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The Ravens Paradox and negative existential judgments about evidence

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ABSTRACT

In this paper, I provide a new argument in support of a concessive response to the Ravens Paradox. The argument I offer stems from Mark Schroeder's Gricean explanation for why existential judgments about normative reasons for action are unreliable. In short, I argue that Schroeder's work suggests that, in the case of the Ravens Paradox, people are running together the issue of what's *assertible* (in an ordinary context) about evidence with what's *true* about evidence. Once these issues are pulled apart, we have reason to think that the negative existential judgment about evidence that drives the Ravens Paradox is mistaken, and thus that there is in fact no paradox here at all.

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Introduction

The Ravens Paradox stems from two prima facie plausible claims. First: any observation of an F that is a G supports the thesis that all Fs are G. Put in terms of ravens: an observation of a black raven supports the generalization that all ravens are black. Second: any piece of evidence that supports hypothesis H also supports any hypothesis that is logically equivalent to H. Put together, these two claims seem to generate a problem. This is because the proposition that all ravens are black is logically equivalent to the proposition that all nonblack things are not ravens. Thus, it seems that we are forced to conclude that an observation of a white shoe is evidence in favor of the hypothesis that all ravens are black. But, to many, this seems like a bizarre conclusion, which we should reject. This reaction is often motivated by the following idea: it

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seems obvious that seeing a white shoe is *no evidence at all* for the thesis that all ravens are black.[1]

One well-known response to the Ravens Paradox is to bite the bullet and accept the conclusion that observing nonblack nonravens provides evidence that all ravens are black, but then somehow seek to soften the blow of accepting this. Carl Hempel, who first introduced the Ravens Paradox, favored a solution of this kind (Hempel 1937). So did Nelson Goodman, whose early discussion of the paradox after Hempel helped shape much of the literature that followed (Goodman 1954). More recently, this kind of response is the dominant one favored by contemporary Bayesians.

One way to support this kind of "concessive response" is to argue (as the "canonical" Bayesian response does) that (a) for most ordinary people, in most ordinary contexts, seeing a nonblack nonraven is *less* evidence in favor of the hypothesis that all ravens are black than is the evidence provided by seeing a black raven and (b) for most ordinary people, in most ordinary contexts, seeing a nonblack nonraven is *very little* evidence in favor of the hypothesis that all ravens are black. The idea is that, put together, these two claims – a comparative one about relative amount of evidence, and a quantitative one about how much evidence – make it more palatable to accept the conclusion that seeing a nonblack nonraven is evidence in favor of the hypothesis that all ravens are black.[2]

In this paper, I aim to support this kind of concessive response to the Ravens Paradox: that is, the kind of concessive response (whether an orthodox Bayesian one or not) that makes use of the basic comparative and quantitative claims that I glossed above. The argument I offer stems from Mark Schroeder's Gricean explanation for why existential judgments about normative reasons for action are unreliable. In short, I argue that Schroeder's work suggests that, in the case of the Ravens Paradox, people are running together the issue of what's *assertible* (in an ordinary context) about evidence with what's *true* about evidence. Once these issues are pulled apart, we have reason to think that the negative existential judgment about evidence that drives the Ravens Paradox is mistaken. This provides some reason to think that there is in fact no

[1]For a more detailed statement of the Ravens Paradox, as well as for a helpful overview of the main responses to it, see (Fitelson 2006).

[2]See (Fitelson 2006) and (Easwaran 2011) for more detailed discussion of this "canonical" Bayesian response, which has its roots in the discussion of the paradox in (Hosiasson-Lindenbaum 1940). It should be underscored that this is not the only kind of response that contemporary Bayesians give. For examples of two important recent Bayesian responses, which are not "concessive" in the way I am discussing, see (Fitelson and Hawthorne 2010) and (Rinard 2014).

paradox here at all. To be clear: I do not argue that this Gricean line is *by itself* is a sufficient "concessive" response to the paradox. It does, however, provide a promising tool for supporting such concessive responses, and one that has not yet been appreciated in discussion of the Ravens Paradox.

