., on one permissible sharpening of the covering concept, the apple is better than both the pear and the orange and on another the pear and the orange are better than the apple while the pear remains better than the orange), one can revise the rational choice criterion and say that choosing an option is rational if and only if that option is at least as good as all alternatives on at least one permissible sharpening (Broome 2009). Similar moves are available to proponents of the FA approach (Rabinowicz 2008; Herlitz 2019). Since the apple is optimal on one permissible sharpening and the pear optimal on another, choosing either is rational.

This raises an interesting question. Although revising the conception of rational choice so that all options that are maximal are rational solves some initial problems, it is possible that something has gotten lost on the way. Chang has argued that this is the case, that maximality is not a sufficient criterion for a choice being rational (Chang 2013). But if it is not sufficient, one might wonder if it is *never* sufficient. It could be the case that maximality sometimes is enough, but that there are situations in which it is not (Andersson and Herlitz 2021). This is a topic that deserves more attention.

6.2 *Dynamic Inconsistency*

Although the most obvious decision-theoretical problem has some rather simple technical solutions, there are other such problems that pose more serious technical difficulties. One of the biggest problems is that acceptance of incommensurability in combination with revisions of the rational choice criterion leads to dynamic inconsistency (McClennen 1990; Andreou 2016). When an agent faces a sequence of choices, it is possible for her to form a series of maximal choices but end up with an option that is worse than some alternative that she could have had if she had chosen differently. To see this, consider an agent that faces a sequence of choices such that she at t_1 chooses between the pear and the apple, and regardless of what she chooses, she is offered the opportunity to change to the orange at t_2 . If choosing a maximal option is all that rationality requires, in this situation, it would be rational to choose the apple at t_1 and then change to the orange at t_2 . At t_1 , both the apple and the pear are rational choices, so it is rational to choose the apple. At t_2 , both the apple and the orange are rational choices, so it is rational to choose the orange. However, the orange is worse than the pear, and she could have had the pear if she had chosen differently at each choice node. By making choices that in isolation appear rational (in virtue of being maximal), the agent has ended up with an option that appears irrational (in terms of not being maximal) when the sequence of choices is considered.

The dynamic inconsistency also enables a weak kind of money-pump argument. To see this, consider a case in which at t_1 , the agent has a choice between the apple and the pear, and then, if she chooses the apple, she is at t_2 offered the chance to change the apple to the orange. If she accepts this exchange, she is at t_3 offered the chance to change the orange to the pear if she pays a small amount (which she is willing to do since the pear is better than the orange). These three exchanges get the agent to the pear, but she could have had the pear without cost if she chose it at t_1 .

There are various suggestions for how to avoid this problem in the literature, but no solution seems unproblematic. For instance, it has been proposed that it is rational to be “resolute,” to make a plan and stick to it (McClennen 1990). But why would it be irrational to revise plans and act on how the alternatives relate to each other? It has also been suggested that rational decision-makers are “sophisticated” and use backward induction to foresee the problems that await them when they face a sequence of choices (e.g., Rabinowicz 1995). But that solution can rule out as irrational options that are maximal. How to avoid dynamic inconsistency while accepting incommensurability remains a debated topic in contemporary research.

6.3 *Basic Contraction Consistency and Cycles*

According to some views of how to act rationally when some maximal options are incommensurable with respect to a primary decision criterion, one ought to invoke a second decision criterion and choose in accordance with how the options relate to this. For instance, if the apple and the pear are incommensurable with respect to how good they taste, one compares them with respect to how much they weigh, the lighter the better. These approaches risk violating rationality requirements. To see this, consider the possibility that the orange is lighter than the apple and the apple lighter than the pear. If one faces all three options at once, this kind of two-step approach suggests that one should choose the apple. The orange is discarded since it is worse than the pear, and of the pear and the apple, the apple is lighter. However, if one faced a choice between only the apple and the orange, the approach says that one should choose the orange since the apple and the orange are incommensurable with respect to taste, and the orange is lighter than the apple. This means that the approach tells one to choose one option in one set but choose a different option in a subset of that set in which the first option is available. So-called “basic contraction consistency” is violated (Herlitz 2019). If one instead uses the approach to make pairwise comparisons of the options, one ends up with a cyclical ranking of them: the orange is better than the apple, the apple is better than the pear, and the pear is better than the orange (Herlitz 2020).

