Taking the Cake

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Abstract

This paper addresses a puzzle about how to choose between three options when you don't endorse a single precise way of evaluating them. It considers two different decision rules which disagree in such contexts. One is more permissive than the other. The paper argues that the best argument against the permissive rule fails, but that this argument can be rescued by making an unconventional assumption about how to model deliberation.

1 Introduction

It's irrational to select an item from a menu if that menu also includes something you strictly prefer to it. Is the converse true? That is, is it rationally permissible to select an item just so long as there's nothing else on the menu you'd rather have? If yes, then your *all things considered* preferences are the ultimate arbitrators of what it's rational for you to do. But in cases in which one is unable to form *all things considered* preferences over all of the items on the menu—perhaps because the choices are complex, multifaceted, and involve unresolved conflicts between competing values—it's not obvious that one's *all things considered* preferences should play such a vaunted role. Some (notably [Levi, 1986, 1999, 2006, 2008]) argue that they should not; in some cases, it's irrational to choose an option even though there's nothing else on the menu you *all things consider* prefer to it. Others (notably [Sen, 2004, 1997]) disagree: it's irrational to choose an option only if there's something else on the menu you'd (all things considered) rather have. This paper argues that, as things stand, the former view is undermotivated. The best argument in its favor is fallacious. However, in the end, I suggest a way for that argument to be rescued. But doing so comes at the cost of complicating our picture of rational choice.

2 Deciding Under Value Conflict

Consider the following situation.

> **Deciding at the Diner.** You pop into your favorite local diner for an after-dinner treat. Doris brings you over the diner's (unfortunately meager) dessert menu:
>
> (A) an apple pie,
>
> (B) a bowl of blueberries,
>
> (C) a cantaloupe cake
>
> When choosing a dessert, you only care about two things: *deliciousness* and *healthfulness*. You know that the apple pie is more delicious than the cantaloupe cake, which is slightly—and I stress *only slightly*—more delicious than the bowl of blueberries. You also know that the bowl of blueberries (which are chock full of anti-oxidants) is healthier than the cantaloupe cake, which is slightly—and, again, *only slightly*—healthier than the apple pie. There's no precise way in which these two considerations—deliciousness and healthfulness—weigh up against each other. They both matter to you, but aren't precisely commensurable.

Let's suppose that you don't prefer any of the items on the menu to any of the others. Let's also suppose that we can represent deliciousness and healthfulness on a scale that allows us to assign numbers to how the options are valued relative to each of these dimensions.[1]

$$\begin{aligned} v_d(A) &= 10 \qquad & v_h(B) &= 10 \\ v_d(C) &= 4 \qquad & v_h(C) &= 4 \\ v_d(B) &= 0 \qquad & v_h(A) &= 0 \end{aligned}$$

As the story suggests, the deliciousness scale, measured in *dels*, and the healthfulness scale, measured in *healths*, aren't precisely commensurable for you. There

[1] The numbers are for convenience. But don't let them deceive you. The fact that the apple pie is 10 *dels* delicious and that the bowl of blueberries is 10 *healths* healthy should very much not suggest to you that the apple pie is as delicious as the bowl of blueberries is healthy. The two scales are (obviously) conventional. (We just made them up!) And we haven't said how—if at all—the two scales compare to each other. In fact, given the details of the story, it looks as though the two scales are not precisely commensurable: there's no fact about how many *healths* are worth one unit of *del*. It would be, then, just as foolish to conclude (from looking at the numbers on our scales) that the apple pie is as delicious as the bowl of blueberries are healthy as it would be to conclude that an olympic-sized pool is as long as a 50 degree day is warm.

is no precise conversion rate between the two. If there were, then your decision about what to get for dessert would be, more or less, a no-brainer: convert the two amounts into some common currency and then pick the option that comes out on top. (So, for example, if each *health* were worth 2 *dels*, then you should clearly go for the blueberries.) Instead, let's consider all of the (plausible) ways the two dimensions of value could be weighed off of each other. Each of these ways will correspond to a complete ranking of your options. Each is an admissible way of resolving your value conflict. Let $\mathcal{U}$, which we'll call your *representor*, be the set of all these rankings. Furthermore, we can use this to recover our more familiar notion of an *all things considered* preference:[2]

> **Preference Unanimity**
>
> You *all things considered* prefer X to Y if, and only if, for every $u \in \mathcal{U}$, $u(X) > u(Y)$.

You don't *all things considered* prefer any of the desserts to any of the others. For each pair of desserts, there are admissible ways of resolving the conflict between your values that rank the one ahead of the other and *vice versa.* Combining this view of preference with the deontic claim mentioned at the beginning—namely, that you're rationally forbidden from choosing X iff there's something on the menu you prefer to it—delivers us an attractive decision rule:[3]

> **Maximality**
>
> You are rationally forbidden from choosing X off of menu M if, and only if, there is some item $Y \in M$ such that *every* admissible way of evaluating the options in $\mathcal{U}$ ranks Y ahead of X.

