# **Absolute Value as Belief**

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In "Desire as Belief" and "Desire as Belief II," David Lewis (1988, 1996) considers the anti-Humean position that beliefs about the good require corresponding desires, which is his way of understanding the idea that beliefs about the good are capable of motivating behavior. He translates this anti-Humean claim into decision theoretic terms and demonstrates that it leads to absurdity and contradiction. As Ruth Weintraub (2007) has shown, Lewis's argument goes awry at the outset. His decision theoretic formulation of anti-Humeanism is one that no sensible anti-Humean would endorse. My aim is to demonstrate that Lewis's infelicitous rendering of anti-Humeanism really does undermine the force of his arguments. To accomplish this, I begin by developing a more adequate decision theoretic rendering of the anti-Humean position. After showing that my formulation of anti-Humeanism constitutes a plausible interpretation of the anti-Humean thesis, I go on to demonstrate that if we adopt this more accurate rendition of anti-Humeanism, the view is no longer susceptible to arguments like the ones Lewis has devised. I thereby provide a more robust response to Lewis's arguments than has yet been offered, and in the process I develop a formulation of anti-Humeanism that creates the possibility for future decision theoretic arguments that, unlike Lewis's, speak directly to the plausibility of anti-Humeanism.

### 1 Terms of the debate

Lewis frames his argument in terms of the Bayesian decision theory developed in (Jeffery 1983), and I will follow his lead in that regard. I will also work within Lewis's possible world semantics. Every rational agent will be assumed to have a credence function, C, that assigns a subjective probability to each possible world, w, and a value function, V, that assigns desirability to each possible world. A proposition, A, is understood as a disjunction of possible worlds. C(A) is defined as the sum of the C(w) for all w in A, and V(A) is defined by:

[1] 
$$V(A) = \sum_{w} C(w/A) \cdot V(w)$$

Given this framework, Lewis attempts to formulate the anti-Humean thesis, which says of an agent that "he desires things just to the extent that he believes they would be good" (Lewis 1988: 326).

To model what it means to believe something to be good, Lewis supposes there is a function, g, that assigns degrees of goodness to propositions. In other words, g(A) = x means that it would be good to degree x that A. The decision theoretic formulation of an agent's belief about the degree of goodness of A then becomes:

[2] 
$$\sum_{y} C(g(A) = y) \cdot y$$

My notation is slightly different from Lewis's, but the idea expressed is the same, and I agree with Lewis that this is a reasonable formulation of the extent to which an agent believes A to be good.<sup>1</sup> The question is where to go from here. The anti-Humean claim is that [2] must somehow be connected to desire. But how?

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<sup>&</sup>lt;sup>1</sup> In the interest of finding a plausible version of the anti-Humean position, I am using the complex account of beliefs about the good described in (Lewis 1988: 330). For unspecified reasons Lewis

### 2 Lewis's translation of anti-Humeanism

Lewis thinks that once we have [2] it is a simple matter to translate the anti-Humean thesis into decision theory. His proposal is:

[3] 
$$\sum_{y} C(g(A) = y) \cdot y = V(A)$$

This equates the goodness of a proposition to its desirability as opposed to the status quo, or its incremental news value. Lewis then argues that [3] is untenable and concludes that the anti-Humean thesis equating desire with belief must be rejected.

I do not intend to dispute Lewis's arguments against [3]. I am willing to grant that they are successful, at least as long as we are operating within an evidential decision theory.<sup>2</sup> The problem is that no reasonable anti-Humean would endorse [3] regardless of Lewis's arguments. As Weintraub (2007) has pointed out, [3] implies that one's beliefs about the goodness of a proposition are entangled with one's credence for the proposition in such a way that, all else being equal, the goodness assigned to any proposition must shift towards 0 as one becomes increasingly confident that it is true.<sup>3</sup> This, however, is clearly absurd.

(1996) reverts to the simple version, but none of his arguments, or mine, depend on this distinction.

