Access Problems and Explanatory Overkill

(forthcoming in *Philosophical Studies,*
DOI: 10.1007/s11098-016-0807-z)

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October 25, 2016

Abstract

I argue that recent attempts to deflect Access Problems for realism about a priori domains such as mathematics, logic, morality, and modality using arguments from evolution result in two kinds of explanatory overkill: (1) the Access Problem is eliminated for contentious domains, and (2) realist belief becomes viciously immune to arguments from dispensability, and to non-rebutting counter-arguments more generally.[1]

1 Access Problems

Let D be a domain of a priori truths. The *Access Problem* (also known as the *Reliability Challenge*) for realism about D consists in the apparent impossibility of explaining how knowledge of the D-truths is possible, if these truths are understood realistically (i.e. as objectively/ response-independently/ robustly true). Formulated as a question: How could it be anything but a fluke that our D-beliefs reliably match the D-truths? Failure to provide an explanation suitable to bridge this gap between the D-truths and the subject holding D-beliefs has been argued to undermine realist belief in the D-truths.[2] Domains supposedly affected by Access Problems are:

Mathematics: The Access Problem for the domain of mathematics is also known as the *Benacerraf-Field Challenge*. Benacerraf points out that "If...numbers are the kinds of entities they are normally taken to be [namely, mind-independent abstract objects], then the connection between the truth conditions for the statements of number theory and any relevant events connected with the people who are supposed to have mathematical knowledge cannot be made out" (1973: 673). Field clarifies: "Benacerraf's challenge...is to provide an account of the mechanisms that explain how our beliefs about these remote entities can so well reflect the facts about them...The idea is that *if it appears in principle impossible to explain this*,

[1]Many thanks to Ana Bajzelj, Claire Benn, Sharon Berry, Meir Buzaglo, Elvira DiBona, Justin Clarke-Doane, David Enoch, Peter Gerdes, Sharon Krishek, Arnon Levy, Ittay Nissan-Rozen, Olla Solomyak, Ruth Weintraub, and an anonymous referee, for helpful comments and discussions.

[2]The Access Problem is a problem for realism specifically. As such, it is not identical to the more general epistemic problem of justification: a theory of justification (for example coherentism) can explain how our beliefs are justified, yet fail to eliminate the Access Problem.

then that tends to *undermine* the belief in mathematical entities, *despite* whatever reason we might have for believing in them." (1989: 26; his emphasis)

Logic: The Access Problem for the domain of logic runs parallel to the one for mathematics. "Let the 'logical propositions' be the logical truths and logical falsehoods. We are reliable about logic in the following sense: The logical propositions that we believe (upon reflection and discussion) are by-and-large true and the logical propositions that we disbelieve (upon reflection and discussion) are by-and-large false. This is a striking fact about us, one that stands in need of explanation. But it is not at all clear how to explain it." (Schechter 2013: 214)

Morality: The Access Problem for the domain of morality/ values/ normativity consists in the following: "Very often, when we accept a normative judgement j, it is indeed true that j; and very often when we do not accept a normative judgement j (or at least when we reject it), it is indeed false that j. So there is a correlation between (what the realist takes to be) normative truths and our normative judgements. What explains this correlation?" (Enoch 2010a: 421)

Modality: The same holds for the domain of modality: "[I]f modal realism gives the right account of the content of what we know, then it could not possibly be known at all" (Lewis 1986: 108). Put differently, if modal realism were true, "then it would not be possible to know any of the facts about what is merely possible, or to have any reason to believe any modal claims about what is merely possible." (Stalnaker 1996: 40)

2 Arguments from evolution

Arguments from evolution play a curious double role in recent debates about Access Problems for a priori domains D. Antirealists interpret the fact that belief in the truths of a domain D seems to be evolutionarily hard-wired as giving rise to an Access Problem, which is then used as evidence *against* realism about D. Realists use the very same evidence to deflect Access Problems, and thus, to argue *for* realism about D.