Schroeder's Gricean argument

Many people, including many philosophers, sometimes have intuitions about the complete *absence* of normative reasons that support a given action, e.g. when that action is massively irrational, imprudent, or immoral. More precisely: when asked whether an agent A has normative reason to ϕ in circumstances C, many people have the intuition that A has no normative reason at all to ϕ in C. That is, they think there is *nothing* that "counts in favor of" or normatively "supports" A ϕ-ing in C.

In *Slaves of the Passions*, Schroeder aims to undercut the force of such intuitions. His argument proceeds in two steps (Schroeder 2007, 94–96).

First, Schroeder begins with the widespread idea that normative reasons for action (henceforth "reasons for action") can have more or less weight. Roughly, the idea is that some considerations count more strongly in favor of A ϕ-ing in C than others do (as do some count more strongly against A ϕ-ing in C). For example, assuming a relatively normal agent in relatively normal circumstances, consider the two following facts: (1) the agent strongly prefers the taste of strawberry ice cream over vanilla ice cream and (2) a serving of strawberry ice cream costs $5.27 as opposed to $5.28 for a serving of vanilla ice cream. Both facts provide her a reason to buy the strawberry ice cream over the vanilla, but the first is the weightier reason. Schroeder then notes that, in most contexts, our core interest in which reasons for action an agent has (and how relatively weighty those reasons are) is tied to a *practical* concern about what an agent (or group of agents) actually should do. Reasons with very little weight usually don't have much impact on the "all-things-considered" verdict of what an agent should do. (For example: what kind of scenario would it be where saving the penny really makes a big difference to which ice cream to buy, given all of the other, weightier reasons at play?). Thus, in most discussions, there is going to be a rational presumption against discussing reasons with very little weight. This is especially so if one thinks there are many such weak reasons, in contrast to a number of much weightier reasons (what we might call "good" reasons).

Second, Schroeder appeals to standard Gricean ideas about the norms governing discussion. He starts by noting that claims about the mere *existence* of a reason for action are less informative than a claim about what that reason is. Compare: "Ollie has a reason to go open the fridge right now, in order to get the slice of pizza he wants to eat" is more informative than "Ollie has a reason to go open the fridge". Second, Schroeder then appeals to Paul Grice's idea that speakers will (by default) be expected to contribute in a productive, informative way to discussion. This expectation underwrites certain norms that govern rational ways to engage in communication. In turn, if listeners assume by default that their interlocutors are somewhat rational, these norms structure the kinds of expectations and presumptions that listeners have in interpreting what others say. One such norm for speakers that Grice puts forward is this: "make your contribution as informative as is required" (Grice 1967/1989, 26). Based on this kind of idea, if a speaker says "Ollie has a reason to open the fridge", but does not specify anything further about what that reason is, she will then be taken to be communicating that this is a relatively weighty reason. After all, if it wasn't a relatively weighty reason, why would she even be mentioning it in conversation (rather than discussing any number of relatively weighty reasons that Ollie has)? In other words, the *full communicative upshot* of her claim is that this is a relatively weighty reason (even if this isn't part of the *literal* content of what she said), due to the pragmatics of communication. As Schroeder puts it, we can thus "predict that existential assertions about reasons will reinforce the standing presumption that the speaker has a relatively weighty reason in mind" (Schroeder 2007, 95).

Putting this together, we then have a two-step explanation of, as Schroeder puts it, "why we often find it unintuitive or inappropriate to say that there is a reason for someone to do something even when, in fact, there is a reason for her to do it" (Schroeder 2007, 95). This explanation isn't ad hoc, but rather motivated on independent theoretical grounds, using resources from the philosophy of language that we already have in our toolkit for explaining other important phenomena. Moreover, we can note that these resources are not ones that only an orthodox Gricean can use. That is: the Gricean account that Schroeder offers of how the linguistic phenomena work might still be correct (or *close enough* to correct to put pressure on our confidence in negative existential judgments about reasons), even if one does not adopt a strictly Gricean account of communication across the board.