<sup>&</sup>lt;sup>2</sup> Oddie (1994) contends that Lewis's arguments fail to work against defenders of [3] who adopt a causal decision theory, and Byrne and Hajek (1997) and Oddie (2001) further develop this response to Lewis. Although I am persuaded by their analyses, I think focusing on whether Lewis's arguments continue to work within a causal decision theory obscures the deeper problem with Lewis's translation of anti-Humeanism. In any case, my aim is to show that a reasonable version of anti-Humeanism is immune to Lewis's attack, and that anti-Humeans therefore need not take refuge in causal decision theory. Similarly, I take it that Hajek and Pettit (2004) make a convincing case that anti-Humeans who embrace what they call an indexicalist account of goodness or rightness can evade Lewis's arguments, but my aim is to show that anti-Humeanism is independent of the debate over indexicalist metaethics.

<sup>&</sup>lt;sup>3</sup> For a different, and earlier, response to Lewis according to which Lewis has offered an infelicitous translation of the anti-Humean thesis into decision theory, see (Broome 1991). Byrne and Hajek (1997: 423-26) also suggest that an anti-Humean could evade Lewis's arguments by rejecting Lewis's formulation of anti-Humeanism. But neither Broome nor Byrne and Hajek nor Weintraub offers an alternative translation of the anti-Humean view, and as a result they do not test whether Lewis's arguments work against a more plausible form of anti-Humeanism.

If I am caught in a power failure, then as I become increasingly convinced both that my ceiling lights are not working and that my flashlight is, there is no need for convergence in my assessments of how good it is to have no ceiling lights and of how good it is to have a functional flashlight. Any reasonable anti-Humean would deny that beliefs about the good must work in this way, and would therefore reject [3] as a formulation of anti-Humeanism.<sup>4</sup>

#### 3 An alternative translation of anti-Humeanism

On Lewis's decision theoretic formulation of anti-Humeanism, the anti-Humean thesis ties beliefs about the good to assessments of desirability relative to the status quo. In contrast to this, let me suggest an alternative formulation of anti-Humeanism according to which beliefs about the goodness of a proposition are tied to assessments of the desirability of the proposition relative to the proposition's negation. The intuitive idea is that the desirability of a proposition relative to its negation reflects how much better it is, according to the agent's value function, for the proposition to be true than false. I take this to capture the full importance, or degree of goodness, the agent's value function assigns the proposition. It therefore makes sense to interpret anti-Humeanism as the thesis that this measure of the proposition's value be tied to the agent's beliefs about the goodness of the proposition.

In order to formalize this suggestion, let me introduce the phrase *absolute* value of a proposition to mean the desirability of the proposition as opposed to its

<sup>4</sup> There is room for debate over whether desires should work this way, and so room for debate over whether we should interpret the value functions of decision theory as representing desires, but regardless of how desires behave it is absurd to think that beliefs about the good are (also) tied in this way to credences. See (Weintraub 2007) for a more detailed exposition of the absurdity of

[3].

negation. I will designate the absolute value of the proposition A as AV(A), and my proposal is that we interpret the anti-Humean thesis as:

[4] 
$$\sum_{y} C(g(A) = y) \cdot y = AV(A)$$

To explicate this, let me tentatively define AV(A) as follows:

[5] 
$$AV(A) = V(A) - V(\neg A)$$

Given this definition of AV(A), the anti-Humean thesis becomes:

[6] 
$$\sum_{y} C(g(A) = y) \cdot y = V(A) - V(\neg A)$$

One thing to notice at the outset is that the formulation of anti-Humeanism expressed by [6] avoids the problems identified above for Lewis's version of anti-Humeanism, [3]. Unlike V(A), AV(A) is a measure of the importance an agent assigns to A through her value function that is independent of her subjective probability for A. Any change in V(A) that is caused by a change in C(A) will be cancelled out by a similar change in V(-A). This makes [6] a more plausible decision theoretic rendition of anti-Humeanism than [3], quite apart from Lewis's arguments. But before assessing wither the arguments Lewis deploys against [3] work equally well, or can be modified to work equally well, against [6], I need to make an important revision to my initial definition of absolute value. As it stands, [5] does not quite reflect the notion I am after, the desirability of a proposition as opposed to its negation.