The rule is fairly permissive. All it takes for an action to be rationally permissible according to Maximality is for there to fail to be another option that does better relative to every admissible way of resolving the conflict between the dimensions of evaluation. In this case, it says, for each of the desserts on the menu, it's rationally permissible to choose it. In particular: it's rationally permissible to choose the cantaloupe cake.

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[2] The left-to-right direction of Preference Unanimity—that you prefer X to Y only if every function in $\mathcal{U}$ ranks X ahead of Y—is fairly uncontroversial, perhaps even true-by-definition. The right-to-left direction, however, is hotly contested—particularly when X and Y are gambles. The controversy concerns what Hare [2010] calls cases of Opaque Sweetening. (See [Bader, 2018; Bales et al., 2014; Doody, 2019a,b; Hare, 2010; Schoenfield, 2014] for more details.) As far as I can tell, the parties to the dispute at issue in this paper all accept both directions of the principle. And so for the purposes of this paper I will too. That said, I am personally more-than-a-bit wary of it.

[3] Proponents of the rule (or rules similar in spirit) include Amartya Sen [Sen, 2004], who refers to it as "intersection maximization," Hans Herzberger [Herzberger, 1973], and Seamus Bradley [Bradley, 2013].

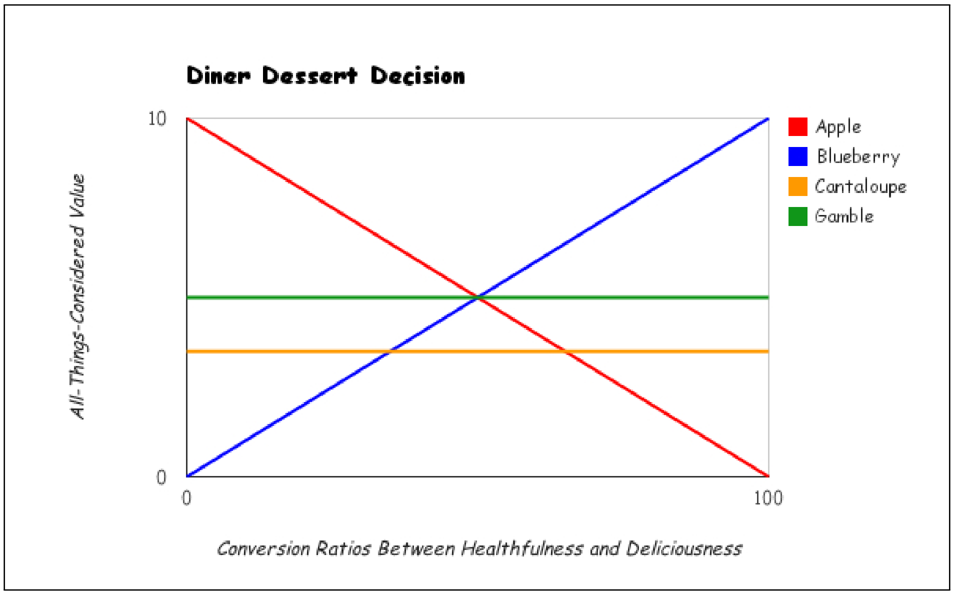

Figure 1: Values of Desserts Across Ways of Evaluations

For some, MAXIMALITY is too permissive. Isaac Levi, for example, endorses the following decision rule instead:

V-ADMISSIBILITY

You are rationally forbidden from choosing X off of menu M if, and only if, according to every admissible way of evaluating the options, there is some available option $Y \in M$ such that Y is ranked ahead of X.

This rule is less permissive. In order for an action to be rationally permissible, there must be some way of evaluating the options according to which it comes out best. In this case, there is no way of evaluating the option such that choosing the cantaloupe cake is best. (To see this, note that in order for the cantaloupe cake to come out better than the apple pie we must put a lot of weight on healthfulness, but that'll make the bowl of blueberries, which are much healthier than the cantaloupe cake, the best of the three. And, *mutatis mutandis* for deliciousness. There are some admissible ways of evaluating the options according to which the apple pie is best, and there are some admissible ways of evaluating the options according to which the bowl of blueberries is best—but there are no ways of evaluating the options according to which the cantaloupe cake is best.)

Which rule is right?

3 Levi's Argument

Isaac Levi argues that, in cases like the one presented above, there is an important distinction that MAXIMALITY cannot capture, but which V-ADMISSIBILITY can. In order to motivate Levi's claim, consider the following addendum to our story: Doris returns to the table to inform you that, in addition to the apple pie and bowl of blueberries but instead of the cantaloupe cake, the diner's pastry chef has made a nice carrot cake (C^+), which is only slightly less delicious than the apple pie and only slightly less healthful than the bowl of blueberries. In this case, both rules agree: it's rationally permissible to choose the carrot cake.

