

An Ignorance Account Of Hard Choices

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Abstract

Ignorance is said to be the most widely accepted explanation of what makes choices hard (Chang 2017). But despite its apparent popularity, the debate on hard choices has been dominated by tetrachotomist (e.g., “parity”) and vagueness views. In fact, there is no elaborate ignorance account of hard choices. The present paper closes this research gap. In so doing, it connects the debate on hard choices with that on transformative experiences (Paul 2014). More precisely, an option’s transformative character can prevent us from epistemically accessing its expected value, promoting ignorance of how to rank the options. Methods of achieving an advance assessment of transformative experiences such as fine-graining, consulting testimony, and using higher-order facts can sometimes evade this epistemic blockade but not always. Therefore, in cases where these methods fail, a choice can be hard because of our ignorance. The prominent hard choice between two careers could be such a case.

1 Introduction

When graduating from high school, many face a difficult decision: what to study, if additional education is sought, and, connected to this, what career to pursue. Studying medicine would probably lead to becoming a doctor. Studying law could lead to work as a lawyer, a judge, or a legal advisor. Studying economics could lead to work as a banker, a consultant, or an auditor. And studying philosophy could lead to work as a writer, an academic, or a teacher. Let’s put aside the fact that careers are of course not perfectly plannable (particularly for philosophy graduates). Which career, and thus which subject, should be preferred and consequently chosen?

For some people, this decision is straightforward, since they know upfront what they want to become. For others, all but one option can be eliminated because they have no interest or talent in the other fields. For still others, at least two options remain with no clear winner.

Let's assume that some considerations suggest you should become a doctor, whereas others suggest you should become a philosopher. For instance, being a doctor offers the attraction of letting you directly help people. However, being a philosopher lets you pursue questions that deeply interest you. No matter how long you think about it, no preference emerges for one option over the other. Yet, what you feel in the face of the options is not indifference, so you do not want to flip a coin. It seems that the rational decision-making process has gotten stuck. This decision situation exemplifies what is called a hard choice.

The defining characteristics of a hard choice between two options are as follows: (1) one option is preferred in some relevant respects; (2) the other option is preferred in other relevant respects; and yet (3) neither option seems to be preferred to the other overall, considering all relevant respects, nor do they seem to be equally preferred. In other words, none of the trichotomy of comparative relations, namely more preferred, less preferred, and equally preferred, matches the relation between the two options (Chang 2017).¹

The existence of such hard choices is rarely disputed, thanks mainly to the persuasiveness of the so-called small improvement argument (SIA), hard choices' strongest advocate. This prompts inquiry into the underlying reasons for the SIA and thereby into the origin of hard choices. According to Chang, "the most widely accepted explanation of what makes a choice hard is that we are ignorant or uncertain of the normative or nonnormative factors that are relevant to making the choice" (2017, 3). But despite this apparent popularity of ignorance, the debate over hard choices has been dominated by two other explanatory accounts. On the one hand, some authors argue that hard choices are hard because they involve borderline cases of vague predicates (e.g., Broome 1997; Constantinescu 2016; Elson 2014). Normally, this view is then combined with supervaluationism, implying that under such circumstances each comparative relation is neither true nor false (Flanigan and Halstead 2018, 200).² On the other hand, other authors claim that hard choices are examples where the trichotomy of comparative relations fails and a fourth comparative relation applies (e.g., Chang 2002; 2012; 2017; Griffin 1986; Parfit 1984).³ The academic focus on these two accounts leads to a peculiar situation:

¹ There are both preferential and axiological versions of hard choices / hard cases. Yet, the received view seems to be that "rationally required preferences and value judgements are closely related, and according to the popular fitting attitudes and buck-passing account of good, the one can even be analysed in terms of the other" (Gustafsson and Espinoza 2010, 754). Since this paper considers decisions, I use the preference-based account.

² However, the disjunction of the three comparative relations (x is preferred either more than, less than, or equally to y) is true.

³ There is another explanation for hard choices: incomparability. It involves the circumstance that options' values cannot be ranked because they are not comparable, and this is what makes a choice involving such options hard (E. Anderson 1997, 90; De Sousa 1974, 546; Raz 1986, 322). However, since this account has not been much defended in the last two decades, I do not further expand on it.

even though ignorance is said to be the most widely accepted explanation for hard choices, comparatively little work has been done on it. In fact, there is no elaborate ignorance account of hard choices and therefore also no ignorance-based explanation of the SIA.