As Schroeder emphasizes, his explanation yields two predictions. As we have seen, in most contexts, if I say that there is a reason to do something (an existential statement), but the reason is a very weak one, then this will sound mistaken. But the first prediction that flows from Schroeder's explanation is that it will seem *less* wrong if I tell you what the reason is. This is because "doing so will remove the pragmatic reinforcement of the standing presumption that I have only relatively good reasons in mind" (Schroeder 2007, 95). In other words: doing so will cancel the implicature that the reason being mentioned is a relatively weighty reason. The second prediction is that, at least in many contexts, I should be able to cancel this implicature by explicitly stating that I think it is only a relatively weak reason, rather than a weighty one. (This implicature could also be further canceled by other things too: e.g. perhaps by also explaining why I am even talking about such relatively weak reasons at all in the first place). If I do cancel that implicature, then it should seem less wrong to say there is a reason for action here.

Schroeder tests this idea against an example of a *very weak* reason for action. His example is this: you have reason to eat your car (Schroeder 2007, 95). To many people, this sounds crazy when they first hear that. But, Schroeder claims, it sounds way less crazy once it is clear that he thinks you have this reason because eating your car (which has iron in it) is one way to get your daily amount of recommended iron. And, second, it sounds even less crazy once Schroeder emphasizes that *of course* this is a very weak reason indeed: after all, there are many reasons *not* to eat your car (as well as many other, better ways to get your daily recommended amount of iron in your diet). Indeed, it is *such* a weak reason that, given the kinds of finite beings we are (with little amount of time to deliberate), someone would be making a serious mistake to spend much time thinking about this reason in normal deliberation (e.g. about what to eat for dinner). Once these ideas are also added to the conversation, this then, again, makes it seem less bad to say that you have a reason to eat your car. Thus, both predictions are borne out in this case. As Schroeder then sums it up, the conclusion is that "negative existential intuitions about reasons really are misleading, and basic pragmatic principles suffice to predict and explain this" (Schroeder 2007, 96).

It's worth being clear about what is involved in Schroeder's explanation here, at a high level of abstraction. Schroeder is *not* just saying that people sometimes change their mind about when agents have a reason for action based on being presented with a new theory in ethics

(e.g. a Humean one about reasons for action, such as the one Schroeder defends in *Slaves of the Passions*). Rather, Schroeder's point is that the Gricean account of communication gives us reason to suspect that, for a range of ordinary people in a range of ordinary contexts, they will tend to interpret an existential statement of a reason for action as tacitly also involving the claim that this reason is a relatively strong one. This happens in part because of the practical interests we often have in thinking about reasons for action (e.g. when deliberating about what to do, or in evaluating the actions of others). In effect, what Schroeder is arguing is that, because of the combination of such practical interests and Gricean norms of communication, people are prone to run together issues about what's *assertible* (in an ordinary context) about reasons for action with what's *true* about reasons for action. We can (and should) try to pull these things apart. Once we do this, Schroeder claims, we can see that there really are cases where there are reasons for action on the table, even when it would be mistaken to cite those reasons in conversation, or mistaken to consider them in deliberation (given limited time and cognitive resources).

Evidence, reasons, and the Ravens Paradox

Schroeder's discussion matters for our thinking about the Ravens Paradox. In particular, his line of reasoning can be extended to put pressure on the negative existential judgment about evidence that drives the Ravens Paradox.

To see this, let's start with identifying the properties about judgments about reasons for action that are key to Schroeder's explanation. The properties I aim to highlight are easiest to see if we consider the properties of the kinds of things (reasons for action) that these judgments are about. Here are the two crucial ones: (a) reasons for action are things that we have practical interests in tracking (given their normative import for what agents should do) and (b) reasons for action can have more or less weight. We can then ask whether these properties are shared by evidence (or whether they are shared any other nearby, related things that philosophers bring up in discussion of the Ravens Paradox, such as in discussing whether "x confirms y" or whether "x supports y", if such discussions don't turn out to best be understood as about evidence as such). In the case of evidence, I think the answer is "yes": (a) evidence is something that we have practical interests in tracking (given its normative import for what agents should believe, what credences they

should have, etc.) and (b) pieces of evidence can be more or less weighty (e.g. by contributing more or less to the overall evidence an agent has for believing a proposition).