2.1 Evolution *Against Realism*: Debunking Arguments

Evolutionary Debunking Arguments (EDAs) are mounted *against* realism about the truths of a domain D. The structure of EDAs is roughly as follows:

1. (Assumption based on scientific data) The selective pressures of evolution favour people who hold D-beliefs along the lines of those we actually hold.
2. (Assumption) Evolutionary forces are indifferent to truth.
3. (Access Problem) It seems impossible to explain how evolutionarily determined beliefs could track mind-independent, a priori truths.
4. (From 1 and 2) We would have held D-beliefs even if the D-truths had been entirely different (i.e. even if our beliefs had been false).

5. (From 3 and 4) This undermines our reasons to think that D-beliefs correspond to mind-independent D-truths.

6. (Conclusion) Realism about D is false.

EDAs can be mounted against all four domains:

Mathematics: "If our ancestors who believed that $1 + 1 = 2$ had an advantage over our ancestors who believed that $1 + 1 = 0$, the reason that they did is that corresponding (first-order) logical truths [about our surroundings] obtained...In other words, ancestor P did not have an advantage over ancestor Q because its belief that $1 + 1 = 2$ was true." (Clarke-Doane 2012: 330/331)

Logic: "We could easily tell some sort of story...on which there were selection pressures for the acceptance of classical logic. But what we need is a story on which there is a selection pressure for acceptance of *the correct logic, whichever one that happens to be.* And it isn't so obvious that we can do that, so the Benacerraf problem for logic seems to remain."[3] (Field 2006: 80; his emphasis)

Morality: "[T]he content of human evaluative judgements has been tremendously influenced...by the forces of natural selection, such that our system of evaluative judgements is saturated with evolutionary influence...[C]oincidence between the realist's independent evaluative truths and the evaluative directions in which natural selection tended to push us...would require a fluke of luck that's...extremely unlikely, in view of the huge universe of logically possible evaluative judgements and truths." (Street 2006: 121/122)

Modality: "Since our ancestors evolved in the actual world, there were no selective pressures to reward accuracy about all possible worlds, and there was no handicap to being right only about the actual world... The attribute of a certain factual connection's *seeming* self-evidently evidential to us might have been selected for and favoured because acting upon this factual connection, which does hold, in general enhances fitness... The philosopher's explanation of why something seems evident to us on its face is that it is an inescapable necessary truth, one whose falsity cannot be coherently conceived. The evolutionary account provides an alternative possible explanation for why a truth might appear self-evident. And evolution also might instil as evident something that is only an approximation to the truth, and hence not strictly true at all..." (Nozick 2001: 122/ 123/ 125; his emphasis)[4]

2.2 Evolution *For* Realism: Safety for Free?

Evolutionary arguments for realism are built on the same evidence as evolutionary arguments against realism, namely on the fact that belief in the truths of a domain D seems to be evolutionarily hard-wired.

[3]Note that Field does not endorse this argument. He thinks that EDAs for logic are unintelligible given that "reasoning about what our beliefs would be in alternative circumstances requires logic, and if we contemplate a radically altered logic we have no idea how to conduct the reasoning." (Field 2006: 81)

[4]For an EDA against modal realism that argues from a dispensability premise, see Stroud 1981: 57 and 63.

For the case of normativity, Enoch suggests that

> "Perhaps somewhat ironically—because Street thinks evolutionary considerations serve to ground the epistemological challenge to realism—evolutionary considerations can help the realist cope with the challenge...Survival (or whatever) is good; so behaving in ways that promote it is (pro tanto) good; but one efficient way of pushing us in the direction of acting in those ways is by pushing us to believe that it is good to act in those ways. And in fact, as we have just seen, it is good so to act. So the normative beliefs this mechanism pushes us to have will tend to be true." (Enoch 2010a: 430, 431)

For the case of logic, Schechter suggests that

> "we are reliable in believing logical truths and disbelieving logical falsehoods because we have a reliable mechanism for deductive reasoning. The explanation of how we came to have a reliable deductive mechanism is an evolutionary one. Our ancestors were selected for possessing logical concepts. Possessing these concepts conferred an evolutionary advantage because it enabled our ancestors to represent important information about the world and because it aided them in assessing their own patterns of reasoning...This proposal provides a satisfying answer to the reliability challenge for logic." (Schechter 2013: 236, 237)

