Headaches for epistemologists

*Word count: 4,996*

1. Introduction

Hanh, as a pediatrician, has a moral duty to cure patients’ headaches. Imagine that Hanh has a great many headache-y patients, and curing all of them requires a single action that will almost definitely kill an innocent person. It is wrong for Hanh to perform this act; Hanh ought instead to violate all of these headache-curing duties. In fact, Hanh intuitively ought to not cause this death *no matter how many* headaches it would cure. Contrast Hanh with Vinh. In order to satisfy the duty to cure a single patient’s headache, Vinh must drive across town, which has a slight chance of causing the death of an innocent. Intuitively, Vinh ought to take this drive. These intuitions are widely shared, and generate a well-known problem for formal models of deontological ethical theories: no one has been able to give a formal ethical theory that uncontroversially accommodates both these intuitions.¹ Let’s call this the *headaches-for-lives problem*. In this paper I will argue that deontological approaches to formal epistemology face a version of this same problem.

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The problem can be generated with a variety of low-significance duties; e.g. one ought to violate any number of (harmless) promises to avoid killing a single person.

Some of the cited literature gives possible solutions. Some of these are not relevant to epistemology (e.g. some involve ideas from contractualist ethics that have no epistemic analog; e.g. Scanlon 1998 and Lazar 2018). One exception is Lee-Stronach’s (2018), a variant of which I discuss in section 5.2.
My arguments assume two central goals for a formal theory (there may be more as well): it must help extend and vindicate (some of) our pre-theoretic understanding of epistemic norms. Almost inevitably, investigation into epistemology starts with intuitions about how we should reason or what our beliefs should look like. We cannot stop there, though. We lack clear intuitions about some issues, and we know our intuitions are sometimes false (e.g. they are sometimes contradictory). Extending our pre-theoretic understanding is delivering verdicts about issues we have no clear intuitions about and correcting intuitive errors. Relatedly, it’s worth wondering why it matters that our beliefs conform to epistemic norms. To some extent, we must just accept that some things matter. But we should not just accept that all alleged norms are worth following, especially given that our intuitions can be mistaken. Vindicating norms is showing that there is something truly important about conformity with them. Formalizing epistemic theories allows the use of formal tools, like probability and decision theory, to extend epistemic intuitions, help us understand their basis, and to vindicate some or all of them.

Much recent work in formal epistemology has been pursued with a consequentialist or decision-theoretic emphasis. This approach vindicates and extends intuitive norms by showing that conformity with norms tends to “promote value”: it is expected to produce or cause valuable states of affairs. For example, it has been argued that updating one’s credences by conditionalization has higher expected value than alternative updating rules, and thus that the epistemic norms require updating by conditionalization. This paper is about deontological approaches to epistemology, however. Why? A few epistemologists have recently suggested deontology as an alternative to

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2 Much of the current work in this vein started with Jim Joyce (1998); Richard Pettigrew’s (2016) book is a recent important example.

consequentialism in epistemology.⁴ There are also a number of recent criticisms of epistemic consequentialism or of the ideas that ground consequentialist attempts to extend and vindicate norms.⁵ And, traditionally, epistemology looked quite deontological. This changed partly due to worries that deontological norms required doxastic voluntarism (Alston 1989), but this idea and the implausibility of voluntarism have been undermined over the last twenty years.⁶ In light of all of this, deontological approaches to epistemology look attractive.

Some characterize deontology purely negatively, e.g. as not about value promotion. Purely negative characterizations will not do for our purposes. We cannot vindicate or extend norms just by saying what the norms do not look like. For one, it’s too easy to meet negative characterizations, and there will be too many norms that satisfy negative characterizations of deontology but are clearly bad norms. Further, to vindicate norms is to show that there is something that matters about conformity with them; this is a positive feature, not a negative one. Positive accounts of deontology have been given by ethicists, and they can be adapted to epistemology. Deontological theories have to do with honoring some good or respecting value or significance.⁷ It’s not always clear if these are two names for the same thing, or different notions, but that won’t matter for what I say in this paper; to keep things simple, I’ll just speak in terms of respecting value. We can illustrate some of what honor or respect mean by thinking about friendship (Scanlon 1998). Friendship is valuable. If the norms of friendship just had to do with promoting this value, then it seems we sometimes ought to treat the friends we have somewhat shabbily in order to spend time going out and making new friends.