These claims about evidence hold on a range of theories about evidence. They are, however, perhaps most clearly seen on the following kind of theory of evidence: evidence either provides or consists in considerations that "count in favor of" or "justify" certain doxastic attitudes (beliefs, credences, etc.). In other words: evidence either provides or consists in *normative reasons* for the relevant doxastic attitudes (e.g. beliefs, credences, etc.).[3] Just as we often think about reasons for action when deliberating about what to do, or when evaluating the actions of others, so too do we consider reasons about other kinds of things (beliefs, emotions, etc.) in a similar way. For example: an agent might wonder about her reasons for belief when she is trying to evaluate different hypotheses and figure out what to believe, or when trying to figure out what someone else should believe, or when she is trying to figure out what kind of attitude to have in response to another agent's beliefs. And reasons for belief (as well as reasons for other doxastic attitudes) come in weights, just like reasons for action do.

I've just argued that evidence has the relevant properties in question. If so, this means that Schroeder's discussion of negative existential judgments about reasons for action should carry over (at least to some degree) to negative existential judgments about evidence.

This matters for the Ravens Paradox for the following basic reason. Schroeder argues that negative existential judgments about reasons for action are unreliable *in general*, even where we cannot use his two tests to make ourselves locally confident that the specific judgments are unreliable. If this line of thought carries over to judgments about evidence (which I have argued it does), then we have reason to think that negative existential judgments about evidence are unreliable. This *by itself* gives us a new reason to be skeptical of the negative existential judgment about evidence that drives resistance to the concessive response to the Ravens Paradox. Of course, how *exactly* we should change our minds based on the recognition that an unreliable mechanism plays a role in forming a belief (or set of beliefs) is an important and much-discussed question in epistemology. I won't wade into debates on that question

[3]For this kind of view of evidence, see (Schroeder 2012) and (Lord, Forthcoming). This broad kind of view of evidence might, of course, involve much more detail than my sketch of it here: e.g. that evidence provides or consists in reasons "of the right kind" for beliefs (or credences, etc.).

here. For now, all I want to put forward is that recognition of the role of that mechanism should have *some* impact on the belief(s) in question.

But we can also go further. We should also see whether Schroeder's explanation makes good predictions in the cases about evidence that are relevant to the Ravens Paradox.

Here, things are not as straightforward. Recall Schroeder's first prediction: it will seem *less* wrong if I tell you what the reason for action is. How does this apply to the case at hand involving evidence? Importantly, in the Ravens Paradox, the statement of what the piece of evidence *is* (namely, something along the lines of *this nonblack thing is a nonraven*) is part of what *generates* the negative existential intuition about evidence in the first place. So, at least with respect to the first prediction, things don't look so good here. This, of course, might be a bit more complicated depending on what exactly one thinks the evidence here is. For stating the correct theory of that (if it is importantly different from, even in subtle ways, from *this nonblack thing is a nonraven*) might well make the first prediction turn out better in this case. But, at least at first blush, it's less clear than in the cases of reasons for action that Schroeder discusses.

Things seem better with respect to the second prediction. That is, once we make clear that the relevant evidence is very weak (which is the thing Schroeder's second prediction urges us to do) it *does* seem *less* wrong to say that there is some evidence on the table that all ravens are black. For, even if many people aren't fully convinced by the canonical Bayesian response I glossed at the start, there is reason to think that, at least for many people, the response does help to "soften the blow" of accepting the conclusion a bit. That is: it makes it *more* attractive to think that there is *some* evidence one gets from seeing a white shoe for the proposition that all ravens are black. If that is right, then that is exactly what Schroeder's Gricean account predicts should be the case.

Schroeder's tests thus seem to give us mixed results in case at hand. But at least the result of the second prediction should make us think that *at least part of* what is going on in how many people think about the Ravens Paradox involves running together issues about what's *assertible* (in an ordinary context) about evidence with what's *true* about evidence, as Schroeder's account predicts. So looking at the specific case at hand gives us yet more reason to think that Schroeder's discussion can help support a concessive response to the Ravens Paradox.

To further support this idea, we should ask: assuming a broadly Gricean framework, under what conditions would it be assertible to say "there is

evidence in support of the thesis that all ravens are black" based on seeing a white shoe, or even to assert "*this nonblack thing is a nonraven* is evidence in support of the thesis that all ravens are black"? The short answer is that, assuming this evidence is *very weak*, neither would make sense to assert in normal circumstances when people are wondering about the color of ravens (including, for instance, any real-world context in which people are actually doing ornithology).