The most fully-developed evolutionary argument for realism about a priori domains has been provided by Clarke-Doane (2012, 2014, 2015, forthcoming (a), forthcoming (b)), who attempts to deflect the Access Problem for all of the above mentioned domains in one go.[5] He argues that the challenge to 'explain the reliability of our D-beliefs' is best understood as a challenge to show that our beliefs in the truths of a domain D are modally secure, i.e. sensitive and safe. The argument he develops to this end runs like this:

1. (Access Problem) For any domain D whose truths are interpreted realistically, an Access Problem undermines belief in the D-truths to the extent that it gives us reason to doubt the safety or sensitivity of our D-beliefs.

2. (Sensitivity) For all domains D whose truths are necessarily true if true at all, belief in the D-truths is trivially sensitive.

3. (Safety) For all domains D belief in which could not have easily been wrong (for example, by being evolutionarily determined), belief in the D-truths is safe.

4. (From 1) A domain D does not face an Access Problem if belief in the D-truths is demonstrably sensitive and safe.

5. (Necessity) Mathematical, moral etc. truths are necessarily true (if true at all).

[5]It is not clear that Enoch and Schechter would endorse all aspects of Clarke-Doane's account, but it is clear that they intend to explain the reliability of our moral and logical beliefs respectively on evolutionary grounds. Where exactly these arguments run parallel, and where they part ways stands in need of further discussion.

6. (From 2 and 5) Mathematical, moral, etc. belief is sensitive.

7. (Determinacy) Mathematical, moral, etc. beliefs are evolutionarily determined.

8. (From 3 and 7) Mathematical, moral, etc. belief is safe.

9. (Conclusion) Realism about mathematics, morality, etc. does not face an Access Problem (that could undermine our respective mathematical, moral, etc. beliefs).

(1) is an assumption about epistemic undermining according to which the only way to undermine a belief (that is, to cast doubt on a belief without rebutting it)[6] is to threaten its credibility modally. Clarke-Doane refers to this principle as 'Modal Security:' "If Information, E, undermines all of our beliefs of a kind, [D], then it does so by giving us reason to doubt that our [D]-beliefs are both sensitive and safe" (forthcoming (a): 25).

(2) follows from the fact that the first part of sensitivity conditional – S's belief that p is sensitive iff, if p were false, S would not believe that p – is never actualized for necessary truths on a standard semantics.[7]

(3) is where evolutionary reasoning comes in. In a nutshell: evolutionary determination gives us safety. S's belief that p is safe iff, in all nearby worlds where S believes that p, p is not false. If believing in p is evolutionarily hardwired, then we have good reason to think that we would have believed p in all nearby possible worlds. Since our beliefs are, by assumption, about necessary truths, we also know that our beliefs would not have been false in those worlds. Hence, if evolution presses us to believe that p, our belief in p is safe. Clarke-Doane makes this argument explicitly for mathematical (forthcoming (a)) and moral (forthcoming (b)) beliefs, and suggests that it also works for the domains of logic and modality (forthcoming (a): 2, 37).[8]

[6]The distinction between rebutting and undermining/undercutting defeaters is Pollock's: "If M is a defeasible reason for S to believe Q, M^* is a rebutting defeater for this reason if and only if M^* is a defeater (for M as a reason for S to believe Q) and M^* is a reason for S to believe ¬Q... If believing P is a defeasible reason for S to believe Q, M^* is an undercutting defeater for this reason if and only if M^* is a defeater (for believing P as a reason for S to believe Q) and M^* is a reason for S to doubt or deny that P would not be true unless Q were true" (Pollock 1986: 196).