⁴ For example, Berker 2013, Horowitz 2018.

⁵ See e.g. Carr 2015, Talbot 2017, Friedman 2018, Levinstein 2018.


But that does not fit with the true norms of friendship. While it can be important to make new friends, thus promoting friendship, we also have reasons to respect or honor the friendships we have, which means privileging them above making new friends even when making new friends creates a net increase in the total amount of friendship we have. That is just a suggestion of how honoring or respecting value differs from promoting it. Finer details are controversial and won’t matter for my arguments.

To vindicate or extend intuitive epistemic norms using a deontological perspective, we see the norms as respecting epistemic value or significance. The strength of any token epistemic duty should be based on the value or significance of what that duty honors or respects. This is fairly uncontroversial in ethics. One clear example arises in discussions of non-human animals. Non-human animals have some moral significance, but deontologists who agree still debate about their value relative to humans. If it were equal, then duties to animals would have the same strength as parallel duties to humans – it would be wrong to kill a deer to save a human. Similarly, it is important in deontological ethics to say that all humans have equal value, because otherwise it would be permissible to kill one innocent human to save another. The idea that the strength of a duty is proportionate (partly) to the strength of the value or significance it respects is tacit or explicit throughout discussions like these in deontological ethics. There’s nothing to suggest that the epistemic duties should be different, so their strength should be proportionate to the value or significance of the beliefs they govern. This will be important in generating an epistemic version of the headaches-for-lives problem.

2. Ingredients of the headaches-for-lives problem

Let’s start by articulating the features of deontological ethics that generate the headaches-for-lives problem. We can then see why deontological epistemology has analogous features.
The first ingredient in the problem is conflicting duties: the duty to cure headaches conflicts with the duty to not kill. Multiple duties conflict when each can be individually satisfied but they cannot all be jointly satisfied. When duties conflict, one ought to satisfy the stronger duty or set of duties. The second ingredient is lexical priority of duties: higher-order strength duties, such as the duty to not kill, are so strong that one ought to satisfy them rather than any number of duties with lower-order strength, such as the duty to cure headaches. The final ingredient is that duties can be attenuated: a token higher-order strength duty can be turned into a lower-order strength duty. For example, the strength of the duty to not risk killing can be made lower-order by lowering the risk of killing.

2.1. Conflicts in epistemology

There are a few ways to get conflicting epistemic duties.

One involves what ethicists call “contrary to duty obligations:” obligations to do things that are normally wrong, which arise when agents cannot or will not do what they ideally should. Consider an agent who holds a belief in proposition I with more confidence than they should. The proposition I is logically related to proposition R. Because of this, credences in I and R can be potentially incoherent with one another. Imagine that the agent will not, or cannot, adjust their confidence in I to be appropriate. Given that the agent will not have the ideally appropriate doxastic states, what should their doxastic states look like? A good epistemic system must say something about cases like this. Otherwise it would fail to give flawed agents like us interesting advice in a huge range of situations (see Staffel 2015 and forthcoming). In this case, the agent can either adjust their confidence in R to be coherent with their confidence in I, or they can have a confidence in R that is in conformity with their total evidence, but they can’t do both. If agents have epistemic
duties both to respect their evidence and to maintain coherence in their credences, then we have a conflict of duties.\textsuperscript{8}

I’ll briefly discuss a more controversial type of conflict. Say that an agent’s evidence about proposition E dictates credence \( c \), which the agent realizes. But the agent also has compelling evidence for proposition H, which says that their judgments about credence \( c \) are mistaken. Here we seem to have conflicting duties: the agent can have the credences in E and H that their evidence actually requires, at the cost of a sort of incoherence, or the agent can have their credences in E and H be coherent, which will require at least one of these credences to not conform to their evidence. It is controversial whether this really is a conflict.\textsuperscript{9} So I will focus on conflicts generated in the first way (involving contrary to duty obligations); we can extend everything I say to apply to these latter sorts of conflicts.