Only recently, Flanigan and Halstead (2018) have partly filled this research gap, exploring an epistemicist (in contrast to a supervaluationist) version of vagueness. Because of this approach, their analysis is restricted to borderline cases of vague predicates. Still, they also state that if epistemicism is true and a choice is hard even in the absence of vagueness, there cannot be a fourth comparative relation. Instead, one of the trichotomy of comparative relations must apply. We simply do not know which one it is. However, they leave unanswered exactly how ignorance veils comparative relations in such situations.

This question is what the present paper seeks to elucidate. First, I show that the relatively new concept of transformative experience introduced by L.A. Paul's (2014) eponymous book provides a promising ignorance account of (non-vague) hard choices: if any option involves a transformative experience, epistemic access to its expected value can be blocked. As a result, no precise expected value can be calculated, and that is what renders agents unable to determine the comparative relation between the options. Further, since this does not apply to comparisons of a transformative option with a slightly improved version of itself, we also attain an ignorance-based explanation of the SIA. Finally, I argue that the prominent hard choice between different careers could be an example of a choice that is hard because of ignorance.⁴

The paper is structured as follows: "Section 2 starts with the SIA, which demonstrates the existence and unfolds the problem of hard choices." The section then lays out how the ignorance account responds to it. "Section 3 introduces the concept of transformative experiences and how such experiences can lead to ignorance." "Section 4 examines hard choices and the SIA from a transformative experiential and therefore ignorance-based perspective."

2 The Small Improvement Argument From An Ignorance Perspective

⁴ This paper follows the standard view of ignorance (cf., Le Morvan 2011; Le Morvan and Peels 2016; Zimmermann 2008). In short, this view defines ignorance as the absence or lack of knowledge; being ignorant that p is a failure to know that p . Moreover, the standard view of ignorance differentiates between factual, objectual, and procedural ignorance, meaning ignorance that some specific proposition is true, ignorance of a specific object, and ignorance of how to do something, respectively. At this, transformative experiences involve objectual ignorance, as for example ignorance of the taste of durian or ignorance of the experience of becoming a parent.

To the claim that hard choices exist, it might be objected that ultimately, an agent faced with two options can always apply one of the trichotomy of comparative relations to them (Regan 1997). So, someone who remains indecisive as to whether to become a doctor or a philosopher after considering all given aspects of each option is simply indifferent between the two. The agent prefers them equally and thus can pick either. The strongest argument against this objection, and thus for the existence of hard choices, is the SIA.

Let's illustrate the SIA by means of the above example. Consider an agent who neither prefers becoming a doctor to becoming a philosopher nor prefers becoming a philosopher to becoming a doctor. If we assume that the agent is therefore indifferent between these two options, a small improvement to one option should lead to a preference of that option over the other. For example, the small improvement of an annual \$50 should cause the agent to prefer becoming a doctor with an annual bonus of \$50 to "simply" becoming a doctor. And since the agent is indifferent between becoming a doctor and becoming a philosopher, she should also prefer becoming a doctor with an annual bonus of \$50 to becoming a philosopher. Otherwise, she would violate the Substitutability of Equality (Chang 2017), making her preferences intransitive (and herself subject to money-pumping concerns). Nevertheless, for the agent, an annual bonus of \$50 for becoming a doctor is not sufficient to establish a preference for becoming a doctor over becoming a philosopher. That being the case, she cannot be indifferent between becoming a doctor and becoming a philosopher. In more formal terms, where x and y are the options faced in a hard choice, x^+ is a slightly improved version of x , and I means indifferent:

1. $\neg(xPy) \wedge \neg(yPx)$
2. x^+Px
3. $\neg(x^+Py)$
4. $(xIy \wedge x^+Px) \rightarrow x^+Py$ [because of the Substitutability of Equality]
5. $\neg(xIy)$ [from 2, 3, and 4]
6. $\neg(xPy) \wedge \neg(yPx) \wedge \neg(xIy)$ [from 1 and 5]

The last line demonstrates that none of the trichotomy of comparative relations applies between x and y . Let's exclude its being a borderline case of a vague predicate (for a detailed discussion of that scenario, see Flanigan and Halstead (2018)). How does the ignorance account explain this conclusion?

