

Realism and the Absence of Value

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1. Realism

Properties are cheap. There is the property of being an electron, of being green, and of being blue. But there is also the property of being an electron or a cow, of being grue, and of being bleen. Is there a difference between the properties in these two lists? The former are certainly more familiar to us; the latter seem gerrymandered. But does that reflect a metaphysical fact about the properties themselves, or something about us?

Goodman (1955) held the view that all properties are metaphysically speaking on a par. The fact that English speakers typically think and theorize about green rather than grue is an upshot of our cultural history or interests, or perhaps our biological make-up. On this view, communities with different histories or interests may not be getting anything *wrong* about the world by theorizing in terms of grue and ignoring green.

But in the 1970s and 80s, some philosophers—notably Armstrong (1978) and Lewis (1983)—proposed that some properties are metaphysically distinguished. Their idea was that a relatively small number of properties are “perfectly natural”, and other properties can be ranked as more or less natural thanks to their distance from the perfectly natural properties along a given measure. Thus, they might say that being an electron is perfectly natural, and that green is more natural than grue. If a property is perfectly natural, on their view, this is a primitive, irreducible fact about the property, and it is an “objective” fact insofar as it does not consist in our interests or cultural history. On this view, communities that theorize about grue at the expense of green are getting something *objectively wrong about the world*: they fail to represent its “natural joints”.¹

Goodman’s view is sometimes characterized as an “egalitarian” view on which all properties, including green and grue, are “on a par”. But that is not quite right. Goodman would agree that I, SD, would be making a mistake if I theorized in terms of grue instead of green. In *that* sense Goodman would agree with Armstrong and Lewis that green is “elite” and grue is not. The disagreement concerns the source of my mistake. According to Goodman, my mistake would lie in using a predicate that is not *entrenched*, where being entrenched amounts to facts about its history of usage by my (linguistic) ancestors. Thus, Goodman agrees that green is elite—for me at least—but claims that this consists in contingent facts about my history. By contrast, for Armstrong and Lewis the fact that green is elite consists in the fact that it has this objective property of naturalness; hence theorizing in terms of grue is a mistake because one thereby fails to represent nature’s objective joints.

The view of Armstrong and Lewis therefore consists in two claims. The first is a claim of pure metaphysics: that there is a primitive, objective property of *being natural* that some properties

¹ The notion of an “objective fact” is notoriously hard to define, but I use it here just to indicate that the fact does not depend on facts about us such as our interests or cultural history or biological make-up. This notion of objectivity could be clarified further, but is clear enough as it stands for our purposes. In particular, the objective notion of naturalness at issue here is distinct from Taylor’s (2015) notion of context-dependent naturalness, since as Taylor emphasizes the latter is explicitly defined to be interest-dependent.

have and others lack. And the second is a value-theoretic claim: that it is a *mistake* to theorize about unnatural properties like grue; that it is *better* to theorize in terms in natural properties; that one *should* theorize about natural properties. This second claim—which I will clarify in due course—was only implicit in the work of Armstrong and Lewis; it was Hirsch (1993) and Sider (2011) who pushed it to the forefront. But Hirsch and Sider were right to do so, for without it the metaphysical claim is toothless. Lewis and Armstrong may be right that there is a primitive property that green has and grue lacks, but without the value-theoretic claim they are left with no distinction between elite properties and the rest.²

It is hard to over-state the theoretical significance of this issue dividing Goodman from Armstrong and Lewis. The elite properties are those that we should “theorize” in terms of it, and theorizing includes *explaining* events, investigating *causal* dependencies, *confirming* laws and principles on the basis of observation, *predicting* future events, and indeed most aspects of the scientific enterprise. For Armstrong and Lewis, there is an objective set of properties that science should reflect, and scientists err if they theorize about other properties instead. But for Goodman, different communities with different interests or cultural histories may theorize about different clusters of properties, resulting in very different scientific theories, yet it may be that none of them are making any kind of a mistake; their different sciences are all correct relative to their respective interests and histories. Thus, the road from Goodman to postmodernism, relativism, and other threats to scientific objectivity is clear.

