

The Tension in Humeanism: undermining problems and how to resolve them

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Introduction

There is a tension at the heart of Humeanism. Although I will argue that the tension can be resolved, one needs to feel it to see the right way of developing Humeanism. The tension is a tension between the Humean account of what laws and chances *are* and what they *do*. According to the Humean account, laws and chances *are* distributed patterns in the Humean mosaic, knowable fully only from a God's Eye View, i.e., from the perspective of one who sees the full mosaic all at once. But what laws and chances are supposed to *do* is guide action and belief for situated observers who only have very incomplete knowledge of those patterns, and for whom that knowledge is always limited to the past.

Someone who knows what the laws *are*, on a Humean account, wouldn't need them to do what the laws *do*. And someone that needs them to do what the laws *do* wouldn't know what the laws *are*.

The tension is what is expressing itself in the very familiar problem that Lewis saw about Undermining in connection with chance.¹ First some background. Lewis started out by asking what chances could be, and he introduced the Principal Principle (PP) as an implicit definition of chance that identified chances by the role they play guiding belief. There has been some dispute about the correct formulation of the Principle in the wake of Lewis' discussion, but what the Principle said in its original formulation was that one should adjust one's credence to the chances no matter, except in the presence of inadmissible information:

PP: $cr(A / \{cht(A) = x\}E) = x$, provided that E is admissible with respect to $\{cht(A) = x\}$

Where $cr(A)$ is one's credence in A at some time t and $cht(A)$ is the chance of A at t. The restriction to admissible information was needed to discount cases where PP clearly becomes inapplicable; e.g., when one possesses information from the future of the sort one might get from a crystal ball or a privileged communication from God.

The problem that Lewis noticed that this poses for a Humean account of chance has to do with the possibility of what he called Undermining Futures. The details can be complex, but the problem can be put in a nutshell. It is that, on the one hand, chances are those things that play the role of chance in PP, so whatever we assign as reference, it had better be able to play that role. But, on the other hand, no

Humean truthmaker *could* play that role because any Humean truthmaker introduces inadmissible information into the conditional base and undermines the applicability of PP.

A vast amount of ink has been spilled in response to the problem about Undermining. Various solutions and resolutions have been proposed. There have been multiple reformulations of PP, and attempts to identify holes in the argument. What hasn't been noticed, curiously, is that we can generate a quite similar problem for Humean accounts of the laws.

An Undermining Problem for Laws

First, we introduce an analogue of PP that is meant to capture at least partially the cognitive role of laws. I call it the "Practical Principle" (Prac P).

Prac P says that one should act at *t* so as to maximize expected utility, given the laws and pre-*t* history.ⁱⁱ

Now we introduce an analogue of inadmissibility for Prac. P. Inadmissible information is information whose possession by the chooser would render Prac.P inapplicable.

The restriction to admissible information for Prac.P is motivated in the same way the Lewis motivated it for PP. We describe cases in which inadmissible information is present, and it seems intuitively wrong to apply Prac.P in those cases. Intuitively, it doesn't make sense to deliberate about whether to *x* if you know that you will or won't *x*. So, for example, it doesn't make practical sense for someone who knows they have a few months to live to deliberate about what they should do five years down the road, it doesn't make practical sense for someone to deliberate about whether to stop smoking if they know for a fact that they won't no matter what they decide, and it doesn't make sense for you to deliberate about what you should do yesterday, or whether you should be born.ⁱⁱⁱ

And here's the Undermining problem for a Humean account of the laws:

Humean truthmakers for laws introduce information about what you will do that undermines the applicability of Prac. P. Why is that? Because on a Humean account of laws, claims about laws are made true about distributed patterns in the Humean mosaic that include your actions. And so on a Humean account of lawhood, introducing information about what the laws are is implicitly introducing information about how you act, and that is introducing information that undermines the applicability of Prac. P. And so, for something like the same reason it looked like no Humean truthmaker for chances could play the role that chance plays in PP, it looks like no Humean truthmaker for laws could play the role that the laws play in Prac.P.

How Lewis might have reacted

Lewis never discussed any potential undermining for a Humean account of laws. But he did discuss the crucial premise for generating an undermining problem in “Are we free to break the laws?” viz., that on a Humean account of laws, introducing information about the laws implicitly introduces inadmissible information, because it introduces information about how you act - specifically, that you will not act contrary to the laws - and knowing how you will act undermines the process of deliberating. Suppose, for example, that L is a law at our world, and you are engaging in a bout of deliberation about whether to do something such that, were you to do it, L would not be a law.

Lewis recognized that such situations do arise on a Humean account of lawhood. Since what the laws are is partly constituted by facts about how each of us do act, there must be ways of acting that are incompatible with the laws being what they are. But his reaction in this case is very interesting. He didn’t react in the case of laws by worrying that Humeanism was wrong. He reacted (in effect) by saying that our view about what the laws are is hostage to our decisions about how *to* act. In “Are We Free to Break the Laws?”^{iv} Lewis argued, effectively, that beliefs about *what the laws are* depend on our decisions about how to act rather than the other way around. We can, as he puts it, render any statement of the form “L is a law” false by deciding to act contrary to L. We are able to do something such that if we did it, a law would be broken, and so although there is some fact of the matter about what the laws are once the facts that constitute the Humean mosaic are in place, before all of the facts are in, the laws are still indeterminate. From the perspective of the decision-maker whose actions and decisions are part of that mosaic, the facts about what the laws are made true in part by their decisions about how to act, and await the outcome of their deliberative processes. And that, in its turn means that at least in principle, the decision-maker’s beliefs about *what the laws are* are hostage (in part) to her decisions.^v