Consider the following case, where [5] fails to capture the intuitive notion of absolute value. Suppose Tim and his friend are heavy drinkers who enjoy

<sup>&</sup>lt;sup>5</sup> This may not always be the case. If, for instance, the change in C(A) is accompanied by a change in the agent's expectation of how A would be realized, then it may generate a change in V(A) without producing a similar change in V(A). But in this sort of case, there is no reason to think that the change in her expectation of how A would be realized would not also produce a change in her belief about the goodness of A, as measured by  $\sum_{y} C(g(A) = y) \cdot y$ . In any event, the important

gambling. Tim wakes up one morning with two receipts from his bookie. One is for a \$1000 wager that the Mariners beat the Sox and the other is for \$500 that the Yankees beat the Tigers. Tim's memory is a little foggy, and although he is confident only one of the bets is actually his and the other is his friend's, he cannot remember which is which. He is not concerned, though, because the bookie will be able to sort it out. Over breakfast, Tim turns on the radio and catches the end of the sports wrap-up. He learns that the Yankees won, but he misses the score of the Mariners' game.

If W is the proposition that Tim won his bet, and M is the proposition that he bet on the Mariners, we can imagine that his credences and values for the situation are as represented in Table 1. Applying the definition of absolute value from [5],  $AV(W) = V(W) - V(\neg W) = 1667$ . Intuitively, though, the situation is that there is a fifty percent chance that the goodness of W as opposed to its negation is 2000 (if Tim bet on the Mariners) and a fifty percent chance that the goodness of W as opposed to its negation is 1000 (if he bet on the Yankees). If absolute value is to measure the degree of goodness Tim's value function assigns to winning his bet, so that a reasonable anti-Humean would claim that absolute value should be tied to Tim's beliefs about how good it is to win the bet, then the absolute value of winning ought to be 1500, not 1667. The formula for computing AV(A) will have to be revised to reflect this.

Ideally, one wants to look at each possible world, consider the absolute value of A in that world, and then set AV(A) equal to the average of these

point here is that if C(A) is the only thing that changes, then AV(A) will remain constant even though V(A) will change.

Similarly,  $V(\neg W) = C((\neg W \land M / \neg W) \cdot V(\neg W \land M)) + C((\neg W \land \neg M / \neg W) \cdot V(\neg W \land \neg M)).$ 

<sup>&</sup>lt;sup>6</sup>  $V(W) = C((W \land M/W) \cdot V(W \land M)) + C((W \land \neg M/W) \cdot V(W \land \neg M)).$ 

This calculates out as:  $(0.25/0.75) \cdot 1000 + (0.5/0.75) \cdot 500 = 667$ .

absolute values weighted by the subjective probability of the possible worlds. The catch, though, is that it is not clear how to understand the absolute value of a proposition in a given possible world. This can be resolved by appealing to work on imaging, which makes it possible to assess both something like  $V(\neg A)$  at any given possible world.<sup>7</sup>

To begin with, for each possible world, w, and proposition, A, let me tentatively define  $(w \cdot A)$  as the closest possible world to w at which A is true. Naturally, if A is true at w,  $(w \cdot A)$  just is w. Given this, we can think of the absolute value of A in w as:

[7] 
$$V(w \bullet A) - V(w \bullet \neg A)$$

As it stands, this requires the supposition that for all w and A, there is a unique closest possible world to w at which A is true. By adopting the analysis of general imaging from Joyce (1999: 196-98), this assumption can be discarded. Joyce's idea is to take  $c^A(x,w)$  to be the proportion of w's probability that shifts to x under imaging on A. If there is a closest possible world to w in which A is true, say y, then  $c^A(y,w)=1$ . If there is a set of n equally close possible worlds,  $y_1$  through  $y_n$ , then for each of them  $c^A(y_i,w)=\frac{1}{n}$ .