The ignorance account of hard choices contends that they are hard because we do not have epistemic access to the comparative relation between the options. In other words, x is either more preferred than y , less preferred than y , or equally preferred to y , yet we do not know which of those is the case. For example, let's assume that you have to choose between \$100 and the contents of a closed box. Which option do you prefer? Since you have no idea

what is in the box, you do not know whether to prefer it more than, less than, or equally to \$100. Additionally, you would prefer \$101 to \$100, while still not knowing whether to prefer the contents of the box more than, less than, or equally to \$101. This is analogous to the SIA as long as we do not interpret “the agent does not prefer x to y ” as entailing “the preferability of x is not greater than the preferability of y ” because the former can be true without the latter. Instead, we must interpret “the agent does not prefer x to y ” in such cases as “the agent cannot rationally prefer x to y because the preferability of x relative to y is unknown to her.”

While this sounds very straightforward, the ignorance account of hard choices faces two objections (Chang 2017).⁵ First, there appear to be choices that are hard despite full information or—as Chang calls it—“first personal authority.” She uses the decision of whether to have apple pie or lemon sorbet for dessert as an example. Even though you have tasted both, you remain indecisive. To make your choice seemingly easier, the apple pie option gets slightly improved by the addition of a dollop of whipped cream. You prefer this version of the apple pie to the plain one. However, you are still indecisive between the slightly improved apple pie and the lemon sorbet. This shows that the plain apple pie and the lemon sorbet could not have been equally preferred.

Let’s assume that Chang’s argument is sound, meaning that such examples exist. Even if there are hard choices that cannot be explained by means of ignorance since they involve full information, this does not imply that in the absence of full information ignorance is never the reason that choices are hard. In fact, Flanigan and Halstead (2018) argue that many small improvement arguments that have been presented in the literature involve a substantial amount of contingent epistemic limitation similar to that in the example of the \$100 and the box. For instance, the arguably most prominent example of a hard choice is the choice between different careers that I described in the introduction. It was first proposed by Raz (1986) and has been taken up by various scholars such as Anderson (2015), Boot (2009), Carlson (2004; 2011), Chang (2002; 2012; 2017), Elson (2014), Messerli (2020), Messerli and Reuter (2017), Pinkowski (2013), and Reuter and Messerli (2017). Obviously, the choice of a career is not a fully informed decision but involves some degree of uncertainty. Therefore, Chang’s full information objection is only a limitation and not a disproof of the ignorance account. And many hard choices remain unaffected by this limitation, including the choice between different careers—arguably the literature’s most prominent example of a hard choice.

⁵ There is a third objection, along the lines that incomparability of options’ characteristics as to preferability prevents some options from being ranked at all, independent of epistemic limitations (Raz 1986; 1997). Yet, since this paper does not discuss the incomparability account of hard choices (“see footnote 3”), we do not expand upon this objection.

The second objection is that even if uncertainty underlies a decision, creating a degree of ignorance, we can still assess the options' comparative relation(s). The reasoning behind this objection is as follows: suppose uncertainty prevents us from knowing the actual value of options and thus from knowing whether the actual value of x is higher than, lower than, or equal to the actual value of y . Even so, we can use our credences to calculate the options' expected values, with the Principle of Indifference as a last resort (Pettigrew 2016a; 2016b; Williamson 2018). The ranking of these expected values then tells us the options' comparative relation(s), which is all we need to solve a seemingly hard choice.

This is a serious objection because if accurate, it disproves the ignorance account of hard choices. For example, it could be used to argue that even though we do not know what is in a closed box, we can still calculate its expected value by imagining all potential contents. In a next step, we can compare this expected value with that of \$100 and \$101, thus deriving the comparative relation between the options—and what had seemed to be a hard choice proves not to be hard at all. So, only if this second objection can be refuted and ignorance still sometimes prevents us from determining the comparative relation(s) between options can ignorance work as an explanation for hard choices.

This is where the debate on transformative experiences sparked by Paul (2014) becomes relevant. Paul argues that our ranking of options can be blocked if one or more of them comprises a transformative experience. This circumstance would refute the second objection and make an ignorance account of hard choices possible. Additionally, if we follow Paul, choosing an unknown career would involve such a transformative experience. As a result, the arguably most prominent example of a hard choice might in fact be hard because of ignorance due to the transformative character of its options. In the next section, we more closely examine Paul's concept of a transformative experience and how it is connected to ignorance.

3 Transformative Experiences And How They Promote Ignorance

3.1 Paul's Utility Ignorance Objection

Paul (2014) scrutinizes whether we can rationally choose an outcome that involves a transformative experience. An experience's transformative character can manifest in two ways. First, an outcome that we have never experienced before transforms us epistemically because only by experiencing that outcome do we know what it is like to experience it. Second, such an outcome

can also transform us personally in the sense of altering our very preferences. Paul claims that both epistemically and personally transformative experiences (as well as their combination) impede rational decision-making. Let's recapitulate her argument.

