

Desire-as-Belief in Context

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Abstract. The Desire-as-Belief (DAB) Thesis says that your desire for a proposition A 's truth should match your degree of belief that A 's truth would be good. This thesis seems plausible. However, David Lewis showed that it faces a serious difficulty: given only mild assumptions, the DAB Thesis clashes with a widely accepted formulation of decision theory. As Lewis acknowledged, this result is closely connected to his own triviality results for Stalnaker's Thesis, where the latter is a notorious thesis connecting your credences in indicative conditionals to your conditional credences. Given this connection, it's not surprising that philosophers have sometimes responded to Lewis's DAB argument in ways that parallel responses to his triviality results. But it *is* surprising that one such parallel response—the strongest, in my view—hasn't been explored yet in the literature: a number of authors have shown that we can avoid Lewis's triviality results by embracing a *contextualist* view about indicative conditionals. Here, I explore the analogous, contextualist response to the argument against the DAB Thesis. I first make a case for a revised, context-sensitive version of that thesis, and show that we can use it to block Lewis's argument. I then prove a tenability result for my contextualist DAB Thesis, showing that it's compatible with decision theory after all. I conclude the paper by comparing my response to Lewis to a few other responses that have appeared in the philosophical literature. I give reasons to think that my contextualist response should be preferred.

1 Introduction

How much should you desire that a proposition, A , be true? A plausible answer is: to the same extent that you believe it would be *good* if A were true. This

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simple and compelling idea has a venerable history in philosophy.¹ David Lewis (1988, 1996) called it the *Desire-as-Belief (DAB) Thesis*.

Unfortunately, while the DAB Thesis seems plausible on a first pass, Lewis also showed that it faces a serious difficulty. Given only mild assumptions, the thesis clashes with a widely accepted formulation of decision theory—namely, the formulation of Richard Jeffrey (1965, 1983). As Lewis says, Jeffrey’s theory “is an intuitively convincing and well worked-out formal theory of belief, desire, and what it means to serve our desires according to our beliefs. It is of course idealized, but surely it is fundamentally right. [So, if the DAB Thesis] collides with Decision Theory, it is the Desire-as-Belief Thesis that must go” (1988, p. 325).

This result seems like bad news for those of us who are attracted to the DAB Thesis. However, in this paper, I want to argue that Lewis’s result can be resisted. To do this, I will draw a connection—one that’s been drawn in the literature several times before, not least by Lewis himself—between the DAB argument, on the one hand, and Lewis’s own *triviality results* for *Stalnaker’s Thesis*, on the other. Roughly, Stalnaker’s Thesis says that your credence in an indicative conditional ‘If *A*, then *B*’ should match your conditional credence in *B*, given that *A*. The triviality results then purport to show that this thesis can’t, in general, be true: given only mild assumptions (analogous to those we made in the case of the DAB argument), Stalnaker’s Thesis can hold only in trivial cases.²

Like the DAB Thesis, however, Stalnaker’s Thesis is *prima facie* plausible. And this has led some philosophers to question whether Lewis’s “mild” assumptions are really so mild. One of those assumptions in particular is problematic—namely, the assumption that an indicative conditional sentence expresses the same proposition *in every context*. Opposed to this, a long tradition in philosophy (and linguistics) claims that indicative conditional sentences are *context-sensitive*. That is, which proposition they express depends on the context in which they’re uttered.³ As it turns out, this *contextualist* view about indicative conditionals can be used to block Lewis’s argument against Stalnaker’s Thesis. And better still, several philosophers have shown that, by appealing to contextualism about

¹Versions of this idea have been defended by Plato, Aristotle, Spinoza, Leibniz, and arguably even Hume (see Gregory 2021 and references therein). Furthermore, precisifications of the idea have been defended more recently by Parfit (1984), Price (1989), Broome (1991), Oddie (1994), Byrne and Hájek (1997), Hájek and Pettit (2004), Bradley and List (2009), Collins (2015), Bradley and Stefánsson (2016), and Gregory (2021), among others.

²See Stalnaker 1970 for the original statement of Stalnaker’s Thesis, and Lewis 1976 for the original triviality results. Lewis’s results were later strengthened by, e.g., Hájek (1989, 2012), Hájek and Hall (1994), Bradley (2000), Milne (2003), Fitelson (2015), Goldstein and Santorio (2021), and others.

³It’s not universally agreed that indicative conditional sentences express propositions. In particular, so-called *expressivists*, like Adams (1975), Gibbard (1981), Edgington (1995), Bennett (2003), Moss (2015, 2018), and Ciardelli and Ommundsen (2022) think that indicative conditional sentences (merely) express properties of your credal state. Unfortunately, I don’t have space to consider this view here. So I’ll simply assume that indicative conditionals express propositions in what follows.

indicatives, we can actually *prove* that Stalnaker’s Thesis holds for an important class of these conditionals.⁴

Given the parallels between Lewis’s triviality results for Stalnaker’s Thesis and his argument against the DAB Thesis, it’s not surprising that philosophers have sometimes responded to the latter in ways that parallel responses to the former. However, it *is* surprising that a contextualist response to the DAB argument, analogous to the contextualist response to the triviality results, hasn’t been explored yet in the literature. My aim here is to fill that gap. In §2 I’ll start by reviewing Lewis’s argument against the DAB Thesis, and his triviality results for Stalnaker’s Thesis. In §3 I’ll then make a case for a contextualist version of the DAB Thesis, arguing that this version is independently plausible. I’ll also show how we can use the contextualist DAB Thesis to block Lewis’s argument. And in §4 I’ll sketch a tenability result for my version of the DAB Thesis, showing that there are non-trivial models in which it holds. (A proof of this result can be found in the Appendix.) In §5 I’ll conclude the paper by comparing my response to Lewis to a few other responses that have appeared in the philosophical literature. I’ll argue that, while these responses are plausible and influential, there are still reasons to think that my contextualist response should be preferred.

2 Background

2.1 Lewis on *Desire-as-Belief*

Let me begin with some assumptions.

In what follows, I’ll assume that your credences at any time can be represented by a probability function, p , which I’ll call your *credence function*. I’ll assume that your desires at any time can be represented by a real-valued function, v , called your *subjective value function*.⁵ I’ll assume that p and v are both defined over a space of possible worlds, W . And, for reasons that will become clear later on, I’ll assume that W is finite; that p comes from some rational initial credence function, p_0 , by *Conditionalization* on the proposition E that describes your total evidence up to the present time; and that p is *regular* on E , in the sense that

⁴For results of this kind, see §4, as well as, e.g., Bacon 2015, Khoo and Santorio 2018, and Mandelkern 2024. There are also versions of these “tenability results” that don’t rely on contextualism: see, e.g., McGee 1989, Stalnaker and Jeffrey 1994, Kaufman 2004, Bradley 2012, Goldstein and Santorio 2021, and Khoo 2022. The first tenability result for Stalnaker’s Thesis was proved by van Fraassen (1976). Van Fraassen himself isn’t explicit about how a contextualist view fits with his result. But some authors have argued that this result fits naturally with contextualism.

⁵In this paper, I’ll use the terms ‘subjective values’ and ‘desires’ interchangeably. Similarly for ‘value’ and ‘desire’ taken as verbs. This usage arguably elides some important distinctions. But those distinctions aren’t so relevant to what I’m doing here. Besides, Lewis himself often uses ‘value’ and ‘desire’ interchangeably (see, e.g., Lewis 1988). Thus, in a sense, I’m just following his lead.

$p(w) > 0$ for each world $w \in E$. (Thus, for now, I'm assuming that propositions are sets of worlds.)⁶

Next, let A be any proposition, and let $\mathring{A}$ (pronounced “A-halo”) be the proposition expressed by ‘ A ’s truth would be good’. Then, the DAB Thesis, stated formally, says that the following relationship holds between v and p , if you’re rational:

$$v(A) = p(\mathring{A}) \quad (\text{DAB})$$

In words: your degree of desire for A ’s truth should match your degree of belief that A ’s truth would be good.

There are a couple of things to note about this statement of the DAB Thesis. The first is that, as I’m construing it, DAB is a *normative* thesis, rather than a descriptive, or a constitutive, one. This is a bit different to how Lewis himself thought of the thesis. According to him, DAB is an “anti-Humean” thesis, which is supposed to hold as a matter of necessity. As Bradley and Stefánsson (2016) point out, however, interpretations like this face important challenges: “if DAB were a [descriptive] claim about ordinary people, then we wouldn’t need a philosophical or decision-theoretic argument to examine its plausibility: citing ordinary psychological experience (with all its confused desires and so on) would then suffice to refute the thesis” (p. 694). Since I agree with Bradley and Stefánsson about this, I’ll only consider DAB on its normative interpretation here. (But note that the arguments I give in §§3–4 are compatible with Lewis’s anti-Humean interpretation.)⁷

The other thing to note is that my statement of the DAB Thesis is simplified in an important way. Specifically, in taking $\mathring{A}$ to be the proposition expressed by ‘ A ’s truth would be good’, I’ve implicitly assumed that goodness doesn’t come in degrees. This, of course, is implausible; however, it’s also merely a simplifying assumption. In later sections—and in the Appendix—I’ll consider a more realistic version of the DAB Thesis which allows for degrees of goodness. I focus on the simplified version here (following Lewis) just to streamline the discussion.

⁶Later on, I will make a few revisions to these assumptions. In the meantime, however, note two additional things. First, strictly speaking, I should write ‘ $p(\{w\})$ ’, rather than ‘ $p(w)$ ’; but I’ll continue to abuse notation in this and similar ways in what follows. Secondly, when I say that p comes from p_0 by *Conditionalization* on your total evidence E , I mean that, for any proposition A , your current credence in A is given by the following:

$$p(A) = p_0(A \mid E) := \frac{p_0(A \wedge E)}{p_0(E)}$$

assuming $p_0(E) > 0$. Thus, importantly, I’ll assume the standard *ratio formula* for conditional probability in this paper. Moreover, since we’re assuming that p is regular on E , we can avoid annoying caveats about conditional probabilities being well-defined.

⁷See Bradley and Stefánsson 2016 for further discussion of why DAB is best interpreted as a normative thesis. See also Gregory 2021 for a recent defense of an alternative, anti-Humean view.