This illustrates how different approaches to forming choices when maximal options are incommensurable risk violating rationality requirements. There are possible ways to avoid this, but they require imposing additional formal constraints on what kind of decision-making is acceptable when some options are incommensurable (Herlitz 2019).

6.4 *Risk*

Another set of complications arises once one considers what to do in situations that involve uncertainties (Hare 2010). Consider again the choice between an apple and a pear, but instead of choosing fruit, one can only choose one of two lotteries, the outcome of which depends on a coin toss. In the first lottery, one wins an apple on heads and a pear on tails. In the second lottery, one wins a pear plus ten cents on heads and an apple plus ten cents on tails. Now, in light of the small improvement argument, assume that ten cents is a small enough improvement that it does not change the comparative relation between the apple and the pear. An apple plus ten cents is incommensurable with a pear, and a pear plus ten cents is incommensurable with an apple. This gives us the puzzling situation in which the possible outcomes in each state are incommensurable yet the acts do not seem incommensurable since the latter lottery is certain to lead to the additional ten cents.

It is not obvious what one ought to do in this situation. Whereas some have argued that it is only rational to choose the latter lottery (Hare 2010; Bader, 2018), others have said that it can be rational to choose either (Schoenfield 2014; Bales et al. 2014; Doody 2019).

7 Opportunities

Although incommensurability has primarily received attention due to the problems it causes, there are also opportunities that arise once one accepts incommensurability. If one assumes that all items can always be compared in conventional ways so that it will always be the case that one item is at least as good as the other with respect to the criterion one applies, the criteria in question may seem to be ascribed too much importance. Accepting incommensurability is one way in which one can reduce the importance of different criteria, something which may seem very desirable in certain contexts.

7.1 *Chang and Going Hybrid*

Chang has argued that we ought to accept that some items are sometimes incommensurable (in her terminology, “on a par”) with respect to given reasons and that, in these situations, we must resort to reasons grounded in the will (i.e., voluntarist reasons) to determine what to do (Chang 2013). For Chang, given reasons are important because she believes they are reasons that, independently of the will of the agent, determine that things such as sadistic torture are wrong. However, by accepting that these given reasons admit of incommensurability, her theory does not ascribe to given reasons the importance of always fully determining what one ought to do, something which might seem exigent since it seems to reduce agents to automatons whose task is mainly to respond to reason. By accepting incommensurability, Chang can propose that reasons grounded in the will of the agent must sometimes complement given reasons, thereby reducing the importance of given reasons and providing a role for human agency in her metaethical theory. This illustrates how incommensurability provides a theoretical opportunity to avoid certain problems.

7.2 *Law*

In the study of law, accepting incommensurability has been suggested to be one way of providing space for different valuations in society and for making progress in legal theory (Sunstein, 1994). By rejecting the idea that there is a single one-dimensional (or monistic) correct valuation of goods such as those provided by utilitarians and instead embracing pluralism and the idea that there are many different and equally valid valuations, what is at stake in legal disputes can be elucidated. Rather

than seeing legal disputes as disagreements about facts about which there is, fundamentally, a correct answer, legal disputes can be conceived of as disagreements about options that are fundamentally incommensurable. This, in turn, allows one to think differently about the role of the law and about how to make progress in hard cases: it shows that one needs a substantive theory of law (Sunstein, 1994).