[7]Cf. Lewis: "[I]f it is a necessary truth that so-and-so, then believing that so-and-so is an infallible method of being right. If what I believe is a necessary truth, then there is no possibility of being wrong. That is so whatever the subject matter...and no matter how it came to be believed" (1986, p. 114f). Note that Clarke-Doane's argument does not depend on assuming a standard semantics. He concedes that conditionals with metaphysically impossible antecendents would not be vacuously true (and belief in them not vacuously sensitive), but argues that on such a non-standard semantics, a whole range of uncontroversially true beliefs would come out non-sensitive: "Had — as a matter of metaphysical impossibility — atoms arranged car-wise failed to compose car... we still would have believed that they did" (Clarke-Doane forthcoming (a): 18). In other words, far from solving the issue of vacuous sensitivity, assuming a non-standard semantics incorporating impossible worlds would engender ordinary skepticism about all necessary truths – an undesirable consequence for realists and antirealists alike.

[8]For those who worry that only basic, or 'core', mathematical beliefs such as $1 + 1 = 2$ can be argued to be evolutionarily inevitable, which would leave belief in more complex mathematical theories unsafe, Clarke-Doane has the following answer: If our core mathematical beliefs are safe, then "our mathematical theories 'abductively follow' from those; our abductive practices are 'safe'...; so, our belief in our mathematical theories is safe" (forthcoming (a):

(5) is a commonly endorsed assumption; (7) is an assumption shared by realists and antirealists (debunkers) alike.

This argument – let's call it DIS for 'domain-independent solution' – thus works for all domains D fulfilling two conditions: (A) the truths of D are necessary (if true at all); and (B) some plausible story (evolutionary determination being the prime candidate) can be told why we hold D-beliefs at all, and why we could not have easily believed differently (Clarke-Doane forthcoming (a): 9). Thus, if DIS is sound, then realist belief about a priori domains such as mathematics, logic, morality, and modality cannot be undermined by Access Problems. In fact, Clarke-Doane argues, DIS shows that there virtually *is* no Access Problem for any of the above domains (forthcoming (a): 3) and thus, that "the argument offered here may suggest that we have knowledge in mathematics and [the] related areas" (forthcoming (a): 37).

I will now argue that there are two reasons why we should reject DIS, and therefore, all other attempts to explain the reliability of our D-beliefs in terms of an evolutionary story. The first reason is that DIS effectively (and counterintuitively) eliminates the Access Problems for controversial belief systems such as theism. The second reason is that it makes the realist viciously immune to counterarguments from of explanatory dispensability, and more generally, to all counterarguments that are not rebutting defeaters.

3 Contentious domains

Recall that DIS works for all domains D that fulfil conditions (A) and (B). So let's run it for a domain that fulfils both conditions but that many would not consider "on a par" with mathematics or morality. Theism, the domain of God-truths, comes to mind.

If God exists, She presumably exists necessarily: the truths of theism are necessary truths. Theism thus fulfils condition (A). Fulfilling condition (A) entails that belief in the truth of theism is trivially sensitive. If we can tell a coherent story about the evolutionary benefits of theistic belief, then (by the same reasoning applied in the mathematical and the moral case), our theistic beliefs are safe: they could not have easily been different because we were bound to hold exactly the beliefs we actually hold due to the selective pressures of evolution. On the plausible assumption that the selective pressures would have been the same or at least very similar in all nearby possible worlds (as was assumed also for mathematics and morals), it follows that we could not easily have held alternative beliefs. Theistic belief thus also fulfils condition (B), which makes it safe. According to DIS, fulfilling conditions A and B is equal to not facing an Access Problem. Hence, theism does not face an Access Problem. In other words, theists do not face the epistemological challenge of having to explain the correlation between the God-truths (if such there are) and their God-beliefs. This is an astonishing result. It effectively exempts the theist from the obligation to explain how knowledge of God is possible (assuming that God exists). What's wrong with this argument? Three possible objections come to mind.

14). He runs the same argument for moral beliefs (forthcoming (b): 29ff) and would probably also endorse it for the domains of logic and modality.