Now, provided these points about the DAB Thesis are acknowledged, I think this thesis is very plausible. This is especially the case if you're a *realist* about value. As Oddie (2001) explains:⁸

For the realist, it is easy to provide both conceptual space, and motivation, for [the DAB Thesis]. The realist takes there to be genuine truths about what is valuable. Consequently the realist thinks there are two regulative ideals which should constrain our valuing. First, one's beliefs about the good should be true. Second, one should desire things in proportion to their value... [I]t is pretty obvious that these two ideals together enjoin [the DAB Thesis]. (p. 110)

As I said before, however, Lewis argues that DAB is in tension with decision theory, and this casts doubt on its credibility (and some believe, on realism more generally).⁹ Thus, to see how his argument works, let's first note that in Jeffrey's decision theory, your rational degree of desire for A 's truth is defined to be the following quantity (Jeffrey 1965, 1983):

$$v(A) = \sum_w p(w \mid A) \cdot v(w) \quad (\text{Subjective Value})$$

Here, $p(w \mid A)$ is your conditional credence that w is actual, given that A is true, while $v(w)$ is your degree of desire that w be actual. Very roughly, then, this definition says that A 's subjective value is a measure of how good it would be (for you) to *learn* that A is true. (This definition will be especially important in §2.2.)^{10,11}

⁸Oddie uses the term 'Harmony' in place of 'the DAB Thesis' in this quotation. However, it's clear from his discussion that he thinks the notion of Harmony is equivalent to the DAB Thesis, at least on the normative interpretation I've given it. Note also that Bradley and Stefánsson (2016) argue that DAB needn't be interpreted as a realist thesis at all. But again, as Oddie makes clear, the realist perhaps has the easiest time motivating that thesis.

In fact, on this point: my own view is that the DAB Thesis can be regarded as something like the value-theoretic analogue of Lewis's own *Principal Principle* (Lewis 1980). Specifically, whereas the Principal Principle tells you how your subjective probabilities (viz., credences) should be constrained by your beliefs about the objective probabilities (viz., chances), the DAB Thesis tells you how your subjective values should be constrained by your beliefs about the objective values. This, in fact, is the sense in which I'll be understanding the DAB Thesis throughout this paper.

⁹As Oddie (1994) remarks, if Lewis's DAB argument "is sound then it gets as close to being a reductio of realism about value as any argument could be, a rigorous proof of Wittgenstein's Tractarian claim that 'it is impossible for there to be propositions of ethics'" (p. 452).

¹⁰As an Associate Editor for *Mind* notes, another way to interpret Jeffrey's formula is as telling you how *useful* it would be to learn that A is true. Similarly, Jeffrey himself often described the quantity $v(A)$ in terms of "news value". As he puts it: to say that $v(A)$ is greater than $v(B)$ is to say that you would "welcome the news that A is true more than [you] would welcome the news that B is true" (1983, p. 82). Along these lines, note that the characterizations of $v(A)$ I've given in terms of *learning* are tied to the fact that, according to Conditionalization, $p(w \mid A)$ is equal to your credence that w is actual, after learning the truth of A .

¹¹Jeffrey's equation for $v(A)$ is closely tied to the decision rule of so-called *evidential decision theory* (EDT) (see, e.g., Jeffrey 1983 or Ahmed 2014 for discussion). This might lead you to believe that Lewis's argument against DAB doesn't affect EDT's main rival, *causal decision theory* (CDT).

In addition to adopting this definition of subjective value, Lewis makes two background assumptions before giving his DAB argument. The first is that you update your credences by Conditionalization—an assumption I’ve already made. The second is an assumption that Lewis calls *Invariance*. This is the claim that your subjective value for A doesn’t change when you learn that A . In symbols, where v_A is your subjective value function after learning A :

$$v_A(A) = v(A) \quad (\text{Invariance})$$

Now, unlike Conditionalization, this assumption has met with quite a bit of resistance in the literature (Weintraub 2007, Bradley and List 2009, Stefánsson 2014, Bradley and Stefánsson 2016). However, I think it’s a natural assumption for realists about value, in particular, to make. After all, Lewis himself defends it by pointing out that it holds for a proposition if it holds for all the maximally specific subcases of that proposition—i.e., the possible worlds which are its members. But then, he says, if a subcase

were maximally specific merely in all ‘factual’ aspects... it would be no surprise if a change in belief changed our minds about how good it would be [if the subcase were true]... But the subcase was supposed to be maximally specific in *all* relevant aspects... [In other words] The subcase has a maximally specific hypothesis about what would be good built right into it. So in assigning it a value, we do not need to consult our opinions about what is good. We just follow the built-in hypothesis. (Lewis, 1988, p. 332, emphasis added)

On top of this, Bradley and Stefánsson (2016) argue that there’s a sense in which Invariance is *implied* by Jeffrey’s decision theory, and so isn’t really an extra assumption that Lewis has to make at all. I’ll defer discussion of that point until later, however, since it requires some additional machinery, which we’ve not yet introduced. In the meantime, then, let’s just see how Lewis’s argument works, if we take Invariance for granted. Consider (below, p_A is your credence function after learning A):

$$\begin{aligned} p(\mathring{A}) &= v(A) && (\text{DAB}) \\ &= v_A(A) && (\text{Invariance}) \\ &= p_A(\mathring{A}) && (\text{DAB}) \\ &= p(\mathring{A} \mid A) && (\text{Conditionalization}) \end{aligned}$$

This is incorrect. The reason is that, while causal decision theorists deny that Jeffrey’s equation is a good measure of *choiceworthiness* for actions, many still think it’s the correct measure of rational subjective *value* (see, e.g., Skyrms 1980, Lewis 1981, or Joyce 1999). In a sense, then, Jeffrey’s equation—understood as a measure of subjective value rather than choiceworthiness—is common to both EDT and CDT. For more on the relationship between DAB and CDT, however, see Byrne and Hájek 1997 and Collins 2015.

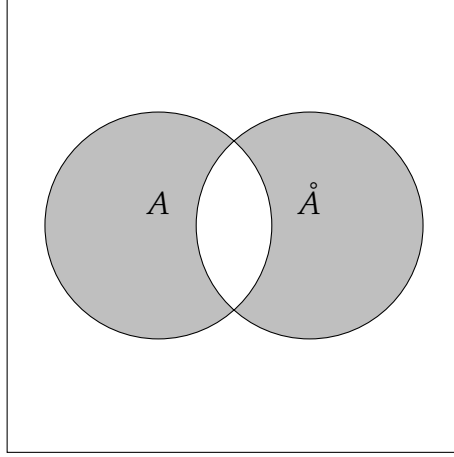


Figure 1: Your epistemic possibilities

Spelled out, this says that—in the presence of Invariance and Conditionalization—the DAB Thesis demands that your credence in $\dot{A}$ be *probabilistically independent* of your credence in A . But that can't be the case in general: there are many propositions you could learn which would cause DAB to go from satisfied to unsatisfied.¹²

To see this, consider the diagram in Figure 1. There, the square represents the set of worlds to which you initially give positive credence, while the two circles represent the sets of worlds at which A and $\dot{A}$ are true, respectively. Now, imagine that your credences initially satisfy $0 < p(A), p(\dot{A}) < 1, p(A \vee \dot{A}) < 1$, and also $p(\dot{A}) = p(\dot{A} \mid A)$, so that A and $\dot{A}$ are independent. Next, suppose that you learn the disjunction $A \vee \dot{A}$, and you update by Conditionalization. Then, all the credence you assign to the $\neg(A \vee \dot{A})$ region of this diagram will be redistributed throughout the $A \vee \dot{A}$ region, in such a way that $p(\dot{A} \mid A) = p_{A \vee \dot{A}}(\dot{A} \mid A)$. (This follows from what's called the *rigidity* property of Conditionalization.)¹³ However, after learning $A \vee \dot{A}$, your credence in $\dot{A}$ will increase, so that $p_{A \vee \dot{A}}(\dot{A}) > p(\dot{A})$. This leads to a violation of the DAB Thesis. Thus, even if you satisfied the thesis before this learning event, you won't satisfy it after. And so the DAB Thesis, it seems, can't be true in general.¹⁴

¹²Note also that, since DAB is supposed to be a thesis about *rationality*—at least on my reading—it should apply to *all* rational credence function-subjective value function pairs, including the rational credence function you rationally come to have after conditionalizing on some evidence.

¹³Roughly speaking, rigidity says that conditionalizing on A doesn't change your conditional credences, given A . More precisely, we have: $p_A(\cdot \mid A) = p(\cdot \mid A)$. It's a simple exercise to prove this, using the ratio definition of conditional probability given in fn. 6.

¹⁴A classic result of Costa, Collins, and Levi (1995) also shows that, if you satisfy DAB at various times, then one of two things must be true: either (i) you must assign positive credence to at most two possible worlds; or (ii) you must be *indifferent* between the truth of any proposition and its negation, in the sense that $v(A) = v(\neg A)$, for every proposition A . See also Lewis 1996 for a similar result.

2.2 Stalnaker's Thesis and Triviality

A number of philosophers have pointed out the close connection between the foregoing argument and Lewis's own triviality results for Stalnaker's Thesis.¹⁵ To illuminate this connection, then, let me first state Stalnaker's Thesis precisely. Let $\rightarrow$ be an operator which takes propositions A and B and returns the proposition $A \rightarrow B$, expressed by the indicative conditional sentence 'If A , then B '. Then, Stalnaker's Thesis says:

$$p(A \rightarrow B) = p(B \mid A) \quad (\text{Stalnaker's Thesis})$$

That is, your credence in the proposition expressed by 'If A , then B ' should match your conditional credence in the consequent, given the antecedent.

Versions of this thesis have been widely defended in the literature.¹⁶ To see why, consider the following example. Suppose I just rolled a fair, six-sided die, but neither you nor I saw the outcome. I say to you:

- (1) If the die didn't land on 1, it landed on 2.

How confident should you be of the truth of this sentence? Here, most people respond with an answer of '1/5'. But notice that, if you give equal credence to each possible outcome of the die roll, then this just *is* your conditional credence in 2, given that the die didn't land on 1. Thus, Stalnaker's Thesis seems very plausible, in light of examples like this one.

