Explanation in Ethics and Mathematics: Debunking and Dispensability
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David Faraci

This volume covers two related debates in both metaethics and the philosophy of mathematics, with brief forays into the philosophies of logic and religion and the history of ethics. The first debate is about 'evolutionary debunking arguments' (EDAs)—roughly, arguments that because evolutionary pressures do not track realistically construed ethical and mathematical (EM) truths, the evolutionary origins of our EM-beliefs suggest that *they* do not track such truths. The second debate is about 'indispensability arguments' (IAs)—roughly, arguments that we are justified in including realistically construed EM-entities in our ontology because they are indispensable for some important project.

The discussion of EDAs comprises six chapters. First, Justin Clarke-Doane (ch. 2) rehearses his (2012, 2014, 2015, 2016) argument that evolutionary debunkers cannot threaten our EM-beliefs without threatening their *safety* or *sensitivity*—i.e., without suggesting that they fail to track the truth across some relevant set of possible worlds—and that debunkers fail in this regard. Folke Tersman (ch. 3) responds that while it is in principle legitimate to assume the truth of our beliefs in responding to EDAs, there are limits on how such assumptions can be used which may threaten modal responses like Clarke-Doane's. Toby Handfield (ch. 4) extends EDAs to question our beliefs about objective *chances.* Erik Wielenberg (ch. 5) challenges EDAs to beliefs in both ethics and *religion.* And Hallvard Lillehammer (ch. 6) looks at things from a *historical* perspective, considering how contemporary EDAs compare to relevant arguments from Moore, Ross and Spencer. Discussion of EDAs closes with Richard Joyce (ch. 7), who replies to the previous chapters, generally defending the significance, though also pressing what he takes to be the modest aspirations, of EDAs.

If you are familiar with this literature, you probably know Clarke-Doane's argument and the sorts of things Joyce has said in defense of EDAs (belief pills, etc.). Tersman's argument is more novel, as he attempts to find a middle ground in the current debate over the charge that assuming the truth of our beliefs in responding to EDAs is question-begging. Unfortunately, while the interim chapters add some helpful details, there isn't much new here about the general force of EDAs. Handfield, like Joyce, argues that evolution hasn't made our ethical beliefs as modally stable as safety requires. Wielenberg's arguments against EDAs centrally rely on the same relationship between truth-tracking and modality as Clarke-Doane's. And

Lillehammer's discussion is fascinating, but for the most part of purely historical interest.

I want to flag a related issue here, one I think especially important for readers less familiar with the relevant literature. (Karl Schafer 2017 flags a similar issue.) Until Joyce, none of the authors challenge the idea that we should understand truth-tracking in terms of modal conditions (though Tersman does suggest that modal conditions should imply our beliefs' actual truth). Clarke-Doane, Handfield and Wielenberg all simply accept this premise, or at least seem to think it plausible.

This might seem to suggest that the EDA debate is primarily about whether our beliefs meet the right modal conditions, not about whether truth-tracking should be understood in modal terms in the first place. But this is misleading. Arguments for the safety and sensitivity of our EM-beliefs crucially depend on the necessity of EM-truths. Yet many who defend modal conditions in epistemology take them to be relevant only for *contingent* truths, *precisely* because when it comes to necessary truths such conditions are "too easily trivialized" (Lewis 1986, 114). Robert Nozick, who *introduced* the sensitivity condition in his (1981), thought it improper to apply it to necessary truths. Duncan Pritchard (e.g., 2007), a prominent proponent of safety, is explicit that it is meant only for contingent truths, or might accommodate necessary truths only after adjustment to avoid triviality. And as just quoted, David Lewis, who is often (and ironically) taken to be the progenitor of modal responses to EDAs, likewise held that understanding truth-tracking in modal terms "does not make very good sense for knowledge of non-contingent matters" (Lewis 1986, 114).

There are actually two debates in the volume's second half: one about *explanatory* indispensability; the other about *deliberative* indispensability. Regarding explanatory IAs: Alexander Miller (ch. 8) argues that ethics' being judgement-dependent is consistent with ethical explanations of ethical beliefs, suggesting that such explanations cannot be used to vindicate the existence of judgement-*in*dependent ethical entities. David Liggins (ch. 9) argues that explanations of empirical facts that appeal to EM-*properties* only require EM-*predicates,* undercutting their ontological aspirations. And from the other side of the aisle, Debbie Roberts (ch. 10) argues that not only are there ethical explanations of empirical facts, but the explanantia are *irreducibly* ethical, suggesting that there is an explanatory IA not just for ethical *realism,* but for ethical *non-naturalism.*

I found these chapters illuminating both individually and as counterpoints to one another, especially Liggins vs. Roberts. One intriguing thing they suggest, I think, is that whether ethics is explanatorily indispensable could depend on substantive ethical questions.