Armstrong and Lewis’ view is not the only view that resists Goodman’s picture. Instead of positing a primitive property of naturalness, one could instead follow Maudlin (2007) and posit a primitive property of “being a law”. On this view it would be an irreducible, objective fact which propositions counted as laws, and one could then say that the elite properties are those that figure in the laws. Alternatively, one could posit a primitive relation of grounding that holds between properties, such that it is an irreducible, objective fact which properties ground others, and one could then say that the elite properties are those that are ungrounded. As yet another option, one might propose that there are primitive, objective facts about a property’s “essence” or “real definition”, and one could then say that the elite properties are those that have no reductive essence or definition. All these views, just like Armstrong and Lewis’, should be understood as consisting in two claims: a *metaphysical* claim that there is a primitive property of “being a law”, or a primitive relation of grounding, and so on; and a *value-theoretic* claim to the effect that one *should* focus one’s theorizing around certain properties, such as those that figure in the laws, or that are ungrounded, and so on.

There are significant differences between these views, but they all agree that a property’s being elite is an objective matter in the sense that it is independent of our interests or cultural history. For want of a better a term, let us call them all varieties of “realism”. By contrast,

² My statement of the view of Armstrong and Lewis in this paragraph and the last is a simplification. In truth, they may want to say that there is no mistake in theorizing about the special science properties of biology and sociology—such as being a butterfly, or being middle-class—even if they are not natural. To accommodate this they may want to say that eliteness and naturalness both come in degrees, and then say that a property’s degree of eliteness consists in its degree of naturalness. Alternatively, sticking with an absolute notion of eliteness, they might say that being a butterfly is elite in virtue of some relation it stands in to natural properties. On this approach it is not that being elite *consists in* being natural, as I said in the last paragraph, but that facts about which properties are elite are *fixed by* which properties are natural. Their value-theoretic claim would then be put as the idea that one should theorize about some set of properties that are fixed (in some way to be specified) by what is natural. But this complication will not matter for our purposes and I will ignore it from here on.

Goodman's view is "anti-realist" insofar as it holds that which properties should be reflected by a community's theorizing depends on facts about them (their interests, or histories, or whatever).

I have always been a realist at heart. I was raised to believe in the claims of scientific objectivity, and to see scientific progress as revealing the true nature of the world as it is in itself. And the idea that there is no objective distinction between green and grue always struck me as a strange and arcane position that only a "philosopher" (in the pejorative sense) would take seriously. But I have come to see a problem with realism, and I have no idea how to solve it. Of course, objections to realism are nothing new: Thomasson (forthcoming) emphasizes a number of epistemic problems of accounting for our knowledge of objective metaphysical structure, and Putnam (1980) famously raised model-theoretic problems for realism. But the problem I have in mind is different from these. My aim in this paper is to develop the problem and explain why various possible solutions do not work. Where one goes from there I leave for another time.

Before developing the problem let me make three clarifications. First, I described the issue of realism vs anti-realism as an issue about what makes a given *property* elite, but some do not believe in properties. No matter: the issue could just as well be put in terms of *sets*, of what makes the set of green things elite and the set of grue things not. Or in terms of *concepts*, of what makes the concept of green elite. One could also characterize the issue in terms of *predicates* or *languages*. But the differences between these formulations will not matter and I will slide between them freely. Second, I will largely talk as if there is a binary distinction between elite and non-elite properties. In reality there may be degrees of eliteness, but I ignore this complication here. Finally, Sider (2011) argues that the issue of realism arises not just for properties (sets, predicates) but more generally for quantifiers, operators, and indeed items of any category. His idea is that some quantifiers or operators are elite and others are not, and so the question arises as to what makes the elite ones so (he himself recommends extending Armstrong and Lewis' notion of naturalness to apply not just to properties but to items of any category). For convenience I restrict myself to the issue of realism as it arises for properties (sets, predicates), but my discussion applies equally to the more general issue too.