That, in my view, is exactly how a Humean *should* react.^{vi} In practice, we are never in a position in which we have a direct confrontation between a belief about what the laws are and a decision about whether to do the things we deliberate about, e.g., take the long route home from work, accept a job offer in another city, or eat eggs for breakfast. That is because in order to generate a determinate prediction about whether we will take the long route home from work, even in the deterministic case, we would need full information about a complete cross section of our back light cone.^{vii} And that is more information than we have. But if we did have enough auxiliary information to generate a direct conflict between our beliefs about what the laws were, and the auxiliary information were rock-solid certain, our beliefs about the laws would fall to our decisions about how to act, rather than the other way around. We get information about what the laws are not only by observing how natural events play out, but observing how agents behave, ourselves included. Our beliefs about the local matters of particular fact that constitute history are always doxastically prior to our beliefs about the laws and chances. That should be so for the non-Humean as surely as it is for the Humean, if he wants to have an accurate account of belief formation. For the non-Humean will have to recognize that our beliefs about the laws and chances are formed on the basis of our beliefs about patterns in the Humean mosaic. When we look very closely at how those beliefs are formed, we get a wide-circumference circle that will always have our observations winning in a direct confrontation with beliefs about chances and decisions winning out in a direct confrontation with beliefs about laws.^{viii}

What we follow in practice is not Prac.P, but a generalization Prac. P that takes account of our ignorance of the future:

Generalized Prac.P (GPrac.P): act so as to maximize expected utility/what you know about the laws and the current state of the world.

And when we point out that we are at least as ignorant of the laws as we are about the outcomes of deliberations we have not yet undertaken, we get something that eludes the problem about Undermining.

Back to chances

I believe a very similar reaction was available to Lewis in response to the Undermining problem about chance, if he had seen it. He should have said that in principle, our beliefs about what the correct theory of chance is, and hence about *what the current chances are*, are hostage to the outcome of future observations so that any application of PP has to be tempered to reflect our ignorance about what the chances are. In 2008, Jenann Ismael proposed a generalization of PP that captured the way that we hedge our bets about what the correct chances are to reflect our ignorance of the future, and showed that it avoids any difficulty about undermining.^{viii} Her GPP is the analogue of GPrac.P above:

GPP: An agent ought to have an initial credence function b such that, for all propositions A , $cr(A) := \sum cr(Cch_i) \chi(A/Cch_i)$, where χ is the chance assigned to A by epistemically possible theory of chance ch_i .^{ix}

Together, I believe these principles reinforce one another and provide a template for how the Humean should respond to Undermining problems.

What we learn from all of this is that the reason that it pays for creatures like us (i.e., creatures that typically have information about the past, but whose information about the future is always conjectural) to think about laws and chances because of the way that information happens to be spread around in our world. If what the chances were depended too sensitively on the outcome o of a particular process p , then we couldn't use beliefs about the chance of o to guide expectation about the outcome of p . If what the laws were depended too sensitively on whether I decide to x or y , we couldn't use beliefs about the laws to guide expectation for what would happen if we did x or y . The reason that theorizing about the laws is both *worthwhile* and *possible* is that the balance of information is such that we can use our past experience to stabilize beliefs about (more or less robust) regularities (that hold more or less generally) and that are largely indifferent to (not undermined by) beliefs about how to act in the sorts of localized interventions that fall under our control. These kinds of regularities are can be used as indirect routes for bringing about events that lie at some remove from those over which we have immediate and in-built volitional control. So the reason that theorizing about chances and laws is both possible and worthwhile is that the

world is at once complex and regular enough to allow us to form beliefs about events that are (for the most part, in practice) insensitive to what happens next and what I decide to do in the here and now, given our natural ignorance of the future. If the world was too simple, or our actions and the events we are interested in predicting are not highly localized relative to the chance and law-making patterns in the Humean mosaic, it wouldn't work.

ⁱLewis, D. (1980). "A Subjectivist's Guide to Objective Chance". In Jeffrey, R. C., editor, *Studies in Inductive Logic and Probability, volume II*. University of California Press, Berkeley, and Lewis, D. (1994). "Humean Supervenience Debugged", *Mind*, 103:473–490.

ⁱⁱ I think we could just as well put 'given what you know about the world', and let the contingencies of our epistemic situation do the work of limiting it to the past, but it won't make a difference here. This is the basic principle of Expected Utility Theory, and I'm leaving the principle informal to avoid disputes about how to formalize it. The argument should go through however the principle is formalized.

ⁱⁱⁱ There is a large literature in moral psychology on whether it makes sense to try to x if you know you won't, and I'm convinced that the answer is 'no'. You might say here that these examples work only because it doesn't make sense to deliberate about whether to x if you are not in control of x, but it is not clear what control means here. The obvious thing for it to mean is; to be in control of x is for the volition to x to raise the probability that x

^{iv} *Theoria* 47 (1981), 113–121

^v More precisely, they are hostage to my beliefs about how I will act, but my beliefs about how I will act depend directly on my decisions.

^{vi} See Beebe, H., "Humean Compatibilism" *Mind*, New Series, Vol. 111, No. 442 (Apr., 2002), pp. 201–223. I don't agree with a good bit of what they say, but their remarks are pertinent.

^{vii} In the indeterminate case, we would need to add information about the outcomes of chancy events.

^{viii} Ismael, J. (2008). "Raid! Dissolving the Big, Bad Bug", *Nous*, 42 (2):292–307.

^{ix} I've suppressed the temporal parameters to make the expression more wieldy. See also Roberts for a related treatment.