Still, while Stalnaker's Thesis *seems* plausible on a first pass, Lewis's triviality results show that it can't be true in general, given only the assumption that you update your credences by Conditionalization (and also the anti-contextualist assumption that I mentioned in §1—but ignore that for now). To see this, consider the following derivation:

$$\begin{aligned} p(B \mid A) &= p(A \rightarrow B) && (\text{Stalnaker's Thesis}) \\ &= p(A \rightarrow B \mid B) \cdot p(B) + p(A \rightarrow B \mid \neg B) \cdot p(\neg B) && (\text{Total Probability}) \\ &= p_B(A \rightarrow B) \cdot p(B) + p_{\neg B}(A \rightarrow B) \cdot p(\neg B) && (\text{Conditionalization}) \\ &= p_B(B \mid A) \cdot p(B) + p_{\neg B}(B \mid A) \cdot p(\neg B) && (\text{Stalnaker's Thesis}) \\ &= p(B \mid A \wedge B) \cdot p(B) + p(B \mid A \wedge \neg B) \cdot p(\neg B) && (\text{Conditionalization}) \\ &= 1 \cdot p(B) + 0 \cdot p(\neg B) && (\text{Probability Theory}) \\ &= p(B) \end{aligned}$$

¹⁵See, e.g., Lewis 1988, and also Broome 1991, Oddie 1994, Hájek and Pettit 2004, Bradley and Stefánsson 2016, and especially Hájek 2015.

¹⁶Among many others, see Stalnaker 1970, 1984, McGee 1989, Stalnaker and Jeffrey 1994, Bradley 2012, Bacon 2015, Khoo and Santorio 2018, Goldstein and Santorio 2021, Khoo 2022, Schultheis 2023, and Mandelkern 2024. Note that many of these theorists only defend a *restricted* version of Stalnaker's Thesis, in which A and B are not themselves conditional propositions. That's the version on which I'll focus below.

Thus, in parallel to what we proved in the last subsection, we just proved that if you satisfy Stalnaker's Thesis at various times, then A and B must be independent in your credence function. But again, that can't be the case in general: there are many propositions you could learn which would cause Stalnaker's Thesis to go from satisfied to unsatisfied. (For instance, replace $\mathring{A}$ with $A \rightarrow B$ in the diagram in Figure 1, and suppose that you learn the disjunction $A \vee (A \rightarrow B)$. Then more-or-less exactly the same argument we used in the last subsection will show that, even if you satisfied Stalnaker's Thesis before this learning event, you won't satisfy it after.)¹⁷

There is, then, a clear parallel between Lewis's argument against the DAB Thesis and his triviality results for Stalnaker's Thesis. The upshot of the two arguments turns out to be (more-or-less) the same.

Nevertheless, we can make that connection even closer. To see how, start by noting that Lewis himself says there's a more conspicuous way in which we can construe the proposition $\mathring{A}$: we can first let G be the proposition consisting of all and only "the objectively desirable [worlds]—for short, the *good* ones" (Lewis, 1996, p. 307). We can then let $A \rightarrow G$ be the proposition expressed by 'If A , then G '—or, more clearly: 'If A , then things are good'.¹⁸ Now, given *this* proposition, we can re-state the DAB Thesis in a slightly different way (cf. Lewis 1988, p. 329):

$$v(A) = p(A \rightarrow G) \quad (\text{DAB})$$

This says that your desire for A should match your credence in the proposition expressed by the sentence 'If A , then things are good'.

But suppose next that your subjective value for each world matches its objective value, and that these values are scaled appropriately, so that every world $w \in G$ is such that $v(w) = 1$.¹⁹ Suppose further that every world $w \in \neg G$

¹⁷ Additionally—and in parallel to the result of Costa, Collins, and Levi (1995)—Lewis (1976) himself points out that if your credence function satisfies Stalnaker's Thesis in general, then you'll assign positive credence to (at most) two possible worlds.

¹⁸ You may have noticed here that while I'm taking $A \rightarrow G$ to be an *indicative* conditional, my original, informal statement of the DAB Thesis used *counterfactual* language. Ultimately, I think that a fully general version of the DAB Thesis should appeal to counterfactual conditionals, rather than indicatives. However, it's beyond the scope of this paper to say how this can be done. The main issue is that Jeffrey's definition of rational subjective value only applies to propositions that are epistemically possible (viz., non-counterfactual). After all, according to that definition, $v(A) = \sum_w p(w \mid A) \cdot v(w)$. But this is only defined when $p(A) > 0$ —i.e., when A is epistemically possible. Note, however, that when A is epistemically possible, the indicative conditional 'If A , then B ' usually seems to coincide with the corresponding counterfactual 'If A , would B '. For example: 'If I flip this coin, it will land heads' and 'If I were to flip this coin, it would land heads'. Thus, taking $A \rightarrow G$ to be an indicative conditional seems appropriate, given this fact, and given the limitations of Jeffrey's theory. That said, see Bradley and Stefánsson 2017 for some suggestions about how to extend Jeffrey's theory to cases where A is genuinely counterfactual. Also, see Bacon (2022) for an exploration of a thesis which, I think, is quite closely connected to the DAB Thesis, but which is nevertheless counterfactual.

¹⁹ In general, the numbers we use to represent subjective (or objective) values are unique only up to positive affine transformation. So, we can always scale your subjective values in such a way that the condition stated in the main text holds. See Hájek and Pettit 2004 for further

is such that $v(w) = 0$. Then, by Jeffrey's definition of rational subjective value, $v(G) = 1$ and $v(\neg G) = 0$. Additionally:

$$\begin{aligned} v(A) &= p(G \mid A) \cdot v(G) + p(\neg G \mid A) \cdot v(\neg G) \\ &= p(G \mid A) \cdot 1 + p(\neg G \mid A) \cdot 0 \\ &= p(G \mid A) \end{aligned}$$

Now it's easy to see the problem. Jeffrey's definition of subjective value implies that $v(A) = p(G \mid A)$. But the DAB Thesis says that $v(A) = p(A \rightarrow G)$. The two together imply that $p(A \rightarrow G) = p(G \mid A)$. But this is just an instance of Stalnaker's Thesis. And Lewis's triviality results seem to show that Stalnaker's Thesis can't be true.

3 Contextualism

Faced with the foregoing argument against the DAB Thesis, some philosophers have concluded that this thesis should be abandoned (Costa et al. 1995, Ahmed and Spencer 2020, Ahmed 2021). However, others have tried to resist Lewis's argument in various ways. For example, some have claimed that we should reject the assumptions that underpin that argument—namely, Invariance (Weintraub 2007, Bradley and List 2009, Stefánsson 2014, Bradley and Stefánsson 2016) or Conditionalization (Oddie 1994). Others have said that we should replace Jeffrey's definition of rational subjective value with something else (Byrne and Hájek 1997, Collins 2015). And others still have introduced alternative versions of the DAB Thesis, intended to circumvent Lewis's objection (Price 1989, Broome 1991, Hájek and Pettit 2004). I'll have more to say about some of these responses later; but for now, just note that a number of them bear similarities to responses to the triviality results. For instance, Oddie's (1994) response, which rejects Conditionalization, is similar to a response to the triviality results which also rejects Conditionalization (McGee 1989, Goldstein and Santorio 2021). Relatedly, Hájek and Pettit (2004) and Bradley and Stefánsson (2016) say that we can resist Lewis's DAB argument by embracing an "indexical" version of the DAB Thesis. And this is similar to the response to the triviality results given by van Fraassen (1976) and Stalnaker and Jeffrey (1994) (something that Hájek and Pettit acknowledge—see §5).

The fact, however, that responses to Lewis's DAB argument often parallel responses to his triviality results makes it surprising that a *contextualist* response

discussion. That said, I will assume throughout that we have chosen a particular value scale and that, whenever a world w has a particular degree of value, x , according to this scale, your subjective value for this world matches its objective value. That is, $v(w) = x$, whenever the world w has objective value x , according to our scale. As an anonymous referee points out, however, this is a substantive assumption, and not something that's directly implied by Jeffrey's theory. Nevertheless, it is also an assumption that Lewis makes (see, e.g., Lewis 1988, pp. 330–31). If we like, we can think of it as a constraint on rational subjective value functions, akin to constraints that are sometimes imposed on rational initial credence functions (like, e.g., Lewis's own Principal Principle—see fn. 8).

to the former hasn't been given yet in the literature. After all, the contextualist response to the triviality results is—in my view—the strongest such response available.²⁰ It's been given by, e.g., Bacon (2015), Khoo and Mandelkern (2018), Schultheis (2023), and Mandelkern (2024). And it's worth seeing briefly how it works.

Thus, recall my earlier statement of Stalnaker's Thesis. There, I said that your credence in the proposition expressed by 'If A, then B' should match your conditional credence in the consequent, given the antecedent. Next, with that in mind, consider a few lines from Lewis's proof:

$$\begin{aligned}
 p(B \mid A) &= p(A \rightarrow B) && \text{(Stalnaker's Thesis)} \\
 &= p(A \rightarrow B \mid B) \cdot p(B) + p(A \rightarrow B \mid \neg B) \cdot p(\neg B) && \text{(Total Probability)} \\
 &= p_B(A \rightarrow B) \cdot p(B) + p_{\neg B}(A \rightarrow B) \cdot p(\neg B) && \text{(Conditionalization)} \\
 &= p_B(B \mid A) \cdot p(B) + p_{\neg B}(B \mid A) \cdot p(\neg B) && \text{(Stalnaker's Thesis)} \\
 &\vdots
 \end{aligned}$$

Now, Stalnaker's Thesis, as I stated it before, makes this derivation valid. And that's because it assumes there's just one proposition, $A \rightarrow B$, that can be expressed by the indicative conditional sentence 'If A, then B'—in particular, *both before and after you've learned one of B or $\neg B$* . To see this, just notice that when I stated Stalnaker's Thesis before, I said: let $A \rightarrow B$ be *the* proposition expressed by 'If A, then B'. This assumption, in turn, is what allows Lewis to transition from the third line of the proof to the fourth one. But it's not an assumption that contextualists will want to grant. Instead, they'll say that 'If A, then B' expresses different propositions before and after you've learned B or $\neg B$, in much the same way that 'Today is Tuesday' expresses different propositions, depending on which day of the week it's said. (If it's uttered on a Tuesday, for example, it expresses a true proposition, while if it's uttered on a Wednesday, it expresses a false proposition.) Thus, the upshot is that, for contextualists, Stalnaker's Thesis should really be reformulated in a way that accounts for this context-sensitivity. And it's clear that, once it is formulated in this way, Lewis's argument won't go through. After all, we'll be able to block his proof at the transition from the third to the fourth step. (I'll give such a contextualist reformulation of Stalnaker's Thesis in a moment.)