To develop the problem for realism I will focus on Armstrong and Lewis' particular realist view, noting how the problem arises for other realist views in passing as we go along. For this reason I will often use "realism" to denote Armstrong and Lewis' particular view for convenience. In brief, the problem with their view concerns the second claim, the value-theoretic one. Grant them their first claim: suppose that there is a primitive property of naturalness that some sets have and others lack. Suppose in particular that the set of green things has this property and the set of grue things does not. The question is why our theorizing should be guided by this primitive property. Why is it better to theorize about those sets that have the primitive property than those sets that do not? Why, just because the set of green things has this primitive property, should we theorize in terms of 'green' rather than 'grue'? The problem is that the realist has no good answer to this question. You might say that the answer is obvious: it is because sets with that property are *natural*—they carve at the *natural joints*—and what could be more obvious than that we should represent nature's joints? But this is to miss the point of the objection. Be my guest—posit a primitive property of sets if you want. But play fair in naming it. Don't call it "naturalness" until you've shown that it is something that should guide our theorizing.

2. The problem of missing value

I just paraphrased Lewis' famous objection to an anti-Humean conception of chance because my objection to realism is exactly analogous. Ironic, then, that the problem with realism can be found in the writings of an arch realist! But ironies aside, let us review Lewis' argument so as to use it as a guide.

Lewis noted that chance is credence-guiding in the sense that rational agents should set their credences in line with the known chances; this was his "Principal Principle". For example, if a rational agent knows that a coin flip has chance 0.5 of coming up heads, then—absent "inadmissible" information—she should have a credence of 0.5 in the proposition that it will come up heads.³ More precisely, if $Cr(X)$ is the credence function of a rational agent, if X is the proposition that the chance of $A = x$, and if E is any admissible information, then the Principal Principle states that

$$Cr(A | X \& E) = x$$

This was Lewis' fixed point; his question was what chance could be such that it plays this role. The anti-Humean view is that chance is a metaphysically primitive quantity attaching to propositions or events. And Lewis' objection was that it is entirely unclear why such a quantity should be credence-guiding: what makes it the kind of thing that a rational agent should align her credences with? Plenty of quantities behave mathematically like probabilities but do not constrain rational credence in this way—the area of my table-top as a proportion of its total area is an example. So, what makes this primitive quantity posited by the anti-Humean any different? As Lewis memorably put it: "Be my guest—posit all the primitive unHumean whatnots you like... But play fair in naming your whatnots. Don't call any alleged feature of reality "chance" unless you've already shown that you have something, knowledge of which could constrain rational credence" (Lewis 1994, pp. XX).

Lewis' remarks here are brief enough to be interpretable in a number of ways. But the argument I want to glean from him rests on three premises:

1. Chance is credence-guiding. (This is the Principal Principle.)
2. If X is credence-guiding, there must be something about X in virtue of which it is credence-guiding.
3. There is nothing about an unHumean whatnot in virtue of which it is credence-guiding.

It follows that chance is not an unHumean whatnot. On this reading, Lewis is not so much objecting to the existence of primitive, unHumean whatnots—as Lewis emphasizes, he is happy to give you all the unHumean whatnots you like. What he objects to is the idea that it could be a primitive fact about the whatnot that it is credence-guiding; that is the idea behind premise 2.

This style of argument was not new to Lewis. Consider a simple divine command theory of moral goodness, on which x is good iff God commands that it be promoted. What is wrong with this view? Put aside the objection that God does not exist. Focus instead on the famous objection that even if there were a supernatural agent, it would be utterly mysterious why its

³ What makes information "inadmissible"? The rough idea is that information about the coin flip is admissible so long as its "impact on credence about outcomes comes entirely by way of credence about the chances of those outcomes", as opposed to (say) by way of what an all-knowing genie tells you about the outcome. It is controversial how to make this more precise, but those details will not matter to us here.

commands should guide our actions. This objection is based on the data that moral goodness is *action-guiding* in the rough sense that it is something we should promote. And the thought is that just because someone *commands us* to promote something, this does not mean that we *should* promote it; hence the divine command theory must be false. Of course, one wants to say “Well, God commands us to promote it *because it is good*; that is why we should do as God commands”. But that is to give up the divine command theory, on which there is no such thing as moral goodness prior to what God commands; there is just what God commands.

This is the same style of argument over again. “Be my guest, posit all the supernatural whatnots you like”, we might say, “but play fair in naming what these whatnots command. Don’t call it *moral goodness* unless you’ve already shown that you have something that guides action.” A divine command theorist could conceivably say that it is a *primitive fact* that we should promote what the whatnot commands, but that is an unattractive bullet to bite. Thus an implicit premise in this objection is that if we should promote something, there must be something about it that explains *why* it should be promoted. The objection therefore has three analogous premises:

1. Moral goodness is action-guiding.
2. If X is action-guiding, there must be something about X in virtue of which it is action-guiding.
3. There is no explanation of why something’s being commanded by God should be action-guiding.