According to Paul, when deciding which of several options to choose, we first have to compute the expected utility of each option and then choose the one (or one of those) with the highest expected utility. We compute an option's expected utility as follows: 1) determine the utility values of an option's possible outcomes; 2) for each outcome, multiply its value by its probability; and 3) add all these products. The sum is the option's expected utility.⁶ In this procedure, the first step gets impeded if a possible outcome is transformative. Here is why: An outcome's utility value consists of a subjective and a non-subjective component. While the subjective value concerns experiential aspects of an outcome, the non-subjective value applies to its non-experiential aspects. Paul assumes that we normally determine an outcome's subjective value by running a cognitive model of what it would be like if that outcome were to occur. Yet, since we have no experience of the outcome yet and thus cannot know what it would be like to experience it, our cognitive model is unreliable. The potential for a personal transformation complicates the situation even more because it can veil both the subjective and the non-subjective values of both previously unexperienced and experienced outcomes. In short, the utility value of an outcome involving a transformative experience is not epistemically accessible to us. Consequently, we cannot assess all options' expected utilities and then choose the one (or one of those) with the highest expected utility.⁷ Rational decision-making gets stuck.⁸

Choosing between different careers seems to fit the requirements for a transformative decision well. We do not know what it is like to work as a doctor until we have worked as a doctor. Similarly, we do not know what it is like to work as a philosopher until we have worked as a philosopher. On top of that, our career choice might affect our preferences. To speak stereotypically, if we choose the career of a doctor, prestige and money might come to take a more

⁶ In the case of ordinary reasoners, the whole calculation process is approximative (Paul 2015b).

⁷ Chang sees the worries about transformative choices as mitigated because they are ultimately grounded in expected utility theory, a theory "already abandoned by many contemporary philosophers of practical reason" (2015, 240). This is little surprising because hard choices are also not compatible with expected utility theory, since they violate the axiom of completeness (as transformative choices do). Accordingly, Chang's parity account is not compatible with expected utility theory.

⁸ We see that if an outcome is exclusively epistemically transformative, only its subjective value is concealed. Several authors have argued that knowledge of the non-subjective value can be—or even mostly is—sufficient for rationally reaching a transformative decision (e.g., Chang 2017; Kauppinen 2015; Reuter and Messerli 2018). However, Paul (2015a) objects that even if non-subjective features of an outcome are relevant, the unknown subjective value might be so positive or so negative when it occurs that none of these really matter. As a result, we generally cannot be sure that the subjective value of an outcome will not swamp its non-subjective value (although there are exceptions).

prominent role in our preferences than if we choose the career of a philosopher. Given the transformative character of choosing a career, we cannot assess the expected utility value of either choice and, therefore, cannot rank the two careers with respect to preferability. As a result, we neither prefer becoming a doctor to becoming a philosopher nor prefer becoming a philosopher to becoming a doctor since we are ignorant of the comparative relation between the two.

3.2 Pettigrew's Fine-Graining Solution

Several authors have offered suggestions about how and when rational transformative decision-making is still possible (Campbell 2015; Chang 2017; Dougherty, Horowitz, and Sliwa 2015; Kauppinen 2015; Pettigrew 2015; Reuter and Messerli 2018; Sharadin 2015). In this paper, we focus on Pettigrew's (2015; 2016b; 2020) approach because it provides a decision-theoretical framework that we can later apply to the SIA. Pettigrew extends the uncertainty about which one of the potential outcomes occurs if we choose option x by how much utility we will derive from it.⁹ For example, let's assume that if we choose a career as a doctor, we will be a doctor. Since being a doctor constitutes a transformative experience, we cannot know its expected utility. This is where Pettigrew's fine-graining technique comes into play. We partition the general outcome of being a doctor into many more fine-grained outcomes that each directly include a different utility value of being a doctor. For instance, one possible outcome is "being a doctor, and the utility of being a doctor is 10." Another is "being a doctor, and the utility of being a doctor is -4." Obviously, the utility of "being a doctor, and the utility of being a doctor is 10" is 10, and that of "being a doctor, and the utility of being a doctor is -4" is -4. In a next step, we determine how probable each of these fine-grained outcomes is, multiply the two numbers, add all the products, and, in this way, attain the expected utility of the option "career as a doctor."