²⁰It might be worth saying a few words here about how these contextualist responses differ from the "indexical" responses that I mentioned a moment ago, since the two kinds of response are quite closely related. Thus, roughly speaking, contextualists say that the proposition expressed by an indicative conditional sentence 'If A, then B' depends on a *body of evidence* that's salient in the context, whereas those who endorse an indexical response to the triviality results often say something stronger—namely, that which proposition 'If A, then B' expresses depends on the speaker-in-question's *credences*. The upshot, then, is that, on this latter view, two speakers can say different things when they utter 'If A, then B' even if they share the same evidence. For contextualists, however, that isn't true. I discuss these views more below. In particular, see §5 for the most in-depth discussion.

But of course, the plausibility of this response hangs on there being good reasons to think that contextualism about indicative conditionals is plausible in the first place. So let me just outline one reason to think that this is so. On the version of contextualism that's of interest here, the proposition expressed by 'If A, then B' depends, partly, on a *body of evidence* that's salient in the context (usually, the total evidence possessed by the speaker, or the pooled evidence shared by conversational participants).²¹ A prominent source of motivation for this view comes from so-called *stand-off cases*. Here's a famous such case, from Gibbard (1981):²²

Sly Pete and Mr. Stone are playing poker on a Mississippi riverboat. It is now up to Pete to call or fold. My henchman Zack sees Stone's hand, which is quite good, and signals its content to Pete. My henchman Jack sees both hands and sees that Pete's hand is rather low, so that Stone's is the winning hand. At this point, the room is cleared. A few minutes later, Zack slips me a note which says, 'If Pete called, he won,' and Jack slips me a note which says 'If Pete called, he lost.' I know that both notes come from my trusted henchmen but do not know which of them sent which note. I conclude Pete folded. (p. 231)

Here, it seems like Zack and Jack *both* speak truly when they say 'If Pete called, he won' and 'If Pete called, he lost', respectively. According to contextualists, moreover, the reason is that different bodies of evidence are salient to the speakers in the different contexts. In Zack's context, for instance, his evidence includes the proposition that Pete knows the hand that Mr. Stone has been dealt (and nothing else of relevance). So, in his context, the proposition expressed by 'If Pete called, he won' seems true. Conversely, Jack's evidence includes the proposition that Pete's hand is lower than Mr. Stone's. And that's why it sounds true for him to say 'If Pete called, he lost'. Of course, there's no context in which 'If Pete called, he won' and 'If Pete called, he lost' are *both* true (at least not, given a plausible principle of conditional non-contradiction). And this is why Gibbard can conclude that, in fact, Pete folded.

I won't give a complete defense of this version of contextualism here. But I hope that Gibbard's case, above, at least makes that view seem plausible.²³ Going forward, I'll mostly assume this form of contextualism. As I said before, however, if it's right, then my initial statement of Stalnaker's Thesis needs to be

²¹Thanks here to an anonymous referee for pushing me to clarify this.

²²Gibbard originally used this case to motivate the expressivist view about indicative conditionals mentioned in fn. 3. However, many subsequent authors believe that it equally—and perhaps *better*—motivates contextualism. For additional cases motivating contextualism, see Bacon 2015.

²³For more thoroughgoing defenses of this version of contextualism, see, e.g., Stalnaker 1968, 1975, 1984, van Rooij 1999, Bacon 2015, Khoo and Mandelkern 2018, Schultheis 2023, Mandelkern 2024, and Dorr and Hawthorne MS. Note also that contextualism of this kind is more-or-less taken for granted by linguists working in the tradition of Kratzer (1986), where a strong connection is made between indicative conditionals and epistemic modals.

revised. After all, that statement didn't make clear that it's only the probability of the proposition picked out by 'If A , then B ' in the relevant context that your conditional credence needs to match.

To rectify this, then, let me introduce some additional notation. In what follows, I'll write ' $A \rightarrow_E B$ ' for the proposition expressed by 'If A , then B ', in any context where the salient body of evidence is E . Then, following Bacon (2015)—who gives the most explicit statement of the contextualist version of Stalnaker's Thesis—I'll say that, whenever E is your *total* evidence at the present time, you should satisfy:²⁴

$$p(A \rightarrow_E B) = p(B \mid A) \quad (\text{Contextualist Stalnaker's Thesis})$$

It follows that your credence in the proposition picked out by 'If A , then B ' should match your conditional credence in B , given that A , *in any context in which the salient body of evidence is just your total evidence E* . What I want to do now is show that a similar version of the DAB Thesis can be used to block Lewis's objection.

3.1 Contextualism and the DAB Thesis

If sentences like ' A 's truth would be good' are context-sensitive, then it's easy to adapt the contextualist response to the triviality results above to the case of the DAB argument. To see how, first recall my initial statement of the DAB Thesis. There, I said that your subjective value for A should match your credence in the proposition picked out by the sentence ' A 's truth would be good'. Now, with that in mind, let's take another look at Lewis's proof:

$$\begin{aligned} p(\mathring{A}) &= v(A) && (\text{DAB}) \\ &= v_A(A) && (\text{Invariance}) \\ &= p_A(\mathring{A}) && (\text{DAB}) \\ &= p(\mathring{A} \mid A) && (\text{Conditionalization}) \end{aligned}$$

Here, in parallel to what we saw in the last subsection, the derivation is valid, because my earlier statement of the DAB Thesis assumed that there's just one proposition, $\mathring{A}$, that's expressed by the sentence ' A 's truth would be good'. In particular, there's just one such proposition expressed by that sentence *both before and after you've learned the truth of A* . However, if sentences such as this are context-sensitive, then this is an assumption that we can deny. Instead, we

²⁴Given our assumption that your credence function, p , comes from a rational initial credence function, p_0 , by conditionalization on your total evidence E , we can write the contextualist statement of Stalnaker's Thesis equivalently like this (cf. Bacon 2015, p. 135):

$$p_0(A \rightarrow_E B \mid E) = p_0(B \mid A \wedge E)$$

This statement of the thesis is arguably more revealing. But I'll stick with the more compact version given in the main text throughout.

can say that ‘A’s truth would be good’ expresses different propositions in the two different contexts—and so an adequate version of the DAB Thesis should reflect this. Thus, again, it looks like the upshot of Lewis’s argument can be coherently rejected: if we formulate the DAB Thesis in a contextualist fashion, then the transition from the second to the third step in his proof is unwarranted.

Now, once more, in order for this argument to be convincing, we need to give reasons to think ‘A’s truth would be good’ really is a context-sensitive sentence. But the good news is that those reasons aren’t hard to come by. Most obviously, think again about the second statement of the DAB Thesis we looked at—namely, the one which made use of an indicative conditional:

$$v(A) = p(A \rightarrow G) \quad (\text{DAB})$$

As we heard before, many philosophers (and linguists) think that indicative conditional sentences are context-sensitive. In other words, which proposition is expressed by a sentence like ‘If A, then G’ depends, partly, on which body of evidence is salient in the context. If that’s right, however—and for present purposes, I’m assuming that it is—then it simply follows from this that the conditional version of the DAB Thesis is best viewed as a context-sensitive thesis. After all, which proposition plays the relevant role on the right-hand side of the equation above depends on which proposition ‘If A, then G’ picks out.

That said, even if you prefer the non-conditional version of the DAB Thesis, there are still reasons to think that sentences like ‘A’s truth would be good’ are context-sensitive, and thus that different propositions play the *A*-role in different contexts.²⁵ To see this, consider a slightly modified version of Gibbard’s “Sly Pete” example.²⁶ Thus, suppose that Zack, Jack, and Gibbard are all watching Pete’s poker game live on different TV screens. They each know that Pete will share his winnings with them, if he does in fact win. And accordingly, they want Pete to win as much money as possible. Now, suppose that Zack knows whether Pete can see his opponent’s hand; and knowing that Pete can do this, he says to Gibbard the following: ‘It would be good if Pete called (for, in that case, we’d win money)’. In contrast, suppose that Jack can sometimes see both hands—both Pete’s and his opponent’s. And on this occasion he can see that Pete has worse

²⁵Once more, the idea that sentences like ‘A’s truth would be good’ are context-sensitive is more-or-less taken for granted in linguistics. Partly, this stems from the fact that modals like ‘would’ are themselves context-sensitive. However, see Kratzer 1981 for a more direct argument that ‘A’s truth would be good’ (and similar locutions) are context-sensitive. Note also that there’s a trivial sense in which ‘A’s truth would be good’ is context-sensitive. This is that ‘good’ itself is widely agreed to be context-sensitive. This kind of context-sensitivity isn’t relevant to the DAB Thesis, however (or at least, not as I’m construing it). Rather, the reading of the thesis I’m interested in is one on which the meaning of ‘good’ is held fixed—something like ‘all things considered good’—and the context-sensitivity of the sentence remains, in spite of this. I briefly discuss this point at the end of §5.

²⁶I am extremely grateful to the Associate Editor of *Mind* for suggesting this version of the case to me.

cards than his opponent does. As a result, he slips Gibbard a note which says: “It would be bad if Pete called (for, in that case, we’d lose money)”.

Thus, in much the same way that we saw in Gibbard’s original “Sly Pete” example, it seems here that *both* Zack and Jack speak truly, when they utter their respective sentences. In particular, Zack’s sentence seems true, given the evidence he possesses, while Jack’s sentence seems true given the evidence *he* possesses. Once more, however, if this observation is right, then it seems like an adequate version of the DAB Thesis should be context-sensitive. And if that’s the case, then as we heard before: Lewis’s objection doesn’t go through.

That said, if the view I just outlined is right, then once again my initial statement of the DAB Thesis needs to be revised. After all (as we heard before), that statement didn’t make clear that the proposition $\mathring{A}$ —or rather, $A \rightarrow G$ —which features in the DAB Thesis, is only the one picked out by ‘ A ’s truth would be good’ *in the relevant context*. To fix this, then, I’ll take the conditional formulation of the DAB Thesis as canonical going forward. This will allow me to use the new notation I just introduced. Thus, my official, contextualist version of the DAB Thesis says, whenever E is your total evidence at the present time, you should satisfy:

$$v(A) = p(A \rightarrow_E G) \quad (\text{Contextualist DAB})$$

It follows that your subjective value for A should match your credence in the proposition picked out by ‘If A , then G ’, *in any context where the salient body of evidence is just your total evidence E* . Then, to drive the point home: if we endorse this version of the DAB Thesis, rather than Lewis’s original, non-contextualist alternative, it turns out that his objection to that thesis doesn’t hold.