Objection 1: Disagreement. The first objection that comes to mind is that there actually are people who are not theists. Whatever the evolutionary benefits of theistic belief may be, the fact that not all people hold theistic beliefs shows that our theistic beliefs are not safe: they could easily have been different, given that they *are* different for some, namely, for atheists. And if theistic belief is not safe, then it is not immune to Access Problems. This is just a different formulation of the epistemic problem of disagreement: my belief in truth T is undermined if an epistemic peer disagrees with me (i.e. if an epistemic peer believes that not-T).

However, the problem of peer-disagreement is not specific to theism. As has been pointed out by Clarke-Doane himself, there is also fundamental peer-disagreement between moral agents and even between mathematicians (Clarke-Doane 2012, 2014). As Bell and Hellman write,

> "Contrary to the popular (mis)conception of mathematics as a cut-and-dried body of universally agreed-on truths and methods, as soon as one examines the foundations of mathematics, one encounters divergences of viewpoint and failures of communication that can easily remind one of religious, schismatic controversy" (Bell and Hellman 2006: 64).

This is not to say that disagreement is a negligible issue for realism. Rather, it is to say that disagreement is a problem *all* realists face, independently of the domain they are realists about.

Moreover, it is not clear to what extent peer-disagreement constitutes a threat to realism at all (cf. Enoch 2009, 2010b; Shafer-Landau 2003). Inferring from 'S believes A' and 'M believes ¬A' that 'There is no objective truth about A' and hence, 'Realism about matters concerning A is false' is clearly invalid. This is because factual disagreement can be explained in numerous ways that are compatible with realism (cognitive shortcomings; distorting effects of self-interest; and so forth).[9]

Someone might think that the variations in the distribution of opinion between, for example, mathematics on the one hand and theology on the other, point to a significant difference between the cases. But again, it is not at all clear that this difference is best accounted for *metaphysically* (that is, by adopting realism for domains with, and rejecting realism for domains without, widespread overall agreement) – the difference might be due to effects that have nothing to do with the truth or falsity of realism. For example, effects of self-interest can explain variations in the distribution of disagreement in domains as variegated as mathematics, metaethics, and theology (Nagel 1986: 148; Shafer-Landau 2003: 219).

Regarding DIS, what these argument show is that, either the issue of disagreement does not distinguish the case of theism from moral or mathematical realism, or we need to hear an additional argument why disagreement in the case of theism is somehow worse than disagreement in the case of mathematics or morality. In the absence of such an argument, the theist can use DIS to show that theism does not face an Access Problem.

[9]For a detailed discussion and refutations of the different ways in which the problem of disagreement might be thought to constitute a problem for realism, see Enoch 2009.

Objection 2: Determinacy and Safety. A second objection one might raise is against the claim that theistic belief is evolutionarily determined: perhaps theistic belief is an accident of nature with no special evolutionary benefits. If so, then it could easily have been the case that people did not believe in theism, leaving theistic belief unsafe and theism vulnerable to Access Problems.

However, this objection clearly fails as well: there is plenty of scientific evidence suggesting that religious belief is evolutionarily beneficial (for example, because it promotes group cohesion and cooperation; reduces stress related to fear of death, and so forth; cf. Atran and Norenzayan 2004; Johnson and Bering 2006) – indeed, the same evidence used by atheists to construct evolutionary debunking arguments. If anything, it is atheism that looks like an evolutionary accident. Hence, theistic belief is safe.

Objection 3: Necessity and Sensitivity. A third objection might be against the assumption that the truths of theism, if true at all, would be necessarily true. Some God-truths such as 'Mary's action was sinful' are only contingently true, given that Mary could have acted differently. If so, then belief in such truths is not sensitive.

Again, this objection is not specific to theism. It does not mark a relevant difference between theism and morality ('Mary's action was wrong' is contingent), and perhaps not even between theism and mathematics ('The total number of frogs in the world is prime' is contingent). Additional argument would be needed to show that the threat of contingency hangs only over theism, but not over morality and mathematics.