\textbf{2.2. Lexical priority and attenuation}

As discussed above, the strength of epistemic duties is proportionate to the value of the beliefs or truths whose value they respect. One way to show lexical priority in epistemic duties is to show that there is lexical priority in epistemic value – that some beliefs or truths are, roughly put, infinitely more valuable than others. It will be useful in what follows to talk about slight, but still

\textsuperscript{8} Can we say that agents only have a single type of duty – e.g. to conform their beliefs to their evidence? Those attracted to Bayesian epistemology won’t find this plausible. One’s priors are prior to one’s evidence, but must still be coherent. Bayesians also like evidential norms like the principal principle.

\textsuperscript{9} Some philosophers think this involves no conflict of duties, either because what one’s evidence requires is just what one reasonably believes one’s evidence requires, or because there are no coherence requirements between E and H.
valuable, improvements in beliefs or credences. To do so, I'll be talking about changes in the accuracy of credences. A credence is a degree of belief which is modeled (typically) by numbers between 0 and 1. A credence in a truth is more accurate the closer it is to 1: a .42 credence in a truth is more accurate, and better, than a .4 credence in that truth.

The idea that some beliefs or credences have vastly more epistemic significance or value than others is extremely common in epistemology. The literature on this topic often discusses “pointless truths” or (in Jane Friedman’s (2018b) terms) “junk beliefs.” In a recent paper, Brian Talbot (2017) has argued that some beliefs are infinitely more valuable than beliefs about pointless truths. To argue for this, he has us consider knowledge of all wisdom, which we assume is contained in a finite set of beliefs. By contrast, consider a credal state containing vast amounts of credences in pointless truths: each is about “whether there is a particle in some arbitrary location in space and time (each credence is about a different location, so these are credences in distinct propositions).” (p3) Talbot argues that, no matter how large this latter set of credences is (assuming no other significance to the locations), slight improvements in the accuracy of each pointless credence cannot be more important than knowledge of all wisdom. This establishes lexical priority

\[10\] These notions are fairly standard throughout formal epistemology. See Joyce (1998) or Pettigrew (2016) for detailed discussion.


\[12\] Talbot’s paper responds to a range of objections. I do not have the space to explore these, so I will just point out that the idea that credence in all human wisdom is superior to the “repugnant states,” no matter how large the repugnant state is, is intuitively appealing and fits nicely with the views of many epistemologists.
in the value of these respective credal states: no amount of the latter good can outweigh the former good. We can extend this. Knowledge of just a few pieces, and probably just a single bit, of wisdom is clearly more important than slight improvements in each of an infinite number of pointless credences.

The lexical priority of these values gives us lexical priority of some relevant epistemic duties. That lexical priority should be independently intuitively plausible. If one had to choose between fulfilling a duty which would involve a great deal of accuracy for one single wise credence (credence in a bit of wisdom), or fulfilling a duty which would give one a tiny bit of accuracy in each of an infinite set of pointless credences, one ought to fulfill the former rather than the latter.

Now that we have lexical priority of duties, let’s discuss attenuation. To show attenuation of duties, we have to show that a duty which normally has lexical priority over other duties can be reduced in strength so that it no longer has lexical priority. I’ll argue for this both via examples and a more theoretical argument. We’ll continue thinking about duties involving wise credences. But now we’ll contrast them with duties involving mundane credences. Mundane credences are about, e.g. where your car keys are, how likely it is to rain, etc. These are not pointless; knowledge on these topics does have some decent amount of significance, whereas pointless credences are about worthless trivia. I talk about mundane credences because, intuitively, the value of wise credences is always lexically prior to that of pointless credences, so that contrast cannot demonstrate attenuation. However, it is plausible that duties involving wise credences only sometimes have lexical priority over duties involving mundane.