I can now drop the earlier definition of  $(w \cdot A)$  (which assumed the existence of a single closest possible world) and define  $V(w \cdot A)$  directly by:

[8] 
$$V(w \bullet A) = \sum_{x} c^{A}(x, w) \cdot V(x)$$

The absolute value of A in a given possible world w is then:

[9] 
$$V(w \bullet A) - V(w \bullet \neg A) = \sum_{x} c^{A}(x, w) \cdot V(x) - \sum_{x} c^{\neg A}(x, w) \cdot V(x)$$

This calculates out as:  $(0.25/0.25) \cdot (-1000) + (0/0.25) \cdot (-500) = -1000$ .

<sup>&</sup>lt;sup>7</sup> See (Joyce 1999) for a discussion of imaging.

Aggregating over all possible worlds, I can now give my revised definition of absolute value as:

[10] 
$$AV(A) = \sum_{w} C(w) \cdot (V(w \bullet A) - V(w \bullet \neg A))$$

Although this revised version of absolute value effectively captures the idea I am after, it does create the additional complication that in order to determine the absolute value of a proposition we need to make potentially controversial judgments of proximity between possible worlds. In the case of Tim's bet, evaluating AV(W) requires three such judgments. We must determine (i) the closest possible world in which Tim lost his bet to one in which he bet on the Mariners and won, (ii) the closest possible world in which Tim won his bet to one in which he bet on the Mariners and lost, and (iii) the closest possible world in which Tim lost his bet to one in which he bet on the Yankees and won. In other words, we need to know (i)  $((W \wedge M) \bullet \neg W)$ , (ii)  $((\neg W \wedge M) \bullet W)$ , and (iii)  $((W \land \neg M) \bullet \neg W)$ . Fortunately, these are relatively straightforward cases of determining closest possible worlds. The idea of proximity between possible worlds is that worlds with the fewest differences will be closest together. This indicates that  $((W \land M) \bullet \neg W)$  is  $(\neg W \land M)$ , which is to say that the closest possible world in which Tim lost his bet to one in which he bet on the Mariners and won is a world in which he bet on the Mariners and lost. Similarly,  $((\neg W \land M) \bullet W)$  is  $(W \land M)$ , and  $((W \land \neg M) \bullet \neg W)$  is  $(\neg W \land \neg M)$ . If we accept these intuitive judgments of proximity between possible worlds, then it turns out that AV(W) = 1500. That, recall, is precisely the result we were after,

<sup>&</sup>lt;sup>8</sup> In evaluating AV(W), I shall also suppose that  $((\neg W \land \neg M) \bullet W)$  is  $(W \land \neg M)$ , although this judgment of proximity is irrelevant given that the credence for  $(\neg W \land \neg M)$  is 0. I include it in the evaluation of AV(W) only for completeness:

 $AV(W) = C(W \wedge M) \cdot (V(W \wedge M) - V(\neg W \wedge M)) + C(\neg W \wedge M) \cdot (V(W \wedge M) - V(\neg W)) + C(\neg W \wedge M) \cdot (V(W \wedge M) - V(\neg W)) + C(\neg W \wedge M) \cdot (V(W \wedge M) - V(\neg W)) + C(\neg W \wedge M) \cdot (V(W \wedge M) - V(\neg W)) + C(\neg W \wedge M) \cdot (V(W \wedge M) - V(\neg W)) + C(\neg W \wedge M) \cdot (V(W \wedge M) - V(\neg W)) + C(\neg W) \cdot (V(W \wedge M) - V(\neg W)) + C(\neg$ 

which indicates that the revised formulation of AV(A) captures the underlying idea more accurately than the initial gloss.