Moreover, contingent God-truths are presumably grounded in necessary God-truths such as 'God prohibits sin.' If so, and if sensitivity is transitive, then belief in contingent truths grounded in sensitive beliefs are themselves sensitive. But even if sensitivity is not transitive, DIS still renders the necessary God-truths such as 'God exists' sensitive. This alone might be reason enough for some to reject DIS.

So it seems clear that DIS eliminates the Access Problem not only for mathematical and moral realism, but also for theism. For all those who would be unhappy to see mathematical realism and theism supported by the same argument, this is a problem. A brief passage indicates that Clarke-Doane is aware of it:

> "Note that [dispelling the Access Problem with DIS] is not to say that our mathematical beliefs are in good epistemic standing – anymore than it is to say that the theological beliefs of a theological realist who can argue both that the theological truths would be metaphysically necessary if true and that she could not have easily had different theological beliefs are in good epistemic standing. For all that has been said, our mathematical [and theological] beliefs could be false and unjustified" (forthcoming (a): 30).

In other words, even if DIS solves the Access Problem for theism, atheists can still argue that theistic belief is not *justified*. However, there are two problem with this response.

The first one is that, just like atheists, also mathematical and moral *anti*realists can argue that belief in mathematical and moral realism respectively is not justified – the problem of justification does not mark a difference between mathematical and moral realism on the one hand, and theism on the other.

Second, the problem of justification also doesn't mark a relevant difference between beliefs about maths, morals, or God, on the one hand, and the rest of our beliefs, on the other. Put differently, there is no general theory of epistemic justification on which such beliefs constitute an especially problematic class of beliefs. As Enoch points out for normative beliefs:

> "Whether you are a coherentist or a foundationalist (or perhaps hoping for some middle ground between them), whether you are an internalist or externalist about epistemic justification (or perhaps hoping for some middle ground between them), whether or not you think that epistemic justification is conceptually tied to epistemic responsibility, whether or not you like working with a conception of epistemic virtue – whatever your theory of epistemic justification, it is hard to see any special difficulties applying it to normative beliefs" (Enoch 2010a,p. 416).

The same holds for mathematical and theistic beliefs. If we are coherentists about justification, there surely is a way to render mathematical, moral, and theistic beliefs consistent with the rest of our beliefs. If we are foundationalists requiring defeasible justificatory status for whatever we take to be the foundations, then surely there is a way to find foundations for our mathematical, moral, and theistic beliefs. The same holds for notions like 'epistemic responsibility' or 'intellectual virtue.'[10] In short: the issue of epistemic justification is not sufficient to mark the intuitive difference between belief in theism, on the one hand, and mathematical and moral belief, on the other.

But if this is the case, then it is not explaining justification, but explaining how we can have *epistemic access* to alleged mathematical/ moral/ theistic truths that is the real challenge after all. As Enoch puts it, "If a realist can cope with [the Access Problem], it's not clear that she needs to worry about [other challenges]" (2010a, p. 425).

And this challenge is solved by DIS. For mathematical realism, moral realism, and theism alike, and potentially for a whole range of other contentious but evolutionarily continuous belief systems whose truths, if true at all, could be argued to be necessarily true (for example, 'Misogynism:' the domain of truths about the inferiority of women; 'Patriarchism:' the domain of truths about the best way to organize society; 'Anthropocentrism:' the domain of truths about the superiority of humans, and so forth.).

4 Vicious immunity

A second problem with DIS is that it renders realism about any of the above domains viciously immune to all possible counter-arguments that are not rebutting defeaters. Most importantly, it renders the realist immune to arguments from dispensability, possibly the best arguments against realism currently out there. For all a priori domains D, if it turns out that the existence of objective, mind-independent D-truths plays no indispensable explanatory role in our best theories of why people hold D-beliefs, then – so the antirealist argues – this

[10] Cf. Enoch 2010a for an in-depth discussion of potential epistemic challenges for normative realism.

undermines realism about D. In other words, if D-truths are dispensable to our best explanations of why people hold D-beliefs, this should count as evidence against realism about D.