4 Tenability

We’ve found a way of resisting Lewis’s argument against the DAB Thesis. And for anyone attracted to that thesis, this should come as good news. What I want to do now, however, is show that we can establish something stronger. In particular, if we view the DAB Thesis in the contextualist way I’ve suggested, then we can actually *prove* there are non-trivial models in which that thesis holds.

The tenability result for the contextualist DAB Thesis that I’ll sketch in this section—and prove in the Appendix—draws on analogous tenability results for the contextualist version of Stalnaker’s Thesis. These results have been given by, e.g., Bacon (2015), Khoo and Santorio (2018), and Mandelkern (2024).²⁷ In fact, there’s a sense in which my result is an *application* of those results. And so, for this reason, I’m going to start by making an assumption made by all those authors. This is the assumption of a particular *semantics* for indicatives—namely, a semantics that’s inspired by the work of van Fraassen (1976).

Thus, to start off, let me take a moment to motivate this semantics. To do so, it will be worth first looking at an alternative triviality result for Stalnaker’s

²⁷For other results in this vein, see the references in fn. 4.

Thesis, due originally to Alan Hájek (1989).²⁸ To see how this result works, let's begin with a sentence—namely, the sentence (1), which we looked at in §2:

- (1) If the die didn't land on 1, it landed on 2.

Now, as I said when we considered this sentence initially, it seems like your credence in it should be $1/5$, in line with Stalnaker's Thesis. But suppose that we model your epistemic situation with a set of six worlds, $E = \{w_1, \dots, w_6\}$. Here, each world w_i is a world where the die lands on i (for $i = 1, \dots, 6$). Then, if you give equal credence to each of these six worlds, it follows that your conditional credence $p(2 \mid \neg 1) = 1/5$. But notice that there can be no single proposition here—i.e., no subset of the worlds $w_1, \dots, w_6$ —to which you assign a credence of $1/5$. After all, any such subset must get a credence equal to some multiple of $1/6$. So, in this case, it looks like Stalnaker's Thesis must be wrong.

At a first pass, this triviality result looks even worse than the one we encountered in §2, since it's not obvious how the contextualist arguments we gave in that section can be applied to this result. But in fact, the present result turns crucially on the idea that we modeled your epistemic situation correctly. And as Bacon (2015) has forcefully argued, there are strong reasons to doubt that this is so.

To see why, consider two further sentences:

- (2) If the die landed on 2 or 3, it landed on 2 (in particular).
 (3) If the die landed on 2 or 3, it landed on 3 (in particular).

Now, if indicative conditionals express propositions—as we've assumed—then one of these sentences must be true at any given world.²⁹ In turn, it follows that, if you knew you were at, say, w_1 in particular, you'd also know which of (2) or (3) is true. However, as Bacon points out, this seems “utterly implausible once we take conditional propositions seriously” (2015, p. 148). The reason is that it seems like you can be ignorant of which of (2) or (3) is true, even while knowing that the die landed on 1. Correspondingly, it seems like there must be at least *two* epistemic

²⁸See also Hájek 2012. Hájek refers to this triviality result as the *wallflower result*. It shows that, in *any* model containing only a finite number of worlds, we can always construct an example of the following kind. The particular example I give below is inspired by Bacon (2015).

²⁹As the Associate Editor for *Mind* points out, this claim is true only if we assume the controversial logical principle known as *conditional excluded middle* (CEM). This says that the following disjunction is a logical truth: $(A \rightarrow C) \vee (A \rightarrow \neg C)$. I myself accept CEM, so I am happy to accept the claim given in the main text. However, for those not immediately convinced of this logical principle, let me offer two points in its favor. First: as van Fraassen (1976) points out, CEM pairs very naturally with Stalnaker's Thesis. In particular, if Stalnaker's Thesis is true, then every instance of CEM gets probability 1. Consequently, since I've been arguing for the validity of Stalnaker's Thesis in this paper, it seems very natural that we take CEM on board as well. Secondly, however, CEM is much less controversial for indicative conditionals than it is for counterfactuals. Indeed, most of the arguments against that principle concern only the latter kind of conditional. On this latter point, see Bacon 2015, pp. 145–46. Again, I'll take CEM for granted in what follows.

possibilities compatible with knowing that the die landed on 1—namely, one in which the sentence (2) is true, and another in which the sentence (3) is true. We can generate further epistemic possibilities by considering other conditional sentences, with antecedents that are false at w_1 (e.g., ‘If the die landed on 3 or 4, then it landed on 3’, ‘If the die landed on 3 or 4, then it landed on 4’, and so on). In short, then, it seems like if we’re going to take “conditional propositions seriously”, as Bacon put it, then we need to countenance many more epistemic possibilities than just those corresponding to our original six worlds.

Faced with examples like this one, a number of authors have argued—following van Fraassen (1976)—that we should take on a more fine-grained view of indicative conditional contents.³⁰ In particular, they say that, rather than thinking of indicative conditionals as corresponding to sets of worlds, we should think of them as corresponding to sets of *sequences* of worlds. Roughly speaking, a “world”, on this way of thinking, is an entity which pins down the truth-value of every factual sentence (but not necessarily the truth-value of every conditional sentence). A sequence is then an *ordering* of such “factual” worlds (without repetitions). For example, in the case above, where we started with six possible worlds, one such sequence is $\langle w_1, w_2, w_3, w_4, w_5, w_6 \rangle$. We can think of the first world in this sequence as telling us how the die actually landed; we can think of the next world as telling us how the die landed, *if* it didn’t land on 1; and so on. Notice also that this model of indicative conditional contents gets us out of the problem specified by Bacon, since there can now be multiple epistemic possibilities beginning with a single world. (In the present example, in fact, there are a full 120 sequences we can construct beginning with the world w_1 . The reason is that, having fixed this world at the start of the sequence, there are 120 ways we can then order the remaining worlds.)

Thus, to make these ideas a bit more precise, let us say, going forward, that an ordinary “factual” sentence (i.e., a non-conditional sentence) is *true at a given sequence* just in case it’s true at the first world in this sequence. Then, let’s say that an indicative conditional sentence ‘If A , then B ’ is true at a given sequence just in case the first A -world in this sequence is a B -world. The idea here is that, if we want to check whether an indicative conditional is true when the antecedent is false, we can’t just check what goes on at a given world. Instead, we have to go to the first world in a sequence at which the antecedent is true, and see whether the consequent is also true. Conceptually, then, while ordinary “factual” sentences are still settled by the world, on the sequence-based picture, indicative conditionals need not be. Rather, their truth-values depend on ordering relations that hold *between* possible worlds.³¹

³⁰See in particular Bacon 2015, Khoo and Santorio 2018, Khoo 2022, Schultheis 2023, and Mandelkern 2024.

³¹Three further comments about this semantics are worth making at this point. The first is that the version of the semantics I’m appealing to here is simplified in a number of ways. In particular, it only works for *simple* conditionals—i.e., conditionals for which neither the antecedent nor the consequent is itself a conditional. I do this entirely for economy of presentation. For more

That, in a nutshell, is the semantics for indicative conditionals with which I'll be working. Below, we'll see how it can be used to vindicate Stalnaker's Thesis—and the contextualist DAB Thesis, too. First, however, there's one last piece of the puzzle we need to put in place, before we do this. Specifically, we need to say how you should assign *credences* to these sequences. After all, in §2 I assumed that your credence function was defined only over sets of worlds; but the contents of indicative conditionals now correspond to sets of *sequences*, rather than to sets of worlds. At the moment, then, it's not quite clear how you can have well-defined credences in such conditionals, given the semantics we've adopted.

To fix this problem, we need to find a way of “lifting” your credence function, p , from worlds to sequences. The good news is that a number of authors have recently suggested methods for how to do this—once again drawing inspiration from van Fraassen (1976).³² Thus, to see how these “lifting” procedures work, let's first write $[w]$ for the set of all sequences beginning with a world w , and $[w_1, \dots, w_k]$ for the set of all sequences beginning with $w_1, \dots, w_k$, in that order. Then, we can define the “lift” of your credence function, p , to a new credence function, q , as follows, using a recursive procedure:

$$(i) \quad q([w]) = p(w)$$

$$(ii) \quad q([w_1, \dots, w_k]) = q([w_1, \dots, w_{k-1}]) \cdot p(w_k \mid W \setminus \{w_1, \dots, w_{k-1}\})$$

sophisticated versions of the semantics—any of which could be used to prove a result analogous to the one that I'll prove below—see, e.g., van Fraassen 1976, Bacon 2015, or Mandelkern 2024.

Secondly, in a sense, my use of the term ‘worlds’ to denote the entities that make up sequences in the foregoing is a misnomer. After all, as Dorr and Mandelkern (forthcoming) have recently pointed out, in the present set-up, it's *sequences* that play the usual model-theoretic role of worlds in assigning a truth-value to every sentence. Given this fact, then, it's arguably preferable to refer to sequences themselves as worlds, and the entities that make them up something like “proto-worlds” (as Dorr and Mandelkern do). This allows us to think of the contents of indicative conditionals as no different from those expressed by “factual” sentences. Moreover, on this way of thinking, a more accurate view of the sequence semantics might be that it requires, not different “contents” for indicative conditionals, but instead a certain plenitudinous view of worlds—namely, a view on which, for every way the non-conditional facts could be settled, there are multiple epistemic possibilities that agree on those facts, but differ with respect to the conditional facts. (Thanks to an anonymous referee for pushing me to address this point.) Nevertheless, since the recent literature mostly uses ‘world’ for the entities that compose sequences, I have stuck with this terminology in the main text (albeit, sometimes with the qualifier ‘factual’).

Finally, the last comment I want to make concerns why we can think of this semantics as a contextualist semantics. The main reason is that we're thinking of the sequences to which you give positive credence as being generated from the worlds in E —i.e., the set of (factual) worlds that constitutes your total evidence. Then, since different bodies of evidence will generate different sets of sequences, the truth-conditions of conditional sentences—and hence the propositions they express—will vary across contexts, in which different bodies of evidence are salient. This is precisely the kind of context-sensitivity that the contextualist version of Stalnaker's Thesis, and my contextualist DAB Thesis, requires. (Again, this picture is slightly simplified. See Bacon 2015 for a more sophisticated set-up—albeit one that needs more stage-setting.)