As might become obvious, if Pettigrew's fine-graining technique always worked, the transformative character of options could not veil their comparative relation(s). In turn, this would undermine an ignorance account of hard choices based on transformative experiences. But as I will elaborate on the following pages, there are decision situations where Pettigrew's

⁹ This is somewhat similar to Sepielli (2009), who examines the normative uncertainty of outcomes, meaning uncertainty about one's own preferences, and fine-grains an outcome by considering different potential preferences for that outcome.

approach fails in establishing comparative relation(s) and thus where ignorance induced by options' transformative character can be the reason that a hard choice is hard.

The decisive question behind the fine-graining technique is: how do we determine the probability of fine-grained outcomes? Since we can keep on fine-graining outcomes, the range of values can become wider and wider when using solely integral numbers (but we assume it stays finite).¹⁰ Only by determining that some outcomes have zero probability can we restrict the range. In other words, an option involves an almost endless number of utility values as possible outcomes, and our assigned probabilities define which are relevant (i.e., have positive probability) and how relevant (in the sense of probable) they are.

There are two main solutions to this challenge. Pettigrew (2020) proposes that we should use the testimony of people who have already undergone the transformative experience in question to determine the probability of each utility value.¹¹ For example, if, out of 100 doctors, 65 say that their career provides a utility of 20, 25 state that it provides a utility of 14, and 10 say that it provides a utility of 5, we can form the following probabilities:

- p of being a doctor with the utility of being a doctor being 20 = 0.65
- p of being a doctor with the utility of being a doctor being 14 = 0.25
- p of being a doctor with the utility of being a doctor being 5 = 0.1

This would result in an expected utility of $20 * 0.65 + 14 * 0.25 + 5 * 0.1 = 17$. If we apply the same procedure to the option of becoming a philosopher, we can determine the comparative relation between the two options.

Relying on testimony to determine the probability of fine-grained outcomes has two problems, though. First, we eliminate our first-person perspective from our decision, leading to an inauthentic choice. For Paul (2015a), this drawback of testimony is too severe for it to be acceptable as a means to rational transformative decision-making. However, Pettigrew (2015) counters that determining outcomes' probability via testimony does not completely ignore the agent's own utilities. Well-matched statistical evidence regarding how much utility others derived from a transformative outcome precisely tells agents something about their own utilities. Ultimately, authenticity is not per se a criterion of rational choice. As a consequence, the inauthenticity of a choice is not sufficient to prevent it from being rational.

¹⁰ Theoretically, the range could be infinite. Yet, since our life is finite, we assume that the fine-graining process is also finite and thus leads to a finite range of values.

¹¹ Chang (2015) and Dougherty et al. (2015) also argue that the consideration of testimony can make rational transformative decision-making possible.

Second, Paul's and Pettigrew's understanding of decision theory includes the definition of utilities on interval scales. Otherwise, it would not make sense for them to use expected utility theory as their point of departure. Interval scales imply that the relevant properties of a utility function are not affected by a positive affine transformation (Isaacs 2020). This creates the following difficulty: knowing that someone derived a utility value of 20 from being a doctor is useful to us only if there are two distinct anchors between that person's utility function and ours. Without these anchors, we cannot determine the relative positions and the relative scales of the two utility functions. Isaacs (2020) argues that such anchors are in all likelihood absent in most decisions, rendering the determination of fine-grained outcomes' probabilities via testimony unfeasible. Notwithstanding this limitation, testimony might still allow for a rough impression of how potential utility values are distributed. For example, if testimony about a transformative experience is uniformly positive, we can assume that it would also be positive in our case (and lead to a utility value that we associate with a positive outcome).

3.3 Determining Probabilities With Higher-Order Facts

Higher-order facts provide a second way to determine the probabilities of fine-grained outcomes (Dougherty, Horowitz, and Sliwa 2015; Paul 2014). Regarding the experience of eating the durian fruit, whose taste is highly unique, Paul (2014) writes:

We can know that certain types of new experiences won't affect us that much, and so, for that sort of new experience, we can know the approximate range of possible subjective values. The way we grasp the range of the values isn't by knowing what it would be like to have the experience, but by knowing enough about a higher-order fact about that type of experience to know that there is a low limit on how positive a value for that experience could be (and a low limit on how negative the value could be). Trying durian seems to be like this—after all, it's just trying a new kind of fruit. You've had fruit before. How good (or bad) could the experience of tasting this new fruit be? (37-38)

As in the case of the durian fruit, we can use higher-order facts to assess the range of relevant utility values of being a doctor or being a philosopher. On the one hand, being a philosopher most certainly involves reading and interpreting complex texts, probably involves writing articles or books, and may involve teaching. If you know from experience that you enjoy reading challenging texts, take pleasure in writing essays, and feel at ease when presenting in front of a class, it is likely that being a philosopher fits your preferences quite well. On the other hand, being a doctor involves having contact with and treating people who are ill, updating patient

charts, and writing medical assessments. If you know from experience that you feel uncomfortable when seeing lesions or malformations, are not keen on constantly interacting with new people, and dislike repetitive paperwork, being a doctor seems not to fit your preferences well. This shows us that the probability distribution of utility values for being a philosopher should be associated with a higher expected value than that for being a doctor. Therefore, you should prefer being a philosopher to being a doctor.