Talbot also allows that these credences might have no value at all. But, if they do not, we wouldn’t have duties to, e.g., conform them to our evidence, since they would have no value to respect. So, we should say they have value but infinitely less than wise credences.
First, let’s establish the duties involving wise credences sometimes are lexically prior to those involving mundane credences. Consider a credal state containing a few wise credences. Compare its value when there is maximal uncertainty about each wise proposition (.5 in each, let’s say) with its value when each wise credence is highly accurate. Now consider a vast set of mundane credences. Compare its value when all of its members are fairly accurate to its value when all of its members are very slightly more accurate.\footnote{The credences in the mundane set may be somewhat related to each other, so increases in accuracy in any proposition will, if we are coherent, translate to increases in accuracy in some others. But if we do our job, perhaps picking credences which are not overly related, or picking very small increases in accuracy, we should be able to avoid a “cascade” where each credence increases in accuracy a very significant amount.} Intuitively, the big shift in accuracy for the few wise credences is more important than the tiny shift in accuracy in all of the mundane credences. And intuitively this is true no matter how many credences are in the mundane set: learning a great deal about just a few bits of wisdom is more important than learning just a tiny bit about each of any number of mundane questions. This gives us lexical priority of the relevant changes in value, which gives us lexical priority in strengths of duties that have to do with these changes in value. For example, if we had to choose between ignoring evidence about either these wise or these mundane propositions, and the relevant evidence would generate the shifts in accuracy just discussed, we ought to attend to the evidence relevant to the wisdom, no matter how many mundane credences would be very slightly affected by ignoring the mundane evidence.\footnote{You may notice that here I’m talking about duties having to do with sets of beliefs or credences, rather than duties involving a single belief or credence. You may worry that we should not}
To show attenuation, we need to now show that duties involving wise credences are not always lexically prior to those involving mundane credences. Consider again our credences about a few bits of wisdom. Consider the shift in value if these go from extremely accurate to a tiny bit more accurate, or from extremely accurate to a tiny bit less accurate. Now consider a decent sized but not enormous set of mundane credences. Consider a huge improvement in each of their accuracies. Intuitively, this change in the mundane credences is more important than the tiny change in the wise ones. This suggests that duties having to do with the latter change could outweigh duties having to do with the small changes in the wise credences. So, duties involving wise credences are not always lexically prior to those involving mundane ones.

This gives us intuitive evidence for attenuation, as laid out in Table 1. Big changes in credences about wisdom seem to generate duties with higher order strength, but small changes in credences about wisdom generate duties with lower order strength.\textsuperscript{15} This is similar to what we see epistemic aggregate duties in this way (e.g. Berker 2013); a small minority of ethicists have that view (e.g. Taurek 1977). I discuss that at the end of section 3.1.

The discussion in the main text suggests that duties will sometimes have higher order strength even if they only give us a big shift in a single wise credence. That seems plausible to me, and also fits with the notion that epistemic value is typically additive (which is argued for in Pettigrew 2016). But my arguments don’t need this idea. All I need is that duties having to do with sets of wise credences are sometimes but not always lexically prior to duties having to do with sets of mundane credences.

\textsuperscript{15} One might think that these intuitions are driven just by practical considerations: small shifts in credences will have a negligible effect on our lives, and this (one might claim) is why intuitions prefer the big moves. This need not be an objection. I tend to think that epistemic value is intimately tied to practical value, and I am not alone in this. If we accept this connection, then we
in ethics: high probabilities of death generate duties with higher order strength, but lower probabilities of death generate duties with lower order strength. This evidence isn’t probative, though; it needs theoretical support. Let’s give it that.

<table>
<thead>
<tr>
<th>Topic of credence</th>
<th>Credences in credal state</th>
<th>Shift in accuracy of each credence</th>
<th>Strength of relevant duties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wisdom</td>
<td>A few</td>
<td>Large</td>
<td>Higher order</td>
</tr>
<tr>
<td>Mundane things</td>
<td>Arbitrarily large</td>
<td>Tiny</td>
<td>Lower order</td>
</tr>
<tr>
<td>Wisdom</td>
<td>A few</td>
<td>Tiny</td>
<td>Lower order</td>
</tr>
<tr>
<td>Mundane things</td>
<td>Decent but not enormous</td>
<td>Large</td>
<td>I don’t know, but it doesn’t matter.</td>
</tr>
</tbody>
</table>