To see why, note that a standard objection to explanatory IAs is that an explanation in terms of EM-properties can be replaced with an explanation in terms of the properties that *subvene* them. A standard response is that because EM-

properties are *multiply realizable,* explanations in terms of their subvening properties will be less general and less illuminating.

Roberts notes that a reductivist might rebut that there will be some commonality between the properties that subvene ethical properties, undercutting the multiple realizability response. But, she says, the reductivist is not entitled to this assumption; perhaps the only thing the subvening properties have in common is their subvenience. I think she's right about this, but that she is likewise not entitled to assume the opposite. It is an open question whether the subvening properties share anything else in common—presumably, a question for normative ethics.

The final three chapters concern David Enoch's (2011) argument that ethics (or, more broadly, normativity) is indispensable for *deliberation.* Mary Leng (ch. 11) argues that Enoch's IA may be objectionable because it employs normative premises, something that causes no concern for IAs in the philosophy of mathematics. Alan Baker (ch. 12) argues that given wide rejection of Quinean holism, what matters is not whether mathematics is indispensable *for science,* but whether the particular scientific *mini-projects* for which it is indispensable are (following Enoch) *rationally non-optional.* Intriguingly, since ethics is arguably indispensable for *all* deliberative mini-projects, IAs in metaethics might turn out to be on *more* solid ground than in the philosophy of mathematics. Finally, David Enoch (ch. 13) responds to both, arguing—successfully, in my view—that Leng's concerns about normative premises are misguided, but expressing excitement about the fact that both Leng and Baker highlight potential strengths of his argument, even above explanatory IAs in mathematics.

I found these chapters extremely illuminating regarding the nature of IAs, though I should admit that this may in part be due to my relative lack of familiarity with the IA literature. Indeed, while it makes perfect sense that the editors order things as they do, I might recommend that IA neophytes read these chapters before the prior three, as both Leng and Baker offer helpful overviews of IAs in the philosophy of mathematics.

In their introduction, Leibowitz and Sinclair tell us that this volume is meant to exemplify what they call the "companions in illumination" approach; the goal is "illuminating and assessing ways of arguing in both" metaethics and the philosophy of mathematics (4). I've already said something about the degree to which I find these chapters illuminating, individually and *en masse.* How successful is the volume as a comparative exercise?

I think the most successful discussion in this regard is the one about Enoch's deliberative IA. The deliberative IA has no analogue in the philosophy of mathematics, where most IAs are explanatory. Enoch takes on the daunting task of saying *why* we are justified in inferring to the best explanation, and argues that this vindicates going in for deliberative indispensability.

Most criticism of Enoch's argument has been at this level: attacking the epistemological moves Enoch makes here. I think that's as it should be; that's where the real action is when it comes to assessing the force of his argument. But it is extremely helpful to put Enoch's argument in context and consider, as both Leng and Baker do, how his take on IAs and their place in the literature matches up with what's going on in the philosophy of mathematics. (I should note that if I didn't have the concerns I do about how they paint the dialectic, I'd likely say the same about several of the chapters on EDAs; those less suspicious of modal conditions can adjust accordingly.)

By contrast, I worry that the comparative nature of the discussion of explanatory IAs made it *less* illuminating in certain respects. Consider again Liggins vs. Roberts. My impression is that in the philosophy of mathematics, few pursue the 'hard road' of dispensing with mathematical language in their explanations. But the hard road in metaethics is much more popular (indeed, this is part of why Enoch developed the deliberative IA in the first place). Part of the explanation for this asymmetry, I suspect, is that in metaethics the subvening explanantia vs. multiple realizability debate can frequently be sidestepped, because the majority of purported ethical explanations are of facts about people's behavior or mental states. (Both of Liggins' examples are; three out of four of Roberts' are, including the one she appeals to in her discussion of multiple realizability.) Notice that in such cases, we may not need to appeal to subvening properties as explanantia; we may merely need to appeal to people's mental states—e.g., appeal to their ethical judgements to explain their behavior—arguably avoiding the former's deficits in generality and illumination. Yet Roberts never discusses this possibility; she simply rejects the hard road on multiple realizability grounds. And perhaps because Liggins is focused on aspects of the dialectic that apply in both metaethics and the philosophy of mathematics he never mentions it either, so this gets lost in the fray.

Perhaps the lesson here is that "companions in illumination" is easiest to pull off when we consider an argument from a novel perspective. More care is needed for discussion of an argument that has been independently pursued in multiple areas, as we run the risk of overestimating the similarities between them, ultimately producing something less illuminating than we would if we were to focus on the areas one at a time.

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