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SOME RESISTANCE TO THE IDEALIZED THERMOMETER MODEL

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ABSTRACT

In my comments I look at what was gained and lost in the move from the Simple Thermometer Model (STM) to the Idealized Thermometer Model (ITM). The move is motivated by the thought that there are going to be cases of disagreement for which the simple model cannot generate results. In this way, the STM is incomplete. I try to say a bit about why we might think that the ITM is incomplete in a relevantly similar way, while also taking a hit in terms of its explanatory value. The STM tells us what to believe (even if not in every case). The ITM might be able to churn out results in some cases that the STM cannot, but offers less guidance about what we ought to believe.

I am going to begin by talking about what I think the Simple Thermometer Model (STM) gets right and what I like about that project. From there, I'll try to articulate what I think gets lost in the move from the Simple Thermometer Model to the Idealized Thermometer Model, and to say a bit about why I don't think the idealized model escapes the kind of problems that motivated it.

On the (exceedingly plausible) view that higher order evidence is epistemically significant, when we come to have evidence concerning our own reliability, the question naturally arises, how ought we rationally incorporate this evidence into our reasoning about some target proposition? Plausibly, when we get evidence about the reliability of our first order observations – by disagreeing with a peer, or coming to learn that we have been dosed with one of Christensen's famous designer drugs (2016), for example – we ought to adjust our credences, accordingly. And so, supposing that the insights of higher-order evidence are epistemically relevant to our judgments, one wonders how best we are to account for them? To that end, Christensen's insight is that we can think of our rational capacities as something like thermometers. Supposing we think of our own reasoning in the way that we think of any other indicator of truth, then our expected reliability, as with the reliability of any tool for measurement, should be indicative of the extent to which we can (and should) trust our own deliverances, via that mechanism. So, for example, if you know that the gas gauge in your car is a bit off, and you are wondering whether you have enough gas to make it to Edmonton from Calgary, you check the gauge, do a bit of mental math adjusting your confidence according to your background knowledge about the reliability of the gauge, and you judge accordingly. This simple, intuitive kind of tinkering is at the heart of Christensen's insight. The idea is that we should apportion our credences according to our sense of how reliable our judgment delivering mechanisms are. Treat your reasoning capacities as a tool, just like any gauge or thermometer, and calibrate your credences according to the reliability of your reasoning.

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A natural way to think about how to calibrate your credences is to think of some metric for a dispute-independent assessment of your reliability as a reasoner. The idea being that, in some sense, there just is a fact about you that reflects your competence as a reasoner (which might be constrained by the relevant particulars of your situation, etc.). That feature of you, *qua* reasoner, is independent of the bind you're in right now, viz. your higher-order evidence. The Simple Thermometer Model simply tells you to calibrate – treat yourself like a thermometer; treat your initial credences as indicators of the truth. And the significance – the *weightiness* – of your initial credences will be determined by an independent assessment of your reliability. This suggests that your final credence should match the credence that *would* be rational, given your initial credence. That all sounds pretty intuitive, to me.

Now, Christensen notes that there are some limitations to what the theory can do. For one thing, the Simple Thermometer Model is not going to yield verdicts in a host of cases, for example where agents lack an initial credence prior to learning about their higher-order evidence (suppose they just never form the relevant judgment), or where the agent lacks a judgment about their own reliability. These judgments are required inputs for the model to generate results, so in those cases the Simple Thermometer Model has nothing to tell us. That doesn't necessarily mean that the model is wrong, per se, but it prompts Christensen to wonder whether, as theories go, it's incomplete. I'll just briefly note here that, I agree with Christensen that the completeness of a theory is one measure of its value, and of course an ideal theory is a theory that yields results (the right results!) in every case. But an incomplete theory may be, in another sense, the *right theory*, in light of the limitations of the theory's aim. Christensen set out to give us a theory of how to incorporate higher order evidence in our rational estimations about our own reasoning. I submit, in what follows, that this aim threatens to subvert the augmented model. To see why, let's look at how the Idealized Thermometer Model works.

Suppose that there is a particular credence, n, in C that would be rational for you to have, given your first-order evidence. In that case, then the credence it would be rational for you to have on your total body of evidence would be the credence that it would *in fact* be rational to have, bracketing your first-order evidence, and conditional on your adopting credence n on the basis of your first-order evidence. That is what the Idealized Thermometer Model recommends.