³²The particular “lifting” procedure I adopt here is due to Justin Khoo (2022). See also Khoo and Santorio 2018 and Goldstein and Santorio 2021. Again, if we think of sequences themselves as worlds—as I mentioned we could, in fn. 31—then another way we might think of this lifting procedure is as demanding a certain special correspondence between your credences in ordinary “descriptive” matters of fact, and more fine-grained, conditional matters of fact.

Roughly speaking, this procedure says that the probability your lifted credence function q assigns to a given sequence corresponds to the probability that p would assign (metaphorically) to drawing the worlds in that sequence from an urn, in that order and without replacement. This seems like a very natural way of extending your credence function from worlds to sequences. And in what follows, I will assume that you assign credences to sequences in just this way.

One very nice thing about this lifting procedure is that it ensures your lifted credence function q preserves all the information encoded by your original credence function p . In particular, q assigns the same credences to factual propositions as p does. To see this, just notice that q assigns the same credence to $[w]$ as p does to w —that’s what clause (i) in the above definition tells us. Then, since “factual” propositions correspond to sets of worlds, it follows that q and p will agree about the probability of all such propositions. (Note also that this implies that p and q will agree about the *conditional* probabilities of such propositions too, since, after all, conditional probabilities are just ratios of unconditional probabilities.)

On top of this, it turns out that if we define q in the foregoing way, then we can *prove* that this function satisfies Stalnaker’s Thesis—and satisfies it non-trivially. To see how, let us focus here on a toy example. Thus, suppose that the set of worlds to which you give positive credence is $E = \{w_1, w_2, w_3\}$. Then, there are six sequences we can generate from this set—namely, those in the set S , given below:

$$S = \left\{ \begin{array}{l} \langle w_1, w_2, w_3 \rangle, \langle w_1, w_3, w_2 \rangle, \\ \langle w_2, w_1, w_3 \rangle, \langle w_2, w_3, w_1 \rangle, \\ \langle w_3, w_1, w_2 \rangle, \langle w_3, w_2, w_1 \rangle \end{array} \right\}.$$

Next, suppose that the credences you assign to w_1 , w_2 , and w_3 are $1/2$, $1/3$, and $1/6$, respectively. Then, our lifting procedure says that your credences in the sequences in S should be as in Table 1:

Sequence	Credence
$\langle w_1, w_2, w_3 \rangle$	$1/3$
$\langle w_1, w_3, w_2 \rangle$	$1/6$
$\langle w_2, w_1, w_3 \rangle$	$1/4$
$\langle w_2, w_3, w_1 \rangle$	$1/12$
$\langle w_3, w_1, w_2 \rangle$	$1/10$
$\langle w_3, w_2, w_1 \rangle$	$1/15$

Table 1: Sequences and the corresponding credences

Finally, if we let A be true at any sequence beginning with w_1 or w_2 , and B be true at any sequence beginning with w_2 or w_3 , then it follows that $q(A) = 5/6$, $q(B) = 1/2$, and (most importantly) $q(B | A) = 2/5$.

But now, consider the indicative conditional $A \rightarrow_E B$. Our semantics says that this corresponds to a set of sequences—namely, the set consisting of $\langle w_2, w_1, w_3 \rangle$,

$\langle w_2, w_3, w_1 \rangle$, and $\langle w_3, w_2, w_1 \rangle$. (After all, these are the only sequences in S whose first A -world is a B -world.) Notice also that if you add up the credences that q assigns to each of these sequences (as given in the table), you get $q(A \rightarrow_E B) = 2/5$. Thus, what we've shown is that $q(A \rightarrow_E B) = q(B \mid A)$ —or, in other words, you satisfy Stalnaker's Thesis. Notice also that the thesis is satisfied non-trivially in this example, since A and B aren't independent. In particular, we have $q(B) = 1/2$, but $q(B \mid A) = 2/5$.

Examples like this one point the way to something more general. Specifically, a number of authors have recently proved variants of the following result:³³

Theorem 1 (Goldstein and Santorio 2021, Khoo 2022). *Let p be a credence function defined over a finite set of worlds E . Suppose that $p(w) > 0$ for each world $w \in E$. Let S be the set of all sequences we can generate from E , and let q be a credence function defined over S , lifted from p according to the procedure (i)–(ii). Then, for all factual propositions A and B :*

$$q(A \rightarrow_E B) = q(B \mid A)$$

In words: Stalnaker's Thesis holds with respect to *all* factual propositions. Contrary to the triviality results given by Lewis and Hájek, this thesis can hold non-trivially after all.

This result is striking. After all, Lewis's earlier triviality result made it seem as if Stalnaker's Thesis was untenable. But this result shows that, in fact, that isn't the case.

More important for us, however, is the fact that we can leverage Theorem 1 to vindicate the contextualist DAB Thesis. To see how, let's start again with the toy example. First, recall the proposition G , which we introduced in §2—namely, the proposition consisting of all and only “the objectively desirable [worlds]—for short, the *good* ones” (Lewis 1996, p. 307). Now, notice that if we replace the proposition B with G in the above example, we get $q(A \rightarrow_E G) = q(G \mid A)$. However, every world $w \in G$ is such that $v(w) = 1$, and every world $w \in \neg G$ is such that $v(w) = 0$ —this is something we assumed in §2. So, it follows from Jeffrey's decision theory that $v(A) = q(G \mid A)$. Putting together what we just showed then gives us $v(A) = q(A \rightarrow_E G)$. And this, in turn, is an instance of the contextualist DAB Thesis.

Thus, as a corollary of Theorem 1, we get that there are non-trivial cases in which the contextualist DAB Thesis also holds. In fact, we can even use Theorem 1 to prove something a lot more general. To do so, let us first drop the assumption I made in §2, according to which goodness doesn't come in *degrees*. Instead, let us now suppose there's a whole range of “goodness-level propositions”, G_x , each of which says “The world is good to degree x ” (cf. Lewis 1988, p. 330). Each of these propositions groups together worlds that are alike with respect to their degree

³³Once again, the first version of this result was proved by van Fraassen (1976). See also the references in fn. 4 for similar results. The authors whose names I've listed in the main text prove versions of the result in frameworks that are closest in spirit to mine.

of goodness (and since a world cannot have two different degrees of goodness, these propositions form a partition). Thus, if we assume that your subjective value function satisfies $v(w) = x$, for each world $w \in G_x$, and for each proposition G_x , then it follows from Jeffrey's decision theory that, for every proposition A :³⁴

$$v(A) = \sum_x q(G_x \mid A) \cdot x$$

Finally, then, putting this together with Theorem 1 allows us to prove the following result:

Theorem 2. *Let p be a credence function defined over a finite set of worlds E , and let v be a utility function also defined over this set. Suppose that $p(w) > 0$ for each world $w \in E$, and that $v(w) = x$ for each world $w \in G_x$ and each proposition G_x . Let S be the set of all sequences we can generate from E , and let q be a credence function defined over S , lifted from p according to the procedure (i)–(ii). Then, for every factual proposition A :*

$$v(A) = \sum_x q(A \rightarrow_E G_x) \cdot x \quad (\text{Generalized DAB})$$

Informally: an even more general version of the contextualist DAB Thesis holds.

You can find a proof of this result in the Appendix. Note also that the simple version of DAB falls out as a special case (namely, the case in which there are only two goodness-level propositions, G and $\neg G$). Thus, the upshot of this result is that it's possible to satisfy a very general version of the DAB Thesis non-trivially. Contrary to what Lewis and other authors have argued, that thesis is compatible with Jeffrey's decision theory after all.

5 Comparison with Other Views

In the remainder of this paper, I want to spend some time comparing my response to Lewis to a few other responses that have appeared in the philosophical literature. The responses I have in mind, in particular, are those of Bradley and List (2009), Hájek and Pettit (2004), Bradley and Stefánsson (2016), and Broome (1991). As we will see below, these responses have a lot going for them—and in various ways, they're all related to my own contextualist response. Nevertheless, I think there are reasons to prefer my response to these ones.

5.1 Purely Descriptive vs. Purely Evaluative Propositions

Let's start with the response to Lewis's argument given by Bradley and List (2009). According to them, we can give a version of the DAB Thesis which coheres with Jeffrey's decision theory, provided we're willing to distinguish between *purely descriptive* and *purely evaluative* propositions.³⁵

³⁴It's an easy exercise to show that the following equation follows from Jeffrey's theory. But in any case, I also show how this equation can be derived in §5, below.

³⁵Note that Bradley and List use the term 'pure factual proposition'. I avoid that term here, however, since I've been using 'factual proposition' to refer to non-conditional propositions.

To see what this means, let us first assume that every world w can be decomposed into a pair, $\langle f, g \rangle$, where f is a maximally specific “factual state”, and g is a maximally specific “evaluative state”. As Bradley and List say, a maximally specific factual state, f , represents “the totality of physical facts holding in [a] world, and g the totality of normative facts (e.g. ought facts or goodness facts)” (pp. 33–34; with trivial changes of notation). Logical space can then be thought of as the set of all such factual state-evaluative state pairs:

	g_1	g_2	$\dots$	g_n
f_1	$\langle f_1, g_1 \rangle$	$\langle f_1, g_2 \rangle$	$\dots$	$\langle f_1, g_n \rangle$
f_2	$\langle f_2, g_1 \rangle$	$\langle f_2, g_2 \rangle$	$\dots$	$\langle f_2, g_n \rangle$
$\vdots$	$\vdots$	$\vdots$	$\ddots$	$\vdots$
f_m	$\langle f_m, g_1 \rangle$	$\langle f_m, g_2 \rangle$	$\dots$	$\langle f_m, g_n \rangle$

Table 2: Logical space on the Bradley-List picture

Now, a purely descriptive proposition, A , on this picture, corresponds to some set of *rows* in the above table, while a purely evaluative proposition, $\mathring{A}$, corresponds to some set of the *columns*. Roughly speaking, moreover, the former kind of proposition tells you something about what the world is like in a descriptive sense, while telling you nothing at all about what it’s like in an evaluative sense. The latter kind of proposition, in contrast, says the opposite: it tells you something about what the world is like in an evaluative sense, while telling you nothing at all about what it’s like in a descriptive sense. Thus, using this two-dimensional view of propositions, Bradley and List show that you can satisfy a version of the DAB Thesis—as well as the other assumptions Lewis makes—provided you satisfy one further assumption. This is that your credence in each pair $\langle f, g \rangle$ is the *product* of your credences in the corresponding factual state, f , and the evaluative state, g , of which the given world is composed. To see why this works, just note that, if your credences satisfy this requirement, then your credence in any descriptive proposition A will be independent of your credence in any evaluative proposition $\mathring{A}$ —both before and after you update by Conditionalization. But this, recall, was a possibility that Lewis’s argument appeared to rule out.³⁶

Now, this tenability result for the DAB Thesis has some similarities to mine, since it works by “fine-graining” logical space, just as I did. Unfortunately, however, the particular *way* in which Bradley and List fine-grain logical space seems like it has an implausible implication.