Now, if DIS holds, the realist about D is totally immune to such arguments. This is because her realist beliefs can only be undermined if their sensitivity or safety is threatened. As we saw above, belief in necessary truths is always (trivially) sensitive, so no matter how brilliant an argument the antirealist comes up with, it will never be enough to threaten the *sensitivity* of the realist's belief. The same goes for safety: Being able to tell a coherent story about D-beliefs being evolutionarily determined guarantees the safety of D-beliefs, so no possible counter-argument will ever be enough to threaten the safety of the realist's belief.

To get a better feel for what this kind of immunity to counter-argument comes down to, imagine a classic belief-undermining scenario involving hallucinogenic drugs. Lucy, who became a devout theist three years ago, learns that she has been fed hallucinogenic drugs for the past three years. Knowing that her processes of belief-formation have been influenced in this way is likely to undermine her confidence in the beliefs she formed during that time (even though not a single one of her beliefs has been rebutted). For example, while Lucy formerly believed with great confidence that a purple hummingbird flew into her bedroom one day at dawn, she will now wonder whether this belief is indeed true, or whether she has been hallucinating.

Braced with a DIS-style argument, Lucy's *theistic* beliefs, however, will be immune to the information that she has formed them under the influence of drugs. To see why, let the set of beliefs that Lucy holds be this:

A Necessarily, God exists.

B Belief in God is evolutionarily hardwired.

C I have been on consciousness-altering drugs for the past three years.

(C) has no influence on (B) because, by assumption, the evolutionary facts are drug-independent, that is, objective and verifiable. Since the content of (B) provides the safety of (A), (C) does nothing to threaten the safety of (A). (C) also has no influence on (A). First, (C) is not a rebutting defeater that would give Lucy a direct reason to believe not-A. Second, the fact that Lucy came to believe (A) in a non-justification-conferring way (namely, under the influence of drugs) does nothing to threaten the sensitivity of (A) because, by assumption, (A) is about a necessary truth. As Lewis puts it: "If what I believe is a necessary truth, then there is no possibility of being wrong. That is so whatever the subject matter...*and no matter how it came to be believed*" (1986, p. 114f; my emphasis). Since Lucy knows this, her belief in God would not be shaken, even if she learned that she was on drugs. DIS, if true, renders her theistic beliefs non-underminable. This kind of immunity against possible counter-arguments is vicious because it renders intuitively highly relevant arguments and information entirely irrelevant for realism-antirealism discussions.[11]

[11]The dispensability of an actually existing God to our best explanations of why people believe in God (for example, because it helps them cope with life) is perhaps the most important argument against theism. However, braced with a DIS-style argument, this kind of scientific information will have zero relevance for a theist.

Thus, if DIS is true, we seem to be facing a stalemate. We have no idea how (if not modally) realist belief about maths, morals, or God could be undermined, neither by evolutionary arguments, nor by arguments from dispensability. Paradoxically, however, it is precisely these arguments that are widely thought to constitute the biggest challenges for such beliefs.

5 Conclusion

Converting evolutionary data into evidence for realism about a priori domains resembles a naturalistic fallacy: an inference is drawn from 'what is and has been believed most of the time' to 'what is modally secure and therefore non-underminable.' As a result, realists can use evolutionary arguments not only to support realism about controversial domains, but also to shield themselves against virtually all possible counter-arguments. This is a clear case of explanatory overkill, resulting in an argumentative stalemate. If we want to break it, we either need to find a non-modal way of undermining realist belief, or a modal way of undermining realist belief that does not amount to threatening safety or sensitivity. Until that is achieved, theists as well as moral, modal, and mathematical realists are in an unreasonably comfortable epistemic position.

Keywords: access problem; reliability challenge; evolutionary debunking arguments; moral realism; mathematical Platonism; modal realism

Word count including bibliography: 5,924

References

[1] Atran, Scott and Ara Norenzayan. 2004. 'Religion's Evolutionary Landscape: Counterintuition, Commitment, Compassion, Communion.' *Behavioral and Brain Sciences* Vol. 27: 730–70.