Table 1

Epistemology has something centrally to do with accurately representing things. To the extent that accurately representing things matters, accurately representing some things matters more than others. Very broadly put, getting things right about wisdom is more important than getting things right about the mundane. If we denied that, then epistemic norms would not be about anything we cared about, and we could not vindicate epistemic norms. The partial lexical priority of the wise over the mundane is easy to accept; in some ways it is tacit in the lives of most academic philosophers. But why accept attenuation? Getting things right about wisdom while being totally disconnected from the every-day world would be a tragedy. Making marginal improvements in wisdom at the cost of significant disconnection from the world would be a tragedy as well. This is cannot dismiss the evidence for attenuation even if it is tied to practical considerations. But I will also give non-practical arguments for attenuation.

\[\text{16 Can large changes in the accuracy of mundane credences generate higher order duties? I don’t know, and I find it hard to find compelling evidence. If they could, it would also give us the headaches-for-lives problem.}\]
not just practical: it reflects what really matters to most of us as human beings. Most of us don’t want to be the stereotypical bumbling academic, so concerned with the profound that they have no connection to the mundane, even if we would be happy that way (that is, even if this had no practical cost to us). That just does not seem like the right kind of life to lead.

For additional confirmation of some of these ideas, we can look at other issues in epistemology. First, note that pragmatic responses to skepticism are unmoving to so many of us. Pragmatic responses concede to the skeptic that we cannot know anything, but say that that doesn’t matter because it makes no practical difference. But the truth of skepticism would seem terrible to most of us whether or not it makes any practical difference. Note that the brain in the vat can still (on most views) work out a huge range of profound truths – all of a priori philosophy – but we still find the skeptical scenario to be an epistemic disaster. This shows that we do think that sometimes the mundane matters more than the profound, and not just in a practical way. That supports the idea of attenuation. Second, note that, if standard accounts of belief are correct, marginal epistemic changes seem drastically less serious than great ones. Standard views of belief say that believing is treating questions as settled in our reasoning. It is often thought that belief is necessary because we are limited beings with limited time, but not ideal. Assume that’s so. It would be nice if we could do all our reasoning with credences, but most of us don’t seriously think it is a tragedy that we cannot. Less than ideal, yes, but not really bad. If marginal epistemic improvements really did matter so much, however, the fact that we need beliefs would not merely be a minor failing, but rather a huge loss. It is not. This supports the examples I have given, which use marginal changes in accuracy as evidence for lexical priority and attenuation.

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To vindicate norms, epistemology must reflect what matters to human beings, and so must see the profound as vastly more important than the mundane. But it must also make room for the mundane at some marginal cost to the profound. This gives us lexical priority and attenuation.

3. **Epistemic headaches-for-lives**

Deontological epistemology has the ingredients for the headaches-for-lives problem. In ethics, the problem involves two cases: one in which an agent can satisfy many lower order duties by violating a higher order duty, and another in which an agent can satisfy lower order duties by violating an attenuated duty (which would normally be higher order but is currently lower order). To get epistemic analogs, we need to combine epistemic conflicts of duties with lexical priority and attenuation.

Start with an agent who has an irrational credence in proposition I, which they are unable or unwilling to fix. I is logically related to two sets of credences, A and B. A is composed of credences in wise propositions, and B of mundane credences. Because of the credence in I, there is no way to make A and B coherent with one another without making one or both of A and B not fit the agent’s evidence. Coherence will require a large shift in the credences in set A, or a tiny shift in the credences in set B. (We can also make some mixture of changes to A and B; I’ll discuss this below) Duties involving large changes in accuracy in wise credences are lexically prior to those involving tiny changes to credences in mundane propositions; the agent ought to shift the credences in B rather than those in A, no matter how large set B is.

Now consider an agent with an irrational credence in proposition I*, which is logically related to a small set of wise credences, D, and to a decent-sized set of mundane credences, E. Because the agent is unwilling or unable to fix their credence in I*, they must adjust their credences in D or E (or both) so that the adjusted credences do not conform to their evidence. Coherence
requires a tiny accuracy loss for each member of D or a large accuracy loss to each member of E. Given attenuation, the agent ought to make the shift in D over the shift in E.

This gives us the epistemic analog to the headaches-for-lives problem. Table 2 summarizes the parallel ethical and epistemic cases.