Go back now to the issue of realism, the question of what makes a given property elite. As we saw, eliteness is “theory-guiding”: the elite properties are by definition those we *should* theorize about, the properties it is *better* to theorize in terms of. Goodman said that if green is elite (for me), that consists in facts about my contingent social history. Imagine now that someone rejected that view in favor of a “divine command” theory of eliteness, on which to be an elite property just is to be a property that God commands us to theorize about. This view, I claim, would be prone to the very same problem as the divine command theory of moral goodness. Put aside the objection that God does not exist; posit all the supernatural whatnots you like. The question would be why we should follow the commands of this whatnot. Just because someone *commands us* to theorize in terms of one property rather than another, this does not mean that we *should* theorize that way. Once again, the objection consists of three familiar premises:

1. Eliteness is theory-guiding.
2. If X is theory-guiding, there must be something about X in virtue of which it is theory-guiding.
3. There is no explanation of why the property of “being such that God commands us to theorize in terms of it” is theory-guiding.

It follows that the divine command theory of eliteness is false.

We have here three arguments of a common form. In each case, the target phenomena—chance, moral goodness, eliteness—is said to have value-theoretic upshots (premise 1). This then puts a constraint on a theory of what the phenomena consists in: whatever it is, there must be something about it in virtue of which it has this value-theoretic upshot (premise 2). And the argument in each case is that on the theory under question there is no such explanation

(premise 3). Thus, the three arguments expose what we might call a “problem of missing value”. I do not claim here that they all succeed (though personally I find them all compelling). I present them here just to illustrate the shape of these problems of missing value.

3. Theory guidance

I believe that the realism of Armstrong and Lewis suffers from the very same problem of missing value. The realist posits a primitive property of “naturalness” that some sets have and other sets lack. But the question is why our theorizing should be guided by this primitive property. What is it about this primitive property in virtue of which it is better to theorize about sets with it at the expense of other sets? The objection is that there is no answer. Pictorially, imagine representing sets with Venn diagrams, drawing one circle around the the green things, another around the grue things, and so on. Suppose one draws the some circles in ink and others in crayon. Does it follow that we should theorize about those sets represented in ink? Of course not! The objection is that there is no more reason to theorize about those sets with the primitive property posited by the realist than there is about those sets represented in ink.

There is a temptation to respond “But the primitive property posited by the realist is *naturalness*; hence the sets with this property *carve at nature’s joints*; hence it’s *obvious* that it’s better to theorize in terms of them!” But we must not to be fooled by language. If the term ‘natural’ has value-theoretic connotations, such that it is obvious that we should theorize in terms of natural properties, then the question is whether the primitive property posited by the realist deserves the term. Calling it “naturalness” does not make it have value-theoretic upshots any more than calling someone Armstrong gives him large biceps, as Lewis memorably quipped.

The problem is exacerbated when we remember that properties are cheap, including second-order properties. Thus, along with the (second-order) property of *naturalness*, there is also the property of *schmaturalness* and any number of other properties of properties. Thus while green is natural and grue is not, grue is schmatural and green is not. Why then should our theorizing be guided by naturalness, rather than schmaturalness? What is it about *naturalness* that makes it special? My objection to realism is that there is no good answer to this question. Do not say that naturalness is itself *natural* and schmaturalness is not, for we are in the middle of trying to explain why naturalness matters!

This is the same problem of missing value. The idea is that the primitive property posited by the realist would be normatively inert just like the commands of a supernatural whatnot. The objection therefore rests on three familiar premises:

1. Eliteness is theory-guiding.
2. If X is theory-guiding, there must be something about X in virtue of which it is theory-guiding.
3. There is no explanation of why naturalness is theory-guiding.

I suspect premise 3 will be the most controversial, and I will soon explore a number of ways in which the realist might resist it by offering an explanation. But first let me clarify and defend the other two premises in turn.