Determining the probability of fine-grained outcomes via higher-order facts also involves limitations. First, Paul (2014) argues that in the case of some transformative experiences, such as becoming a parent, we do not know which, if any, higher-order facts are appropriate. Chang (2015) counters that such cases are extremely rare and that becoming a parent is not one of them (although the fictional example of becoming a vampire could be one). Nonetheless, personal transformations can affect higher-order facts in such a way that they are no longer valid. For example, the higher-order fact that you feel uncomfortable when seeing lesions or malformations, which makes being a doctor less attractive, might no longer apply once you become a doctor. This is because once you begin to work as a doctor, you begin to get used to seeing lesions or malformations, and your preferences change accordingly. There are two possible solutions to this problem. On the one hand, you might know from prior experience which higher-order facts are stable and which are not. On the other hand, you can use the testimony of others to whom the same higher-order facts applied before they made their choices and consider whether (and how) the higher-order facts changed for them.

Second, higher-order facts might only be able to determine the probability of fine-grained outcomes on a comparative basis, leading to a mere ordinal ranking of options. As mentioned before, the probability distribution for a fine-grained option defines which utility values are relevant (i.e., have positive probability) and how relevant (in the sense of probable) they are. Therefore, higher-order facts are needed to determine (1) the range of relevant utility values and (2) the shape of the probability distribution. For the moment, let us consider only (1) and assume that the shape of the probability distribution is flat (uniform probability distribution; Principle of Indifference). The range of relevant utility values of transformative outcome x has a lower endpoint x_l and upper endpoint x_u . How do we determine these endpoints? Paul (2014) argues in her durian example that our previous fruit experiences can tell us how good or bad a fruit can generally be. Accordingly, the utility of our worst fruit experience constitutes x_l and the utility of our best fruit experience yields x_u .¹² If we then apply a uniform

¹² We might add a buffer zone since durian might be slightly better or worse than any fruit we have previously tasted.

probability distribution to this range of relevant utility values, we obtain the expected utility of eating durian. But this procedure does not work the same way if we consider other transformative experiences such as an unknown career. In contrast to the case of fruits, we do not have vast prior experience with different kinds of careers. Therefore, we do not know how good or bad a career can generally be and cannot derive x_l and x_u from that. Instead, we must attempt to estimate x_l and x_u via comparisons. Let's say that x is being a doctor, y is being a philosopher, and z is being an assembly-line worker. The utility values of these outcomes are unknown to us. Yet, higher-order facts might tell us that $x_l > z_l$ and $x_u > z_u$, indicating that the expected utility of x is higher than that of z . Moreover, we might also be able to derive from higher-order facts that $x_l < y_l$ and $x_u = y_u$, revealing that the expected utility of y is higher than that of x . This leads to a ranking of x , y , and z such that $E[u(y)] > E[u(x)] > E[u(z)]$, with the precise values of or intervals between these utilities still unknown to us.

What if higher-order facts can only determine endpoints on a comparative basis and additionally indicate that not all options involve a uniform probability distribution? This complicates the ranking of options since an option's expected value is then no longer simply the mean of its endpoints. Accordingly, the endpoints by themselves become insufficient to make a ranking of options possible unless one option's upper endpoint is below the lower endpoint of the other option. Nevertheless, the combined higher-order facts about endpoints and shapes of the probability distributions can still lead to a ranking. For example, if higher-order facts tell us that (1) $x_l > y_l$ and $x_u = y_u$ and that (2) the shape of the probability distribution regarding x is more left-skewed than that of y , we can infer that $E[u(x)] > E[u(y)]$.