By incorporating the revised definition of absolute value, [10], into my suggested understanding of anti-Humeanism, [4], we get the final version of my proposed formulation of the anti-Humean thesis:

[11] 
$$\sum_{y} C(g(A) = y) \cdot y = \sum_{w} C(w) \cdot (V(w \bullet A) - V(w \bullet \neg A))$$

## 4 Lewis's arguments against anti-Humeanism

I now have what I take to be a decision theoretic formulation of anti-Humeanism that an anti-Humean might actually endorse. This itself is a substantial result relative to the literature spawned by Lewis's arguments. It is now possible to make decision theoretic arguments that could actually impugn (or bolster) the plausibility of anti-Humeanism. My final claim will be that with this formulation of anti-Humeanism in hand we can see that Lewis's arguments do not count against anti-Humeanism, and that the prospects for modifying his arguments to make them relevant to anti-Humeanism are dim.

In (Lewis 1996), the arguments are fairly straightforward. Lewis begins with his version of the anti-Humean thesis, [3], which he calls Desire as Belief. He then conditionalizes on A, and appeals to the fact that V(A/A) = V(A), to get:

[12] 
$$\sum_{y} C((g(A) = y)/A) \cdot y = V(A)$$

Lewis calls [12] Desire as Conditional Belief (DACB). Together with his version of the anti-Humean thesis [3], this yields

 $C(W \land \neg M) \cdot (V(W \land \neg M) - V(\neg W \land \neg M)) + C(\neg W \land \neg M) \cdot (V(W \land \neg M) - V(\neg W \land \neg M)).$ 

This calculates out as:

 $<sup>0.25 \</sup>cdot (1000 - (-1000)) + 0.25 \cdot (1000 - (-1000)) + 0.5 \cdot (500 - (-500)) + 0 \cdot (500 - (-500)) = 1500 \cdot (-500) \cdot (-500) = 1500 \cdot (-500) \cdot (-500) = 1500 \cdot (-5$ 

<sup>&</sup>lt;sup>9</sup> I will only go into as much detail in recreating Lewis's arguments as necessary to show that they do not apply to my preferred decision theoretic rendering of the anti-Humean position.

[13] 
$$\sum_{y} C(g(A) = y) \cdot y = \sum_{y} C((g(A) = y)/A) \cdot y$$

Lewis labels [13] IND, and proceeds to show first that IND leads to contradiction and second that DACB can be reduced to a simple version of anti-Humeanisn that he calls Desire by Necessity and that he takes to be obviously false. He has, then, two arguments against [3], one is that [3] implies [13] and that [13] leads to contradiction and the other is that [3] implies [12] and that [12] implies a clearly false claim. The task here is to determine whether arguments along these lines can also be marshaled against my alternative rendition of the anti-Humean thesis, [11], which equates belief about the good with absolute value.

One critical question is whether AV(A/A) is equal to AV(A). If it is, then [11] will entail [13], and Lewis's first argument against his own version of anti-Humeanism will apply equally to my version. It turns out, though, that AV(A/A) and AV(A) are not the same. This can be seen by once again considering Tim's situation discussed above. As noted earlier, AV(W) is 1500. But AV(W/W) is 1333. This demonstrates that AV(A/A) cannot be equated with AV(A), and that Lewis's IND (my [13]) does not follow from my version of the anti-Humean thesis [11]. His first argument against [3] is therefore inapplicable to [11].