<table>
<thead>
<tr>
<th></th>
<th>Ethics</th>
<th>Epistemology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 1</td>
<td>Ought to avoid killing rather than cure any number of headaches</td>
<td>Ought to preserve large amounts of accuracy in a few “wise” credences rather than small amounts of accuracy in any number of “mundane” credences</td>
</tr>
<tr>
<td>Case 2</td>
<td>Ought to cure a headache rather than avoid a small risk of killing.</td>
<td>Ought to preserve large amounts of accuracy in some “mundane” credences rather than small amounts of accuracy in wise credences</td>
</tr>
</tbody>
</table>

**Table 2: The structure of the headaches-for-lives problems**

What might concrete examples look like?

Blanche has an irrationally high and unchangeable confidence in the following proposition I: most people do the objectively morally right thing in high-stakes situations. This is, as a matter of fact, false. Given I, accurate views about specific actual people’s behavior will be in tension with accurate moral views. Blanche can reconcile these via a radical shift in her moral views. However, it could be done with just small changes in credences about many specific people’s behavior. This is because, for any specific claim about what a specific individual has done, I plus accurate moral views has relatively little significance. I is about what *most* people do, and is fairly compatible with any one individual doing the bad thing they actually did. If Blanche won’t change I, Blanche ought to keep her moral views accurate and slightly change her mundane views.

It’s hard to build a concrete second case without saying something controversial; you can change the details of this example to suit your own views. Jefferson has an irrationally high credence in I*: that *almost all* people will do what Jefferson’s evidence says they should with regard just to one issue. Let’s say that issue is voting in local elections. Jefferson’s evidence slightly favors
the moral obligation to vote in local elections – it supports a .52 credence in this wise proposition. But (in the U.S.) only about 15% of eligible voters vote in local elections. Coherence could be achieved by a large shift in Jefferson’s beliefs about the voting behavior of many people. Coherence could also be achieved by a small shift in credence on this moral claim – from .52 to .49 – since that plus I* would predict that most people don’t vote. Given attenuation, Jefferson ought to make the small change to their moral beliefs rather than the large change to many mundane beliefs.

In each example, there is a wide range of other ways the agent can adjust their credences to deal with the incoherence. I’ve focused on just two. It may be that there is a third alternative that is superior to these. That’s fine. We still want a theory that can say that, of these two options, the agent should take one over the other, even if there is some third alternative they ought to take to either. After all, the agent may be unwilling or unable to take the third alternative.\footnote{18}

3.1. The formal problem

So, we can get epistemic versions of the headaches-for-lives problem. Why is it a problem for formal theories? My goal is not to show that it is intractable – I hope it is not – but rather that it is challenging. Given space limits, I can’t discuss every possible formal model. Rather, I’ll articulate the problem using a sort of template for formally modelling these issues.

\footnote{18} Let’s briefly consider another objection. One might claim that there’s no conflict of duties in these cases: the agent should keep their credences fitted to their evidence, and there’s no duty to achieve coherence with I or I*, because I and I* are irrational. There’s a complicated argument against this, but I’ll focus on a simple one. When the agent sincerely endorses these irrational credences, they may be compelled to alter other credences in light of them. We need a theory that tells the agent what they should do if they are going to pursue coherence, even if this is not the ideal or second-best option.
To formally model an epistemic theory, we use some formal system or systems, such as the Bayesian one, to model what conformity with duties looks like. We also need some measure to score how seriously credal states deviate from any given norm. We need this in order to determine what we should do when epistemic duties conflict. Conflicts mean that at least one duty will remain unsatisfied, and when epistemic duties conflict, we should prefer the least serious duty violation, which would be the credal state with the best overall score on this measure. We also want higher-order strength duties. So, our measure should give norm-conformity for some credences infinite weight or lexical priority. But doing this for every wise credence is incompatible with attenuation. To model both higher-order strength duties and attenuation, we transform the scores of duties pertaining to wise credences using a discontinuous function. Large deviations from norms regarding wise credences would have infinite weight, but small deviations would not – at some degree of deviation, the function jumps from assigning finite to infinite weights to violations. 

19 See Horowitz (2018) for an argument that we can use Bayesian consequentialist models to model deontological epistemic norms.