[2] Bell, John, and Hellman, Geoffrey. 2006. 'Pluralism and the Foundations of Mathematics.' In: Stephen Kellert, Helen Longino, and Kenneth Waters (eds.). *Scientific Pluralism. Minnesota Studies in the Philosophy of Science*. Minneapolis: University of Minnesota Press: 64-79.

[3] Benacerraf, Paul. 1973. 'Mathematical Truth.' *Journal of Philosophy* Vol. 60: 661-679.

[4] Clarke-Doane, Justin. 2012. 'Morality and Mathematics: The Evolutionary Challenge.' *Ethics* Vol. 122: 313-340.

[5] Clarke-Doane, Justin. 2014. 'Moral Epistemology: The Mathematics Analogy.' *Noûs* Vol. 48. No. 2: 238-255.

[6] Clarke-Doane, Justin. 2015. 'Justification and Explanation in Mathematics and Morality.' In: Russ Shafer-Landau (ed.). *Oxford Studies in Metaethics* Vol. 10. New York: Oxford University Press: 80-103.

[7] Clarke-Doane, Justin. forthcoming (a). 'What is the Benacerraf Problem?.' In: Fabrice Pataut (ed.). *New Perspectives on the Philosophy of Paul Benacerraf: Truth, Objects, Infinity*. Dordrecht: Springer (Nov. 11, 2015 draft).

[8] Clarke-Doane, Justin. forthcoming (b). 'Debunking and Dispensability.' In: Neil Sinclair and Uri Leibowitz (eds.). *Explanation in Ethics and Mathematics: Debunking and Dispensability*. Oxford: Oxford University Press.

[9] Enoch, David. 2009. 'How is Moral Disagreement a Problem for Realism?' *Ethics* Vol. 13: 15–50.

[10] Enoch, David. 2010a. 'The Epistemological Challenge to Metanormative Realism: How Best to Understand It, and How to Cope with It.' *Philosophical Studies* Vol. 148: 413-438.

[11] Enoch, David. 2010b. 'Not Just a Truthometer: Taking Oneself Seriously (but not Too Seriously) in Cases of Peer Disagreement.' *Mind* Vol. 119 No. 476: 953-997.

[12] Field, Hartry. 1989. *Realism, Mathematics, and Modality*. Oxford: Oxford University Press.

[13] Field, Hartry. 2006. 'Recent Debates about the A Priori.' In: *Oxford Studies in Epistemology* Vol. 1. Oxford: Oxford University Press: 69-88.

[14] Johnson, Dominic and Bering, Jesse. 2006. 'Hand of God, Mind of Man: Punishment and Cognition in the Evolution of Cooperation.' *Evolutionary Psychology* Vol. 4: 219–33.

[15] Lewis, David. 1986. *On the Plurality of Worlds*. Oxford: Oxford University Press.

[16] Nozick, Robert. 2001. *Invariances*. Cambridge, MA: Harvard University Press.

[17] Pollock, John, and Cruz Joseph. 1986. *Contemporary Theories of Knowledge*. Savage, MD: Rowman and Littlefield.

[18] Schechter, Joshua. 2013. *Realism, Mathematics, and Modality. Oxford Studies in Epistemology* Vol. 4: 214-239.

[19] Shafer-Landau, Russ. 2003. *Moral Realism – A Defence*. Oxford: Oxford University Press.

[20] Stalnaker, Robert. 1996. 'On What Possible Worlds Could Not Be'. In his *Ways a World Might Be: Metaphysical and Antimetaphysical Essays* (2003). Oxford: Oxford University Press: 40-54.

[21] Street, Sharon. 2006. 'A Darwinian Dilemma for Realist Theories of Value.' *Philosophical Studies* Vol. 127 No. 1: 109-166.

[22] Stroud, Barry. 1981. 'Evolution and the Necessities of Thought.' In his: *Meaning, Understanding, and Practice*. 2000. Oxford: Oxford University Press: pp. 52-66.