Let us now turn to Lewis's second argument, the one that shows that DACB, or [12], which also followed from his version of the anti-Humean thesis, is really just Desire by Necessity and therefore untenable. There are two things to notice here. First, [11] does not entail anything analogous to [12], for the same

<sup>&</sup>lt;sup>10</sup> Intuitively, the difference between AV(W) and AV(W/W) stems from the fact that the assumption that Tim has won changes his relative subjective probabilities for having bet on the Yankees as opposed to the Mariners, resulting in a change in how good it is to win, by his lights. Formally:

 $AV(W/W) = C((W \land M)/W) \cdot (V(W \land M) - V(\neg W \land M)) + C((\neg W \land M)/W) \cdot (V(W \land M) - V(\neg W \land M)) + C((W \land \neg M)/W) \cdot (V(W \land \neg M) - V(\neg W \land \neg M)) + C((\neg W \land \neg M)/W) \cdot (V(W \land \neg M) - V(\neg W \land \neg M)).$  This calculates out as:

reason that it does not entail [13], which is that AV(A) is not equivalent to AV(A/A). Second, the argument by which Lewis unmasks [12] cannot be applied directly to my version of the anti-Humean thesis, [11]. His argument hinges on the fact that  $V(A/B) = V(A \wedge B) = V(B/A)$ . But the same does not hold for absolute value. AV(A/B) is not equivalent to AV(B/A).

As before, this can be seen by looking at the case involving Tim's bets. To begin with, AV(W/M) is 2000. 12 Evaluating AV(M/W) is a bit more complicated, because it requires two additional judgments of proximity between possible worlds. Namely, we need to determine (iv) the closest possible world in which Tim didn't bet on the Mariners to one in which he bet on the Mariners and won his bet and (v) the closest possible world in which Tim bet on the Mariners to one in which he bet on the Yankees and won his bet. That is, we need to find (iv)  $((W \land M) \bullet \neg M)$  and (v)  $((W \land \neg M) \bullet M)$ . The first of these is once again fairly straightforward.  $((W \land M) \bullet \neg M)$  must be a world in which Tim bet on the Yankees instead of the Mariners, and since we know that the Yankees won, Tim must have won his bet. That is to say,  $((W \land M) \bullet \neg M)$  is  $(W \land \neg M)$ . The second of these may be more controversial. It seems to me that the fact that Tim won his bet on the Yankees does not necessarily mean that in the closest possible world in which he bet on the Mariners he also won. Rather, I take the outcome of the Mariners game to be independent of Tim's successful wager on the Yankees,

 $\big(0.25/0.75\big) \cdot \big(1000 - \big(-1000\big)\big) + 0 \cdot \big(1000 - \big(-1000\big)\big) + \big(0.5/0.75\big) \cdot \big(500 - \big(-500\big)\big) + 0 \cdot \big(1000 - \big(-1000\big)\big) + 0 \cdot \big(1000 - \big(-1000\big)\big)$ 

 $<sup>0 \</sup>cdot (500 - (-500)) = 1333$ .

<sup>&</sup>lt;sup>11</sup> This is an essential element in the proof of Lewis's Initial Lemma on (Lewis 1996: 310).

<sup>&</sup>lt;sup>12</sup> Intuitively, assuming that Tim has bet on the Mariners makes determining the absolute value of winning easy: 1000 if it is true that he wins minus (-1000) if it is not true. Formally:  $AV(W/M) = C((W \land M)/M) \cdot (V(W \land M) - V(\neg W \land M)) + C((\neg W \land M)/M) \cdot (V(W \land M) - V(\neg W \land M)) + C(((\neg W \land \neg M)/M) \cdot (V(W \land \neg M) - V(\neg W \land \neg M))) + C(((\neg W \land \neg M)/M) \cdot (V(W \land \neg M) - V(\neg W \land \neg M))).$  This calculates out as:

which is to say that I take  $(W \wedge M)$  and  $(\neg W \wedge M)$  to be equally close to  $(W \wedge \neg M)$ . If we suppose this to be the case, then AV(M/W) is -167.<sup>13</sup> On the other hand, if we suppose instead that  $((W \wedge \neg M) \bullet M)$  is  $(W \wedge M)$ , then AV(M/W) is 500.<sup>14</sup> In either case, AV(M/W) is not the same as AV(W/M), which means that in general it is not correct that AV(A/B) = AV(B/A).