One upshot of this is as follows. In discussing the Ravens Paradox, Goodman (who, recall, ultimately himself supported a kind of concessive response to the paradox) famously claimed that if we could support the thesis that all ravens are black by observing white shoes, then it seems we would have to hold (the mistaken view) that we are able to do "indoor ornithology" by looking at shoes, rather than actually going outside and observing ravens (Goodman 1954, 71). Goodman's quip captures something important about what many initially find counterintuitive about the proposition that the observation of white shoes is evidence for the thesis that all ravens are black. But Goodman's remark is also misleading in a crucial way, since it runs together *precisely* the kinds of issues that Schroeder's account makes clear we need to keep separate, given that we are prone to run them together for the broadly Gricean reasons Schroeder cites. Saying that something is *some* evidence doesn't mean that this evidence is *important enough* to pay attention to when doing scientific research in most contexts, designing one's scientific experiments and overall process of investigation for doing ornithology, discussing with other scientists about whether there is evidence on the table, or what that evidence is. Doing so in many contexts might well be akin to paying attention to the reason you have to eat your car in deliberation about what to eat for dinner tonight.

Let me close with one final thought about this Gricean line. As I said at the start of this paper, it's appealing to think that for many people, in many circumstances, the observation of a black raven is *more* evidence for the thesis that all ravens are black than is the observation of a white shoe. But we still might want to say that it is very weak evidence all the same. Thus, according to the Gricean line I've been working with, asserting the existence of evidence in favor of the thesis that all ravens are black on the basis of (the purported evidence) that *this raven is black* should sound off. But does it? It might seem that the Gricean account misfires here. After all, it's basically *built into* the initial setup of the Ravens Paradox that it often seems felicitous to assert "there is evidence in favor of the thesis that all ravens are black" based on the evidence that

this raven is black. But we should be careful about moving too quickly here. First, for all the Gricean line says, it might be strong *enough* evidence that, in many contexts, it will often be felicitous to assert its existence. Second, this (quantitative) feature of the evidence might be implicitly reinforced in contexts (such as in the Ravens Paradox) where it is being discussed in comparison to (purportedly) even weaker evidence. Third, suppose that a group of professional biologists really was having a discussion about the (scientifically implausible) hypothesis that literally *all* ravens are black. Suppose the biologists already are aware of a lot of general scientific evidence that tells against the hypothesis. For example, suppose they are aware of evidence in favor of the idea that members of bird species *in general* can have different colors, perhaps based on the existence of albino members of different species. If one of the biologists picked out a single black raven and asserted this as evidence in favor of the bold thesis that all ravens are black, this might indeed seem like a mistaken assertion, just as the Gricean account predicts. How mistaken it will seem will depend a lot on the relevant context: e.g. which rival scientific hypotheses are under serious consideration, what we know in general about the plumage of birds, what other evidence is on the table, etc.

Conclusion

In this paper, I have argued that Schroeder's Gricean work on negative existential claims about reasons for action supports a concessive response to the Ravens Paradox, especially those that (as the canonical Bayesian response does) explicitly make use of the quantitative and comparative claims about strength of evidence that I started the paper with. Schroeder's work helps by mitigating the force of intuitions about total *lack* of evidence, which are at play in resistance to concessive responses to the Ravens Paradox. Thus, his work provides an important, underexplored tool for helping support a concessive line of response to the Ravens Paradox.

This conclusion illustrates an important point that Schroeder makes in *Slaves of the Passions*. He writes that "using negative existential intuitions about reasons to evaluate ethical theories is a pervasive mistake in moral philosophy, suspect on the same methodological grounds wherever it arises" (Schroeder 2007, 96). In effect, my argument suggests that if Schroeder's argument about negative existential judgments about reasons for action is on track, then his point here about the wider

impact of his work should be extended even further (in a way that I think he would fully agree with). In short, if negative existential intuitions about reasons for action are unreliable for the reasons Schroeder claims, then so too are intuitions about other reasons (e.g. for beliefs, attitudes, etc.), as well as a range of other normatively important things (e.g. evidence). Thus, Schroeder's discussion matters for a range of discussions, across a range of subfields in philosophy beyond moral philosophy, including, as I have shown in this paper, for a much-discussed paradox tied to central issues in epistemology and philosophy of science.

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