In both cases, there is a sense in which the cake (cantaloupe and carrot) comes in *second place*. But, in the first version (with C), the cake is *second worst*. While, in the second versions (with C^+), the cake is *second best*. Levi argues that there *is* a sensible distinction here. And goes on to argue that because MAXIMALITY rules all three options permissible in *both* cases, it is unable to capture the distinction.

Levi says:

> [Maximality] obliterates the relevance of the distinction between case 1 and case 2 ... [Levi, 2006, 205]

And elsewhere, he says:

> [Maximality] cannot distinguish between second best and second worst cases. [Levi, 2008, 13]

To bring his point out, Levi asks us to consider a slight amendment to the example. Imagine, now, that you have the option to let the decision between the apple pie (A) and the bowl of blueberries (B) turn on the flip of a fair coin. If the coin lands heads, you will opt for A; if the coin lands tails, you will opt for B. Call the option to take this gamble $A \oplus_{\frac{1}{2}} B$. Levi points out, correctly, that in the first case every $u \in \mathcal{U}$ ranks $A \oplus_{\frac{1}{2}} B$ ahead of C, in which case you are rationally forbidden from choosing C. But, in the second case, every $u \in \mathcal{U}$ will rank C^+ ahead of $A \oplus_{\frac{1}{2}} B$.

Levi points out that

> Of course, in neither case does [the agent] have the option of choosing such a lottery. But [the agent]'s attitude towards such lotteries on the counterfactual supposition that he faces a choice between the lottery and [option C] could be relevant. [Levi, 2006]

So what then is his argument? He explains,

> My argument is that such significant shared agreements [concerning the hypothetical gambles] ought to be preserved in predicaments where [the agent] is conflicted between [ways of evaluation]. [Levi, 2006]

That all might be right, but it is just a *mistake* to think that Maximality is unable to "distinguish" between the two cases, and "obliterates the relevance" of the second best/second worst distinction. Levi's own example of the hypothetical gambles brings out exactly how the proponents of Maximality *would* go about making such a distinction: in the first case, *were* the gamble an available option, then option C would be ruled out; and, in the second case, *were* the gamble an available option, then option C^+ would remain on the table. The proponents of Maximality, then, *are* able to make a distinction between the cake being second best vs being second worst—they merely disagree with Levi that the hypothetical coin-flip is relevant to what it's rational to do when the coin-flip option isn't an available alternative.

(Compare this to a case of binding. If Ulysses could bind himself to keep the ship on course, there would be no need for him to *literally* bind himself to the mast. But given that Ulysses doesn't have the option to ignore the call of the Sirens, it would be foolish to make his decision about what to do based on what would best in the hypothetical situation in which he could. Similarly, proponents of Maximality should say that, while it might be irrational to choose C when you have the option to take the gamble instead, it needn't be irrational to choose C when the gamble isn't on the proverbial menu.)

In short, then, if Levi's complaint is that Maximality cannot make the same distinctions that V-admissibility can, he is simply mistaken. The difference, for proponents of Maximality, between C and C^+ is that it *would* be irrational to choose C but not irrational to choose C^+ *were* you able to flip a coin instead. On the other hand, if Levi's complaint is that Maximality cannot make the same distinctions *in the same way* that V-admissibility can, then he's correct—but that clearly begs the question.

4 Conclusion

Can Levi's argument be rescued? I think it can—if we are prepared to make a controversial assumption. If we suppose that, when choosing from a menu of options, probabilistic mixtures of those options are also thereby available, Levi's argument has bite. For if the 50/50 mixture between A and B is also available (whenever A and B are on the menu), you should prefer it to choosing C. How plausible of an assumption is this, however? It might not be terribly implausible. Imagine that you approach your decision this way: you, first, are going to decide whether or not to choose C; if you decide to reject C, then you'll go on to decide between the remaining options (A and B). This seems like a perfectly fine way to make a decision between three options. However, if you are genuinely uncertain what future-you would choose were you to reject C in favor of deciding between A and

B, you might think of your future-self—at least from your current perspective—as akin to the flip of a coin. In which case, you are (in some sense) facing a choice between C and a 50/50 gamble between A and B. According to MAXIMALITY, what it's permissible for you to choose will very much depend on the way in which you structure your deliberation; it's permissible to choose C unless you are uncertain about what you would choose after rejecting C. V-ADMISSIBILITY, on the other hand, isn't sensitive to how you structure your choice between the three in this way; it's impermissible to choose C either way.

Should you take the cake? For some views, it depends on how you think about it. For others, it doesn't. But, you might think: what it's rational to do shouldn't depend on how you think about it—at least not in this way. What it's rational for you to do should be sensitive to what you care about and to how you take the world to be. But it shouldn't be sensitive to how you structure your deliberation between your options. If you're rational, how the decision is "framed" shouldn't matter. But, according to MAXIMALITY, it very well might. And *that* takes the cake.

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