7.3 Prerogatives

Accepting incommensurability is also a way of providing space for prerogatives, both individual and collective. Sometimes, it seems clear that it is up to the agent, be it an individual or a collective such as a state, to settle normative questions. One way of explaining this in a normative-theoretical framework is to accept incommensurability with respect to normative principles. In clinical ethics, a plausible normative principle says that clinicians should promote health, seeking to improve the health of their patients to the greatest extent possible. However, it also seems plausible that patients ought to have some influence over what treatments they receive. It has been suggested that patient prerogatives can be given a role in clinical decision-making if one accepts that treatment options can be incommensurable with respect to health (Herlitz 2017). If treatments A and B are incommensurable with respect to health (perhaps because one adds more years to the patient's life and the other improves the health-related quality of life more), it seems plausible to say that the patient ought to choose between them, and if one accepts incommensurability, one does not have to accept that there is a conflict between patients' wills and universal normative principles such as health promotion. Similarly, religious freedom is a plausible political–philosophical principle. Meanwhile, it seems desirable to say that it should be up to the society in question to determine whether this principle requires that one grant permission for the building of a minaret in a neighborhood where many of the residents are refugees who have experienced traumas due to violence in the name of Islam (Herlitz and Sadek 2021). If one accepts that different policies (e.g., grant or do not grant permission to build a minaret) can be incommensurable with respect to principles such as religious freedom, it is easy to explain collective prerogatives.

8 Summaries of the Chapters

The book covers four aspects relating to incommensurability:

In the first part of the book, new research on how to best explain incommensurability is presented. In contemporary debate, two competing explanations stand out. According to some, such as Ruth Chang (2002) and Wlodek Rabinowicz (2008, 2012), the fact that no conventional

comparative relation holds between some options can sometimes be explained by the fact that there are non-conventional comparative relations. The most widely discussed non-conventional comparative relation is “parity.” On this view, things need not be related by a “better than,” “worse than,” or “equally as good as” relation but may also be on a par. On the competing view, espoused by, for example, John Broome (1997), Luke Elson (2017), and Henrik Andersson (2017), there is no need to introduce a fourth comparative relation to account for incommensurability. Instead, it is argued that incommensurability is in fact indeterminacy due to vagueness. According to this view, one of the three conventional relations does in fact hold but it is indeterminate which one.

In Chapter 1, John Broome argues that incommensurability is vagueness. While he has previously argued for this possibility by referring to the so-called collapsing principle, he now provides a new argument. Central to his novel argument is the claim that competing views cannot adequately account for our intuitions about hard cases. Broome concludes that it is only vagueness that can give a satisfactory account of the phenomenon.

This can be contrasted with Ruth Chang’s contribution in Chapter 2. Chang is well-known for her seminal argument that incommensurability ought to be understood in terms of a fourth *sui generis* value relation that she calls “parity.” In Chapter 2, she explains why the phenomenon of interest—what we have here called “incommensurability”—is not vagueness but is instead the holding of a fourth *sui generis* value relation that she calls “parity.”

In Chapter 3, Chrisoula Andreou argues that there might be even more value relations beyond “equally as good,” “better than,” “worse than,” and “on a par.” According to her, the two terms “roughly equal as” and “on a par,” which are often used to refer to the same value relation, actually denote two different phenomena. With this contribution, she expands the space for value relations and provides an explanation as to how the value relations differ.

In the second part of the book, the role of incommensurability in dismissals of so-called spectrum arguments and in population ethics is discussed. Population ethicists such as Derek Parfit (2016), Mozaffar Qizilbash (2007), and Wlodek Rabinowicz (2021) have recognized that accepting incommensurability can help one avoid perennial problems in population ethics. It has been argued that incommensurability can be invoked to avoid the repugnant conclusion and the mere addition paradox and to block so-called spectrum arguments.

In Chapter 4, Mozaffar Qizilbash contrasts Derek Parfit’s suggestion as to how to avoid the repugnant conclusion with James Griffin’s. Central to both of their suggestions are phenomena that can be called “incommensurability.” Parfit invokes the concept of imprecision, which seems to share many characteristics with parity, and Griffin invokes the

concept of discontinuity. While the latter concept is sometimes called a form of incommensurability, it can nevertheless be accounted for in terms of the three conventional value relations. The details of their insightful views are expounded and the merits of their views are thoroughly discussed.

In Chapter 5, Henrik Andersson discusses a specific spectrum argument that has been advanced by Larry Temkin (2012). Temkin's conclusion is that the betterness relation is not transitive. Andersson rejects this conclusion by arguing that certain assumptions made by Temkin can be questioned and that the possibility of indeterminacy and so-called Millian inferiority can show why we need not accept Temkin's conclusion. The unwanted conclusion of the spectrum argument can thus be avoided without referring to incommensurability.