Earlier I characterized premise 1 as the claim that it is a mistake to theorize in terms of non-elite properties like *grue*; that it is better to theorize in elite terms instead. But this deserves clarification. Say that a proposition is elite iff it is about elite properties. And say that a belief is elite iff it is a belief in an elite proposition. The core idea behind the claim that eliteness is theory-guiding is that, along with truth, eliteness is another standard of “correctness” of one’s beliefs. Just as one’s false beliefs are incorrect, so one’s non-elite beliefs are incorrect too.⁴

The idea that non-elite beliefs can be “incorrect” in this general sense is regrettably abstract, but it has a number of glosses. One gloss is evaluative: that elite beliefs are *better* than non-elite ones. Or, since the two standards of truth and eliteness might trade-off against each other, this might be better expressed as the idea that being elite is a “good-making feature”, or an “intrinsic value”, of a belief, just like truth. A second gloss is normative: that one *should* believe elite propositions (or at least aim to do so). A third gloss concerns rationality: that a *rational agent* believes elite propositions (or at least aims to). And a fourth gloss concerns reasons: that being elite is a *reason to believe* a proposition. Importantly, in all these glosses the idea is *not* that eliteness is a guide to truth like (say) simplicity is, so that we should place higher credence in elite propositions because that is a good route to truth. Rather, the idea is that eliteness is a criteria of correctness alongside truth. So understood, one must read the glosses in the right way: one “should” believe elite propositions in the same sense that one “should” believe true propositions even if the truth is not where one’s evidence leads.

I will not decide how best to put premise 1. The choice presumably depends on which of these value-theoretic notions—correctness, better-ness, rationality, reasons—is central to value-theoretic matters in general, and the reader is free to understand premise 1 in whichever way she finds most congenial. Moreover, each of these glosses is optional: one might accept the evaluative gloss without accepting the normative gloss. For our purposes we can read premise 1 as stating that some gloss in this vicinity is true.

Note that premise 1 is not the claim that we should have true beliefs about which properties are elite. Perhaps we should, but the claim that eliteness is theory-guiding goes beyond that. Someone forming non-elite beliefs about *grue* might also have the true belief that green is elite and *grue* is not, but premise 1 implies that their non-elite beliefs are incorrect nonetheless. In this respect the claim that eliteness is theory-guiding resembles Lewis’ Principal Principle about chance. The Principal Principle does not say that we should have true beliefs about chance; it says that our credences should align with the (known) chances. One can have true beliefs about chance without satisfying this principle.

Note also that premise 1 says nothing about human motivation. Moral theorists sometimes draw an “internal” link between moral goodness and motivation, for example that a subject who judges something to be morally good is necessarily motivated to promote it. But the argument against the divine command theory of moral goodness did not appeal to any such internal link; it

⁴ The notion of a proposition’s being “about” an elite property could be sharpened, but the details will not matter for our purposes. I note only that the notion concerns the truth-conditions of the proposition or belief, not the concepts in terms of which the proposition is more finely individuated or expressed. Thus the belief that all emeralds are either *grue* and first observed before 3000AD, or *bleen* and not first observed before 3000AD, is an elite belief, since it is “about” the property of being green as I use the term. Thus my formulation of premise 1 corresponds to what Ted Sider calls the weak version of the thesis (2011, pp. 61-2), which allows that the belief just mentioned may be “correct”. The strong version of the thesis would imply that the belief is not about green thanks to the concepts used to express or individuate it.

just appealed to the claim that if something is morally good then one *should* promote it—that is all I meant there by premise 1, the claim that moral goodness is action-guiding. That premise could also have been glossed in evaluative terms: that actions that promote morally good things are *better* than others. Either way, there was no essential appeal to talk of human motivation; likewise with premise 1 in our argument against realism.

The idea that eliteness is theory-guiding is sometimes expressed as the idea that eliteness is an “aim” or “goal” of belief. But this is too weak: one may have the goal of believing all propositions expressed in the New Testament, but it does not follow that the resulting beliefs are “correct” in any interesting sense. Alternatively, it is sometimes said that eliteness is *constitutive* aim of belief; that a mental state does not count as a belief unless it aims at eliteness. I will discuss this idea soon, but it is stronger than the argument needs. The argument goes through just so long as eliteness *is in fact* is theory-guiding; it does not rest on the extra claim that this is constitutive of belief. Compare Lewis’ argument against anti-Humeanism about chance: what his argument requires is that (in fact) the credences of a rational agent align with the (known) chances; it does not require that this be constitutive of credence.