This demonstrates that neither of Lewis's arguments is effective against my revised decision theoretic formulation of anti-Humeanism. Moreover, given the importance for his arguments of the facts that V(A/B) = V(B/A) and V(A/A) = V(A), and given that the analogous claims do not hold for AV(A), I think it is safe to say that my independently more plausible formulation of anti-Humeanism is not susceptible to any arguments modeled on the ones Lewis has developed.

 $(0.25/0.5) \cdot (1000 - (-1000)) + (0.25/0.5) \cdot (1000 - (-1000)) + 0 \cdot (500 - (-500)) + 0 \cdot (500 - (-500)) = 2000$ 

 $AV(M/W) = C((W \land M)/W) \cdot (V(W \land M) - V(W \land \neg M)) + C((W \land \neg M)/W) \cdot (V(W \land M) - V(W \land \neg M)).$ This calculates out as:  $(0.25/0.75) \cdot (1000 - 500) + (0.5/0.75) \cdot (1000 - 500) = 500$ .

Intuitively, assuming Tim has won leaves two possibilities. If he bet on the Mariners, then it was good to have bet on them (and won) because it was a bigger payoff. But if he bet on the Yankees, then it would actually have been worse, in terms of expected utility, to have bet on the Mariners, as long as we suppose that there was an even chance of having lost had he done so. In formally evaluating AV(M/W), I shall suppose that  $((\neg W \land M) \bullet \neg M)$  is  $(W \land \neg M)$ , and that  $(W \land M)$  and  $(\neg W \land M)$  are equally close to  $(W \land \neg M)$ . These suppositions may be controversial, but they are irrelevant because conditionalizing on M reduces the credences for  $(W \land \neg M)$  and  $(\neg W \land \neg M)$  to 0. As before, I include these proximity judgments only for completeness:  $AV(M/W) = C((W \land M)/W) \cdot (V(W \land M) - V(W \land \neg M)) + C((\neg W \land M)/W) \cdot (V(\neg W \land M) - V(W \land \neg M)) + C(((\neg W \land M)/W) \cdot (0.5 \cdot (V(W \land M) - V(W \land \neg M)) + 0.5 \cdot (V(\neg W \land M) - V(W \land \neg M))) + C(((\neg W \land \neg M)/W) \cdot (0.5 \cdot (V(W \land M) - V(\neg W \land \neg M)) + 0.5 \cdot (V(\neg W \land M) - V(\neg W \land \neg M)))$ This calculates out as:  $(0.25/0.75) \cdot (1000 - 500) + 0 \cdot (-1000 - 500) + (0.5/0.75) \cdot (0.5 \cdot (1000 - 500) + 0.5 \cdot (-1000 - 500)) + 0.5 \cdot (-1000 - (-500)) = -167$ .

<sup>&</sup>lt;sup>14</sup> Intuitively, if we now assume that Tim would have won regardless of whom he had bet on (rather than simply assuming that he won his actual bet), then the calculation is easy: betting on the Mariners and winning is worth 1000, not betting on them and winning is worth 500, so the absolute value of betting on them is 500. In the formal evaluation, for simplicity, this time I will leave out the parts of the equation that are multiplied by 0:

### **5 Conclusion**

I have begun by endorsing Weintraub's diagnosis, according to which Lewis's arguments are built on a flawed decision theoretic translation of anti-Humeanism. I have then developed a more plausible formulation of anti-Humeanism and demonstrated that Lewis's arguments do not prevent it from being a candidate for the truth. This, of course, does not provide any direct support for anti-Humeanism. Independent arguments are needed to substantiate or repudiate it, although it is worth noting that my improved translation of anti-Humeanism into decision theoretic terms opens the door for new, more successful, decision theoretic arguments against (or for) anti-Humeanism.

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### **Tables**

Table 1: Credences and values for Tim's betting on the Mariners (*M*) and Tim's winning the bet (*W*), represented as credence/value.

	W	$\neg W$
M	0.25 / 1000	0.25 / -1000
$\neg M$	0.5 / 500	0 / -500