To see this, notice that, in taking logical space to be composed of *all* factual state-evaluative state pairs, Bradley and List seem to require us to think that any factual state, f , can be “freely recombined” with any evaluative state, g . In

Notably, then, the goodness-level propositions, G_x , are “factual”, in my sense, but not in Bradley and List’s sense.

³⁶See Bradley and List 2009, pp. 34–35 for further details about how this works.

turn, by assuming that your credence in each pair, $\langle f, g \rangle$, is the product of your credences in f and g , respectively, Bradley and List require us to think there are no *correlations* between the factual states and evaluative states. These assumptions, however, look like they require us to deny a near-universally accepted meta-ethical thesis—namely, that the evaluative facts at a world *supervene* on the non-evaluative facts. But, as Gideon Rosen (2017) puts it, meta-ethical supervenience “is as close to common ground as we get in metaethics” (pp. 153–54). Thus, if Bradley and List’s response to Lewis requires us to embrace this implausible meta-ethical view, then, to me at least, that seems like a good reason to think that it is wrong.

With this said, however: Bradley and List are aware of this objection. And in response, they argue that, “since we do not generally know the correct normative theory, we may still consider a whole range of different evaluative states epistemically possible, given the same non-evaluative state” (p. 34). Additionally, they say that, for any agent whose credences in the states f and g are not independent—and thus, for whom correlations between the descriptive and the evaluative propositions are possible—Lewis’s Invariance assumption isn’t plausible anyway. As they put it, “If there is a correlation between A and $\mathring{A}$, then it is no surprise that our evaluation of $\mathring{A}$ may change after learning that A ” (p. 36). As a result, Bradley and List claim that Lewis’s argument against the DAB Thesis “is valid only in cases in which it is unsound” (p. 37).

However, as I said in §2, I think Invariance is plausible—especially if we are realists about value. Thus, I would prefer a way of vindicating the DAB Thesis that did not require us to abandon this assumption—or, conversely, to reject meta-ethical supervenience. I will return to this point about Invariance shortly; but for now, let me end this section by noting: Bradley and List’s response seems to force a choice between Invariance and meta-ethical supervenience, whereas my contextualist response does not.

5.2 Indexicality

A very different response to Lewis is given by Hájek and Pettit (2004), as well as Bradley and Stefánsson (2016). According to these authors, we can resist Lewis’s argument against the DAB Thesis by swapping the order of the quantifiers that appear in that thesis.

To see how this works, let me first state the DAB Thesis more carefully than I did before. What that thesis really says is that, for all propositions A , there exists a proposition $\mathring{A}$ such that, for all rational credence function-subjective value function pairs, the following holds:

$$v(A) = p(\mathring{A})$$

Thus, there are three quantifiers here to deal with: a universal quantifier, followed by an existential quantifier, followed by another universal quantifier.

Now, the authors I mentioned above argue that we can block Lewis's objection to the DAB Thesis, provided we reverse the order of the final two quantifiers. In other words, rather than thinking of $\mathring{A}$ as being independent of p and v , we can make $\mathring{A}$ dependent on these functions. On this revised statement of the DAB Thesis, then: for every proposition A , and for all rational credence function-subjective value function pairs, there exists a proposition $\mathring{A}$ such that $v(A) = p(\mathring{A})$. And given *this* statement of the DAB Thesis, Lewis's argument doesn't go through. Instead, as Hájek and Pettit put it:

[This statement of the DAB Thesis] evades all the negative results that we have discussed or mentioned, since they assumed that $\mathring{A}$ remained fixed throughout redistributions of credence... [I]f instead we allow the identity of $\mathring{A}$ to change as the distribution of probability [or subjective value] changes, we have no guarantee that the required cleavages will take place. (2004, p. 85)³⁷

Once again, this response to Lewis has some similarities to mine, since it allows the identity of $\mathring{A}$ to change, just as I did. But once more, the particular *way* in which Hájek and Pettit, and Bradley and Stefánsson, allow $\mathring{A}$ to change seems like it faces an objection.

To see this, recall again that I said DAB seems especially plausible if we are *realists* about value. Oddie (2001) made a case for this claim. And occasionally, Lewis himself says much the same thing. In his 1996, for example, he says that the truth of DAB promises a

rich reward: objective ethics. If there are some things we desire by [rational] necessity, we surely would want to say that these things were objectively desirable. Or if there were some propositions, belief or disbelief in which was [rationally] connected with desire, some of them presumably would be true; then we surely would want to say that the true ones were the objective truth about ethical reality. (p. 307)

As the authors just mentioned state the DAB Thesis, however, this realist motivation seems to be lost. Indeed, by swapping the order of the quantifiers in

³⁷Having said this, one thing that isn't clear to me is whether Hájek and Pettit's indexical version of DAB avoids a wallflower-style triviality result, like the one we discussed in §4; likewise for Bradley and Stefánsson's version. After all, the wallflower problem arises, not because the identity of $\mathring{A}$ is held fixed across credence functions, but because, in a finite world-based framework, the set of probability values that propositions can take on is constrained. Thus, even if we allow $\mathring{A}$ to vary with the agent's credences and values, there may simply be no proposition in the space whose probability equals $v(A)$. In fact, this is a worry that Hájek and Pettit themselves express. They say that, "there is some danger that there will be a degree of desire that finds no partner among the degrees of belief", in wallflower-style cases (2004, p. 84, fn. 6). But if this is right, then it provides us with yet another reason to prefer my contextualist response, since that response is not susceptible to wallflower-style trivialities—that's a key upshot of my tenability result.

the statement of that thesis, they make the identity of $\hat{A}$ “indexical”, in the sense that its truth or falsity *depends* on your credences and values.

This, in fact, is how Hájek and Pettit sell their argument.³⁸ They say that one appropriate meta-ethical theory which their version of DAB fits with is “that G. E. Moore... called *subjectivism*. It holds that when someone says that a prospect is good, then that utterance expresses the belief that the speaker has an attitude of approval towards the prospect” (2004, p. 86). Later on, Hájek and Pettit tie their version of the DAB Thesis to more sophisticated “expressivist” views about the nature of value. But the point remains the same: while this version of the DAB Thesis avoids Lewis’s objection, it’s not in the spirit of the original DAB Thesis. On the contrary, the reason that I and many others were attracted to that thesis in the first place is that it seems to provide a rational link between your subjective values, on the one hand, and your beliefs about the objective values, on the other.³⁹ Thus, if a revised version of the thesis doesn’t provide us with a similar rational link, or requires us to give up on the notion of objective value altogether, then that seems like a reason to think that it is wrong.

As it happens, a related point is made by Andrew Bacon (2015), concerning “indexical” versions of Stalnaker’s Thesis—i.e., versions which say that the meaning of ‘If A , then B ’ depends on your credences. As Bacon puts it, indexical versions of Stalnaker’s Thesis posit that the proposition

expressed by an indicative sentence in a context depends on a *probability function* supplied by the context (presumably the speakers credences.)... [However] There does not appear to be an independently motivated reason to think that two conditional utterances, made when the same epistemic possibilities are open, could express different propositions due to a small difference in how probable these possibilities are. This seems like a fairly radical form of context sensitivity, whereas the dependence on a [mere body of evidence, as in the contextualist version of Stalnaker’s Thesis] is much more modest and independently [motivated]. (p. 140)

Here, the same thing goes, I think, for the indexical version of the DAB Thesis. On the version given by Bradley and Stefánsson, for example, the proposition expressed by ‘ A ’s truth would be good’ depends on which value function the speaker in question has (2016, pp. 717–18). In turn, this sentence can express different propositions when said by two different speakers, even when those speakers share the same body of evidence, just because they happen to have different value functions. However, on this reading, ‘good’ acts more like a predicate of personal taste. And that doesn’t seem to be the interpretation that’s relevant to the DAB Thesis.

³⁸Bradley and Stefánsson, in contrast, are more resistant to this claim. I discuss their view more in the next section.

³⁹Again, see my comparison with the Principal Principle in fn. 8 above.

In contrast, my version of the DAB Thesis says that the proposition expressed by ‘If A , then things are good’ depends (merely) on a shared body of evidence—not on the speaker’s values. This, in turn, means that my version is better suited to the DAB Thesis’s realist motivations.

5.3 *Desire-as-Expectation*

Let me now turn, finally, to a response to Lewis’s argument given by John Broome (1991). There are three points I want to make about it.

According to Broome, the correct thesis linking subjective values with beliefs isn’t the DAB Thesis at all, but the following:

$$v(A) = \sum_x p(G_x \mid A) \cdot x \quad (\text{DAE})$$

This, you’ll notice, is an equation that we saw before (namely, at the end of §4). Broome himself calls it the *Desire-as-Expectation (DAE) Thesis*. And he says that it is consistent with Jeffrey’s theory, whereas “DAB is not. This is an important lesson to be learnt from Lewis’s paper” (p. 267).