Third, higher-order facts can be insufficient to determine the comparative relation between options. Once again, we need to specify whether all options involve a uniform probability distribution or not. If they do, higher-order facts that lead to one of the following two constellations of upper and lower endpoints are insufficient to determine the comparative relation between two options x and y : 1) neither the comparative relation between x_l and y_l nor that between x_u and y_u is determinable; 2) $x_l < y_l$ and $x_u > y_u$ with no information about the intervals between the endpoints. But wait (you ask)—why cannot the Principle of Indifference (remember, our last resort) lead to a comparative relation between options here? In these two cases, the Principle of Indifference would indicate that x and y are equally preferable since we have symmetrical information. This is problematic, as the following example demonstrates. Suppose the comparative relations between x_l and y_l and between x_u and y_u are not determinable. The Principle of Indifference then tells us that x and y have the same expected value. Next, if we slightly improve x to x^+ and compare it to y , we should prefer x^+ to y since we know that $x =$

y . However, if our very first comparison had been that between x^+ and y , we can assume that higher-order facts would also have been insufficient to determine the comparative relation between x_l^+ and y_l as well as x_u^+ and y_u . Therefore, the Principle of Indifference would have told us that $x^+ = y$. Moreover, if we had then compared x to y , we would have concluded that $x < y$. In other words, the order of comparisons becomes decisive.¹³ Of course, this is untenable. Hence, the Principle of Indifference cannot be applied here.

If not all options involve a uniform probability distribution, higher-order facts are insufficient to make a ranking of options possible in the following situations: (1) while the range of relevant utility values of x and y suggests that the expected value of x is larger than that of y with no information about the intervals between them, the skewness of their probability distributions suggests the opposite;¹⁴ (2) the comparative relations between x_l and y_l and between x_u and y_u are not determinable, and the probability distributions of x and y are either symmetrical with the endpoints' mean as the midpoint or equally skewed;¹⁵ (3) $x_l < y_l$ and $x_u > y_u$ with no information about the intervals between the endpoints, and the probability distributions of x and y are symmetrical with the endpoints' mean as the midpoint. In case (1), the Principle of Indifference cannot be applied because the evidence is not symmetrical and not applicable in the same manner (cf., Keynes 1921, 61). In cases (2) and (3), the Principle of Indifference cannot be applied for the reasons given in the last paragraph.

All in all, we see that transformative experiences can prevent us from epistemically accessing their expected value and thereby block the ranking of options involving such experiences. Fine-graining, consulting testimony, and using higher-order facts can overcome this ranking blockade in some cases but not in all, which opens the door for an ignorance account of hard choices.

4 A Hard Choice As A Transformative Choice

In a hard choice that is hard because of its transformative character and our resulting ignorance, both strategies for determining the probability of fine-grained outcomes are unable to establish

¹³ We assume that if $x_l = y_l$ and we slightly improve x , then $x_l^+ > y_l$ (the same goes for the upper endpoints). Otherwise, the order of comparison would also be decisive and would therefore block determining the comparative relation if: 1) $x_l = y_l$ and $x_u = y_u$; or 2) $x_l = y_l$ and the comparative relation between x_u and y_u cannot be determined (or vice versa).

¹⁴ In this case, the probability distribution of x is more right-skewed than that of y .

¹⁵ "Here, the assumption outlined in footnote 13 applies."

a ranking of options. Once again, we use the choice between becoming a doctor (x) and becoming a philosopher (y) as an example and assume that both options involve a transformative experience. Because of the above-discussed problems of deriving utility values from testimony, the testimonies of people who became doctors and people who became philosophers are insufficient to declare a winner.¹⁶ Similarly, higher-order facts are insufficient to assess which option leads to a higher expected utility value. This results in an unknown comparative relation between the options “becoming a doctor” and “becoming a philosopher”: we can neither rationally prefer becoming a doctor to becoming a philosopher nor vice versa, nor can we rationally say that we prefer the two equally. Testimony and higher-order facts are insufficient to justify any of these conclusions.

What happens if one option receives a slight improvement? Let’s assume there is an option x^+ that comprises becoming a doctor, just like option x , but with an annual bonus of \$50. Higher-order facts tell us that because of the additional \$50, the probability distribution for x changes: the probabilities of some utility values increase at the cost of the probabilities of comparatively more negative utility values.¹⁷ As a consequence, the expected utility of x^+ is higher than that of x . But higher-order facts might still be (and in this case most certainly are) insufficient to determine the comparative relation between x^+ and y . This describes the SIA from an ignorance perspective.