20 See Staffel (2015, forthcoming) or De Bona and Staffel (2017) for how to score deviations from probabilism and other epistemic norms.

21 We can model infinite weights using hyperreal numbers (Peterson 2010). These allow us to compare different infinitely weighted scores in intuitively plausible ways.

Epistemic consequentialists avoid discontinuous scoring rules. That’s because epistemic consequentialism relies on certain decision theoretic arguments to vindicate norms, and these require continuous scoring rules (Pettigrew 2016). We need not rule out discontinuous functions in the present context, partly because epistemic deontology won’t rely on these decision theoretic arguments.
It looks like any formal model that captures headaches-for-lives fits this template. But any model that does gives us serious problems. I'll demonstrate with a toy model and example. Say degrees of deviation from norms can be measured with non-negative integers, higher numbers being worse. Let 10 be the threshold at which duties regarding wise credences go from lower to higher order strength. Credal state X is about wise propositions, and deviates from norms to degree 8. Credal state Y is about the same wise propositions, and deviates to degree 9. If one had to choose between X and Y, one ought to choose X. Credal state Z is about some other wise propositions, and deviates from norms to degree 2. Credal state M is about mundane propositions. We can make M large enough, and deviate from norms significantly enough, that one ought to choose M over Z (even though the duty to choose M is lower order).\(^{22}\) So, one ought to choose X over Y and M over Z. However, one ought to choose the combination of Y and Z over the combination of X and M: together, Y and Z deviate to degree 10, which generates a higher order strength duty. The higher order strength means M is irrelevant, and Y and Z are together more important than X. That is a bad result.\(^{23}\)

We got this result by adding degrees of norm deviation together and then transforming the total score (for wise credences) using a discontinuous function. Perhaps we should transform the degree of deviation for each credence in a set individually, and add these together to get the strength of the duty given by a set of credences. Or perhaps we should not see the strengths of duties involving multiple credences as additive at all (Berker 2013). These give us a different problem. To

\(^{22}\) If we worry that mundane credences can generate higher order duties sometimes, make M so that it does not, while still generating a stronger lower order duty than Z.

\(^{23}\) It wouldn’t be bad if there was some plausible synergy between Y and Z, but we can pick our cases to avoid this.
illustrate: Credal state C involves a norm violation of degree 9 for each of any number of wise credences. Credal state D involves a norm violation of degree 10 for a single wise credence. If we transform before we add, or don’t add, an agent always ought to choose C over D, even if C involved a norm-violation for every wise credence there is. That’s because none of the credences in C generate a higher order strength duty on their own, but the credence in D just barely does. This seems like a very bad result.

So, there’s a general template formal models seem to have to fit to capture headaches-for-lives. This template outputs untenable results. That’s a challenge.

4. Conclusion

My goal is this paper is to state a challenge for formal deontological epistemology. I hope, though, that this challenge can be addressed. Note one thing about possible solutions. We can state the headaches-for-lives problems without obvious contradiction. This means that we can, in principle, give some set of formal rules that says what we want. That’s easy. What is hard is giving a formal system that says what we want and also vindicates and extends our understanding of epistemic norms. We don’t want to build too many specific, ad hoc features into our formal system. Otherwise, we are really just making a list of what we want to say, rather than systematizing things in a way that allows us to understand or go beyond our intuitions. The challenge, then, is to give a formal theory that does good philosophical work.

I do not mean to suggest that we should give up deontological epistemology. Rather, we should get a head start on developing deontological epistemology by learning lessons from deontological ethics. Nor do I want to suggest that we should give up on formal deontological epistemology. These problems show us that deontological epistemology needs a formal

\[\text{\textsuperscript{24}}\text{ See Dietrich and List 2017 section 5.5 for a related discussion in formal ethics.}\]
representation. The trickier normative questions get, the less we should trust our intuitive judgments, and the more able we are to get confused by the non-structural properties of a case.

That’s where formal systems shine. I hope that, as formal epistemologists bring their attention and know-how to bear on these problems, the results might be fruitful for formal ethics as well.

References


Staffel, J. (forthcoming) Unsettled Thoughts: Reasoning, Uncertainty, and Epistemology.