Now, the first point I want to make about Broome’s response is that DAE is not only *consistent* with Jeffrey’s decision theory, but actually *implied* by that theory, if there are goodness-level propositions. This is something I briefly noted at the end of §4, and it’s also something noted by Bradley and Stefánsson (2016). To see more clearly why it’s true, let’s first suppose that your subjective value function, v , is such that, for each world $w \in G_x$, we have $v(w) = x$ (something we’ve been assuming throughout this paper). Suppose further that this condition holds for all the G_x . Then:

$$\begin{aligned} v(A) &= \sum_w p(w \mid A) \cdot v(w) && (\text{Subjective Value}) \\ &= \sum_w \sum_x p(w \mid A \wedge G_x) \cdot p(G_x \mid A) \cdot v(w) && (\text{Total Conditional Probability}) \\ &= \sum_x p(G_x \mid A) \cdot \sum_w p(w \mid A \wedge G_x) \cdot v(w) && (\text{Algebra}) \\ &= \sum_x p(G_x \mid A) \cdot \sum_w p(w \mid A \wedge G_x) \cdot x && (\text{By } v(w) = x \text{ for all } w \in A \wedge G_x) \\ &= \sum_x p(G_x \mid A) \cdot x && (\text{Since } \sum_w p(w \mid A \wedge G_x) = 1) \end{aligned}$$

The last line here is the DAE Thesis. So, again, that thesis follows from Jeffrey’s decision theory, if there are goodness-level propositions at all.

This is striking. The second point I want to make, however—which is arguably even more striking—concerns the *relationship* between Broome’s DAE Thesis and the DAB Thesis. In particular, recall that my Theorem 2 showed that $v(A)$ is *also* equal to the quantity $\sum_x q(A \rightarrow_E G_x) \cdot x$. In turn, this means that the

contextualist DAB Thesis *is* tenable, contrary to Broome's remark. And moreover, it shows that, if the view of indicative conditionals I adopted earlier is right, then these two theses are really one and the same. This is an important point of reconciliation between Broome's stance and Lewis's.

This leads me to the last thing I want to say about the DAE Thesis, which concerns the light it sheds on Lewis's Invariance requirement. Specifically, recall that in §2, I said there's a sense in which Invariance follows from Jeffrey's decision theory, and so isn't really an extra assumption that Lewis has to make at all. The derivation we gave above finally puts us in a position to see this. To spell it out: note that $v(A) = \sum_x p(G_x | A) \cdot x$, according to Jeffrey's decision theory—again, that's just what we derived a moment ago. But now notice that this quantity doesn't change when you learn the proposition A . After all, $p_A(G_x | A) = p(G_x | A)$, for all G_x .⁴⁰ And so it follows that $\sum_x p_A(G_x | A) \cdot x = \sum_x p(G_x | A) \cdot x$. In turn, this implies that $v_A(A) = v(A)$ —which is none other than Invariance. As I said before, then: Invariance follows from Jeffrey's decision theory, if there are goodness-level propositions.

This point is also noted by Bradley and Stefánsson (2016). And they claim, too, that their indexical version of the DAB Thesis is equivalent to Broome's DAE Thesis—save for one important caveat. Specifically, Bradley and Stefánsson reject the Invariance assumption. But in light of what we just showed, this means that they must also reject the existence of the goodness-level propositions, in the ordinary sense. For them instead:

the G_x s are not strictly propositions, qua sets of possible worlds, but functions (of desirabilities) taking propositions as values. And so when an agent learns that A is true she must revise three things: her probabilities for the possible worlds, her desirabilities for these worlds, *and the contents of the proposition-valued functions G_x* . (p. 717, with notation adapted)

To me, however, this claim threatens realism about value. The reason is that it is tantamount to claiming that there aren't propositions about what is good in the first place (or at least, that an agent's beliefs about such propositions don't rationally constrain her subjective values).⁴¹ My contextualist version of the DAB Thesis doesn't require this revisionary picture about goodness, however; on the

⁴⁰This, again, follows from the rigidity property of Conditionalization, mentioned in fn. 13.

⁴¹Admittedly, Bradley and Stefánsson are aware of this objection. But they deny that their view entails a rejection of realism about value. As they put it, the view that the contents of the G_x can change

does not imply that the goodness *ordering* of worlds varies with changes in belief. On the contrary, if we take the ordering of worlds to be objective, then... an ethical objectivist can subscribe to a DAB thesis formulated within Jeffrey's framework, despite the fact that it implies that rational belief about the goodness of some proposition A varies with changes in the probability of A , because this variation is a feature of the quantitative representation of [subjective value], rather than a reflection of any changes in the underlying betterness ordering. (2016, pp. 705–6).

contrary, the contextualist account I've presented says that the propositions G_x can be perfectly ordinary sets of worlds. Instead, what's context-sensitive, on my view, is not the notion of goodness which features in the DAB Thesis, but rather the *conditional operator* that links A to the relevant goodness-level propositions. In other words, while Bradley and Stefánsson locate their context-sensitivity in the *evaluative* component of the DAB Thesis, I locate it in the conditional component. And to me, this is both more natural and better motivated. For one thing, it implies that my version of the DAB Thesis is equivalent to the DAE Thesis, as Broome originally intended it. But even better: it sticks closer to the DAB Thesis's original motivations. I think this is a reason to accept the contextualist formulation of the DAB Thesis.

Appendix

In this Appendix, I prove Theorem 2, stated in the main text. The proof is a fairly straightforward application of the tenability result for Stalnaker's Thesis provided by Goldstein and Santorio (2021) and Khoo (2022).

Proof. Fix an arbitrary probability function p and subjective value function v , defined over E , with $p(w) > 0$ for all $w \in E$, and $v(w) = x$ for all $w \in G_x$, and for all G_x . Let q be a credence function that extends p , according to the lifting procedure (i)–(ii), to the set of all sequences S that we can generate from the worlds in E . As we saw in the main text, it follows from these assumptions, together with the fact that the goodness-level propositions form a partition, that for any proposition A :

$$v(A) = \sum_x q(G_x \mid A) \cdot x$$

So, in order to prove the result, we only need to show that $q(A \rightarrow_E G_x) = q(G_x \mid A)$ for any factual proposition A and any proposition G_x .

Thus, to do this, first fix an arbitrary G_x and factual proposition A . Now, let us partition the set S into equivalence classes, $S_1, \dots, S_n$, where each S_i is the set of all sequences whose first A -world occurs in position i . By the law of total probability:

$$q(A \rightarrow_E G_x) = \sum_i q(A \rightarrow_E G_x \mid S_i) \cdot q(S_i)$$

So, what we'll now show is that, for each i , $q(A \rightarrow_E G_x \mid S_i) = q(G_x \mid A)$. Then, since $\sum_i q(S_i) = 1$, this will establish that $q(A \rightarrow_E G_x) = q(G_x \mid A)$.

That may be right, as far as it goes. But it also seems to me like a somewhat oblique way for a realist to proceed. After all, realists about value say there are objective truths about how good things are, and hence, presumably, propositions, G_x , expressing those truths. (See again the remarks from Oddie in §2.) Bradley and Stefánsson's move of replacing such propositions with functions of the agent's desirabilities may be consistent with preserving the ordinal ranking of worlds, but it does seem to sidestep the very propositions that a realist would most naturally want the DAB Thesis to be concerned with.

Thus, consider an arbitrary set S_i . By the ratio formula:

$$q(A \rightarrow_E G_x \mid S_i) = \frac{q((A \rightarrow_E G_x) \wedge S_i)}{q(S_i)}$$

Notice here that the conjunction $(A \rightarrow_E G_x) \wedge S_i$ is the set of sequences whose first A -world occurs in position i , and where G_x is true at that world. Thus, to find the credence that q assigns to this set, we appeal to our recursive procedure (i)–(ii). Doing so, we get:

$$\begin{aligned} q((A \rightarrow_E G_x) \wedge S_i) &= \sum_{w_1, \dots, w_{i-1} \in \neg A} \sum_{w_i \in A \wedge G_x} q([w_1, \dots, w_{i-1}, w_i]) \\ &= \sum_{w_1, \dots, w_{i-1} \in \neg A} \sum_{w_i \in A \wedge G_x} q([w_1, \dots, w_{i-1}]) \cdot \frac{p(w_i)}{p(E \setminus \{w_1, \dots, w_{i-1}\})} \end{aligned}$$

By similar reasoning:

$$\begin{aligned} q(S_i) &= \sum_{w_1, \dots, w_{i-1} \in \neg A} \sum_{w_i \in A} q([w_1, \dots, w_{i-1}, w_i]) \\ &= \sum_{w_1, \dots, w_{i-1} \in \neg A} \sum_{w_i \in A} q([w_1, \dots, w_{i-1}]) \cdot \frac{p(w_i)}{p(E \setminus \{w_1, \dots, w_{i-1}\})} \end{aligned}$$

So all we need to do now is solve for $\frac{q((A \rightarrow_E G_x) \wedge S_i)}{q(S_i)}$. Here, most of the terms cancel, leaving us with:

$$\begin{aligned} \frac{q((A \rightarrow_E G_x) \wedge S_i)}{q(S_i)} &= \frac{\sum_{w_1, \dots, w_{i-1} \in \neg A} \sum_{w_i \in A \wedge G_x} q([w_1, \dots, w_{i-1}]) \cdot \frac{p(w_i)}{p(E \setminus \{w_1, \dots, w_{i-1}\})}}{\sum_{w_1, \dots, w_{i-1} \in \neg A} \sum_{w_i \in A} q([w_1, \dots, w_{i-1}]) \cdot \frac{p(w_i)}{p(E \setminus \{w_1, \dots, w_{i-1}\})}} \\ &= \frac{p(A \wedge G_x)}{p(A)} \\ &= p(G_x \mid A) \end{aligned}$$

Then, since q is lifted from the credence function p , we have $q(G_x \mid A) = p(G_x \mid A)$. Thus, we've established that $q(A \rightarrow_E G_x \mid S_i) = q(G_x \mid A)$.

Next, since our choice of S_i was arbitrary, the same conclusion holds for any S_i . In turn, by the law of total probability:

$$\begin{aligned} q(A \rightarrow_E G_x) &= q(A \rightarrow_E G_x \mid S_1) \cdot q(S_1) + \dots + q(A \rightarrow_E G_x \mid S_n) \cdot q(S_n) \\ &= q(G_x \mid A) \cdot q(S_1) + \dots + q(G_x \mid A) \cdot q(S_n) \\ &= q(G_x \mid A) \end{aligned}$$

Finally, since our choice of A and G_x was arbitrary, the foregoing holds for any A and G_x . Thus, substituting $q(A \rightarrow_E G_x)$ in place of $q(G_x \mid A)$ in our original

equation, we get:

$$v(A) = \sum_x q(A \rightarrow_E G_x) \cdot x$$

And since our initial choice of p and v was arbitrary too, this establishes Theorem 2. $\square$

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