One clarification is important at this point. Paul (2014, 34) herself denies that a choice can be hard because of its transformative character. A hard choice requires that you know enough about the values you assign to outcomes to say that they are comparable or incomparable. However, according to Paul, this requirement is not fulfilled when you are confronted with transformative experiences because in such situations you cannot assign the values at all. For that reason, you do not know whether the values are comparable or incomparable. Therefore, transformative outcomes are noncomparable. Noncomparability means that a formal precondition for the possibility of comparability is not met, namely the precondition of there being a covering value (Chang 2015). But Pettigrew’s (2020) fine-graining technique demonstrates that we can assign utility values to transformative outcomes, which renders them comparable and thus capable of being part of a hard choice. “Importantly, the problems of the fine-graining technique mentioned in section 3 do not affect that because these problems only concern how

¹⁶ The result would most probably be different if we compared the testimony of doctors with that of assembly-line workers regarding how much utility their respective careers provide.

¹⁷ “As implied in section 3, we assume that these changes in the probability distribution for x lead to $x_l^+ > x_l$ and $x_u^+ > x_u$.” “If we drop this assumption, the cases described in footnote 13 (and footnote 15) also lead to hard choices.”

agents know the probabilities of fine-grained outcomes (and not how they know the values of fine-grained outcomes)." Ultimately, since Paul grounds her framework on expected utility theory, utilities constitute the covering value of all outcomes. So, even if we are unable to assess a transformative outcome's expected value, we still know that it is some utility value and therefore a real number, establishing comparability (cf., Pettigrew 2015, 769).

It could be objected that the ignorance account proposed in this paper appears plausible mainly because Paul's and (especially) Pettigrew's framework uses utility values as a common measure, which excludes incomparability. Moreover, since utility values are numerical, there is no room for parity: a number is either smaller than, greater than, or equal to another number. Meanwhile, it is of course possible that we do not know the comparative relation between two numbers given that at least one of the two numbers is not sufficiently defined (e.g., *a* vs. 5; 10 vs. *b*; or *a* vs. *b*). Therefore, if we presuppose utility values as a common measure, only ignorance remains as a possible explanation for hard choices. While this is correct, it must be emphasized that this paper's ignorance account does not depend on utility values as a common measure. It only says that there are hard choices whose options are comparable (cf., Chang 2012; Flanigan and Halstead 2018) but have a transformative character that veils whether one option is more preferred than, less preferred than, or equally preferred to another, a circumstance that makes the choice hard. For that situation, we do not need numerical utility values, simply values that can be ranked as to preferability.¹⁸

Finally, the ignorance account presented in this paper builds on the assumption that rational decision-makers improve their epistemic situation if they can (e.g., via consulting testimony). This is for two reasons. "First, as mentioned in section 2, one objection to an ignorance account of hard choices is that, from a mere decision-theoretical perspective, uncertainty about options' values cannot lead to ignorance about options' comparative relations." By demonstrating that even under ideal conditions (i.e., unbounded rationality) this is not always the case, the present paper's account shows that the possibility of ignorance is inherent to decision theory. Second, Paul's concept of transformative experiences involves the normative standard that rational (Western) decision-makers ought to consider an outcome's subjective value. As Paul writes: "If, as a member of an affluent, contemporary Western culture, you dispense with subjective deliberation and subjective values in today's world, you reject a central tenet of that culture's ordinary way of thinking about the choice." (2014, 85) Therefore, from Paul's

¹⁸ In a mere ordinal ranking, the way a transformative outcome promotes ignorance is even more straightforward. Here, there is no need to define the range of relevant utility values and the shape of the probability distribution. Testimony and higher-order facts are directly insufficient to determine whether a transformative option is more preferred than, less preferred than, or equally preferred to another (transformative) option.

perspective, agents who deliberately remain ignorant about their options' subjective values (which might be common, descriptively spoken) are not rational.¹⁹

5 Conclusion

This paper presents the first ignorance account of hard choices that does not involve borderline cases of a vague predicate. The main objection to such an account is that ignorance cannot prevent us from ranking options. However, Paul's (2014) concept of transformative experiences provides a theoretical basis for just such an eventuality: an option's transformative character makes its expected value epistemically inaccessible, which in turn hinders a ranking of options. And although fine-graining, consulting testimony, and using higher-order facts sometimes afford us a partial grasp of transformative experiences, in other cases these experiences result in an insurmountable ranking blockade where even the Principle of Indifference fails. Under such conditions, a choice can be hard because of our ignorance. The arguably most prominent hard choice, namely the choice between two careers, can constitute such a case.

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¹⁹ What if we lower Paul's normative standard of rational decision-making and allow for deliberate ignorance (which might be common among real rather than ideal decision-makers)? In that case, there can be choices that are hard due to ignorance even though comparative relations could basically be determined. Accordingly, an ignorance account of hard choices would not need further justification since it would be a direct consequence of the normative standard of rational decision-making.

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