The idea is that there is in fact an ideal initial credence for you to adopt on the basis of your first-order evidence. What the idealized model tells you is that your rational credence in C is determined by first assuming that you adopt the ideal credence in C on the basis of your first-order evidence – start by assuming you *would* get it right – and then, bracket your first-order evidence. You then calibrate according to your independent reliability assessment. The Idealized Thermometer Model says, in a nutshell, start with the right response to your first-order evidence, and then calibrate *that* according to your independent reliability assessment. It is thus just like the Simple Thermometer Model, but for the antecedent assumption that you are also in fact responding to your first-order evidence rationally. The idealized model simply swaps in *ideally rational* credences where the simple model had *actual initial* credences.

Now we are in a position to say something more about the sorts of cases that suggested the Simple Thermometer Model may be incomplete as a theory of how to countenance our higher-order evidence (e.g., cases where the model has no initial credences as inputs). What I want to suggest is that it looks as if the Idealized Thermometer Model gives us a rather different kind of theory than we set out for with the Simple Thermometer

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Model. This is because, what makes the Simple Thermometer Model an attractive theory is that it tells us *what to do* with our higher-order evidence: calibrate your credence according to your independent reliability assessment, as a way of responding appropriately to your higher-order evidence. The Simple Thermometer Model told us how to handle higher-order evidence; it was instructive in a way that the Idealized Thermometer Model couldn't be.

To see why, consider that from the first personal perspective, you are generally going to believe that you are responding rationally to your first-order evidence. But the Idealized Thermometer Model, if it tells us anything, just tells us that the rational credence to assign to C, in view of our higher order evidence, is the credence we *would* assign to C, if we had responded appropriately to our first-order evidence, and then had calibrated that response to our reliability assessment. So, inside looking out, just being confident enough about my assessment abilities is going to tell me that I'm compliant with the idealized model. But, outside looking in, and supposing that my interlocutor disagrees with my creedal assessment, it remains to be seen how the Idealized Thermometer Model could help us to adjudicate such a disagreement. The Idealized Thermometer Model depends on my having arrived at the ideal initial credence. If my interlocutor and I disagree about what the right attitude to have towards C is, that disagreement likely depends on our having assigned divergent credences to n, which is supposed to be the objectively rational attitude to have in the face of our first-order evidence.

Christensen knows this might be a problem for the view – as he says, it might be that the Idealized Thermometer Model is not "followable." But, he's not so sure that this is such a problem. After all, the facts are the facts, whether or not we get them right. And it seems right to say, as Christensen does, that rationality requires us to have the credence that the evidence supports. From this, he goes on to say that, "the fact that we can't always get the evidential relations right, or be certain that we have gotten them right, does not mean that we're not rationally required to do so." True enough. But I'm not sure that that's an argument for the Idealized Thermometer Model, which seems to tell us to just get things right, and that when we do, our credences will be rational. To say that we are rationally required to apportion our credences to the evidence is, in a sense, just to reiterate the Idealized Thermometer Model. More than not followable, though, you might think that this problem points to a parallel instance of incompleteness. After all, it isn't that the Idealized Thermometer Model is turning out results that we simply cannot adopt. Instead, it is hard to see what the idealized model recommends, from the inside, at all.

You might think, then, that we have these two models, both of which suffer from some kind of incompleteness. But I want to suggest that this points to a clear reason to prefer the simple model to its idealized cousin. The Simple Thermometer Model gave us some guidance about what we ought to do, and how we ought to incorporate our higher order evidence into our assessment of our credences. The Idealized Thermometer Model says something like, "when you get it right, that's good." Now, that *is* something we could say in the kinds of cases that pointed to the incompleteness problem for the Simple Thermometer Model (though of course, we can say that about *all* the cases – the ones the simple model could and couldn't account for). We could say, of the agent without input credences, that whatever else, she *would* be rational if she had the *right* initial credence in response to her first-order evidence, and then calibrated accordingly. But that is just to reiterate the requirement of rationality that everywhere and always, our credences ought to be governed by the evidence.

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What made the Simple Thermometer Model attractive was that it offered us a way of living up to that rational requirement to apportion our credences, respecting all the evidence. The Simple Thermometer Model is useful because of the rational requirement to get things right; the Idealized Thermometer Model is a reiteration of that requirement.

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