In Chapter 6, Gustaf Arrhenius explores the idea that one can avoid impossibility results in population axiology by accepting incommensurability. Arrhenius illustrates that although some problems in population axiology can be avoided by accepting incommensurability, other problems remain.

In the third part of the book, the role of incommensurability in decision theory is addressed. It is well-known that allowing for incommensurability causes dynamic choice problems. Relatedly, it has recently been shown that certain decision strategies that seem appealing when dealing with situations characterized by incommensurability violate basic requirements of rationality. The decision strategies might violate basic contraction consistency, and they might lead to cyclical evaluations of alternatives.

The potential problems for rational decision-making are thoroughly discussed in Chapter 7, in which Anders Herlitz illustrates how different plausible decision strategies for choice situations characterized by incommensurability risk violating rationality requirements. He argues that unless one introduces formal constraints on how to choose between incommensurable options, one risks forming cyclical evaluations or violating basic contraction consistency. The question then arises as to what grounds these formal constraints. Herlitz does not settle this issue but presents some alternative ideas: they might be grounded in the comparative relation (in incommensurability), in the domain of reasons, or in rationality itself.

In Chapter 8, Krister Bykvist presents a novel contribution on the topic of rational decision-making, developing an account of so-called cross-categorical comparisons. The comparison "this table is a better table than Trump is a president" would constitute an example of such a comparison. An account of these comparisons is important since they can, for example, allow us to compare well-being across people and make cross-theory comparisons of value when we face evaluative uncertainty.

In Chapter 9, Luke Elson contrasts two influential views of the consequences of incommensurability for agency. More precisely, he provides a detailed account of the consequences of Chang's hybrid view of rational choice and of Joseph Raz's classical view. Elson concludes that by adopting a vagueness account of incommensurability we are not forced to accept such radical views of agency.

In the fourth and final part of the book, incommensurability and risk is investigated.

In Chapter 10, Wlodek Rabinowicz addresses a puzzling problem presented by Caspar Hare (2010) concerning rational choice. Rabinowicz, however, considers it in the domain of formal axiology: how can one action be better than another despite the fact that their outcomes are bound to be incommensurable? By invoking a fitting attitudes analysis of value, he argues that even if the outcomes are on a par, it is possible for one action to be better than another. Whether this also is possible if the outcomes are bound to be incomparable (which is a radical form of incommensurability) is left as an open problem.

In Chapter 11, Katie Steele considers the possibility of ignoring criteria under which options are incommensurable. Steele focuses on a non-dominance relation that is often appealed to in discussions of incommensurability and uncertainty. She concludes that such a principle is not plausible in the multi-criteria setting that she considers and that we ought not to ignore criteria under which options are incommensurable.

In Chapter 12, Ryan Doody presents an impossibility result for decision theories under risk. More specifically, he argues that no plausible decision theory for agents with incomplete preferences can both satisfy a dominance principle and accept a transitivity requirement.

Notes

- 1 We are grateful to Ruth Chang, Mozaffar Qizilbash, Wlodek Rabinowicz, and Joseph Raz for the valuable feedback they have given us on this introduction. We also wish to thank the participants at the Philosophy, politics and economics seminar at the Institute for Futures Studies in Stockholm at which a draft of this introduction was presented.
- 2 The Pythagoreans, of course, admitted that a comparison could be made, as the diagonal of a square is clearly longer than its side. It should also be stressed that the Pythagorean view of commensurability is a narrow conception, as the relation between the diagonal and the side can be expressed by an irrational number.
- 3 For a rather devastating criticism of this idea, see Davidson (1973).
- 4 This is similar to the claims made by, for example, Peter Geach (1956) and Judith Jarvis Thomson (1997). Geach famously argued that there is no such thing as goodness *simpliciter*, and Thomson expressed a similar view, explicitly discussing betterness *simpliciter*. For the connection between these discussions and value incommensurability, see Andersson (2016a).
- 5 For an in-depth discussion of arguments of this kind, see Temkin (2012).

- 6 Similarly, Griffin (1986: 80–1) argued that they may be “roughly equal,” but he probably had a view similar to the vagueness view in mind, according to which it could be indeterminate how value bearers relate.

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