So understood, premise 1 should be uncontroversial. Indeed it is more or less analytic, given how we introduced the term “elite”; even Goodman agrees with it, as I emphasized at the beginning. But since my argument is aimed at the realist, it does not matter whether premise 1 is uncontroversial; what matters is that the realist is committed to it. And she is: her view is that the elite sets are those that have the primitive property of naturalness *and therefore* we should theorize about those sets at the expense of others.

4. The demand for explanation

Premise 2 states that if X is theory-guiding, there must be something about X that explains why it is theory-guiding. This bears some clarification.

The analogous premise 2 in the case of moral goodness was that if X is action-guiding—if one should promote X—then there must be something about X in virtue of which it is action-guiding. Now, one might say it is constitutive of “should”—that is, part of what “should” *means*, or part of what should *is*—that one should promote what God commands. If true (which I doubt), that would be an explanation of sorts: it explains why God’s commands are action-guiding by saying that that is constitutive of “should”. What premise 2 rules out is the idea that there is no explanation whatsoever, not even one that appeals to what is constitutive of the notions involved. Likewise, in the argument against realism we allow that a possible explanation of why naturalness is theory-guiding is that that is constitutive of one of the notions involved, such as “belief”. I will discuss this idea in due course. What premise 2 rules out is that it could be a bare, primitive fact—a fact with no explanation whatsoever—that naturalness is theory-guiding.

In all these arguments from missing value we can weaken premise 2. In the case of moral goodness, it may be that some things are primitively action-guiding—perhaps pain is an example. Still, it remains plausible that if one wants to claim that the commands of God are action-guiding, one must explain why that is so. Thus, in the case of moral goodness we can replace 2 with the weaker premise:

2*. If the commands of God are action-guiding, there must be an explanation of why that is so.

This strikes me as extremely plausible indeed. Likewise, in our argument against realism we do not need to say that *nothing* can be primitively theory-guiding, we just need to say that the primitive property posited by the realist cannot be. Thus, we can replace 2 with

2*. If the primitive property posited by the realist is theory-guiding, there must be explanation of why that is so.

This strikes me as no less plausible than the corresponding premise in the case of moral goodness. Admittedly, I do not know exactly how to define the line between those things we can reasonably take to be primitively action- or theory-guiding and those we cannot. But ignorance of how to define something does not preclude one from recognizing clear instances. The commands of an agent clearly falls on one side of the line, and my thought is that a primitive property of that some sets have and others lack falls on the same side too.⁵

The demand for explanation in premise 2 is not a demand for *justification*. In the case of moral goodness, we are not asking the divine command theorist to justify her claim that we should do as God commands; we are not asking her to produce reasons to think that this is true. We are rather asking for an explanation of what *makes it* true (if it is true). Likewise in our argument against realism, the demand is not for a justification to believe that naturalness is theory-guiding, but an explanation of what makes that so. Relatedly, we do not require that the explanation appeal to facts that are “internally accessible” to a given subject. In the case of moral goodness, there was no requirement that an ordinary agent be in a position to produce the explanation of why God’s commands are action-guiding. Likewise in our argument against realism, we are asking from the third-personal perspective for an explanation of what makes it the case that the primitive property posited by the realist is theory-guiding; there is no requirement that the answer appeal to facts that are “internally accessible” to a practicing theorist.⁶

Nor is the demand for explanation a demand for *implication*; it is not the demand that the realist offer a theory that implies that naturalness is theory-guiding. For such a theory is easy to write down: one simply includes the claim that naturalness is theory-guiding as an axiom in the theory! Indeed, this is what Jonathan Schaffer (manuscript) says that an anti-Humean about chance should say in response to Lewis’ objection: simply state as an axiom in one’s theory about the unHumean whatnot that it constrains rational credence. But as I reconstructed Lewis’ argument, that response misses the point. One can of course state as an axiom that some unHumean whatnot constrains rational credence; what Lewis asks is *why* rational credence should be constrained like that. The challenge is to say what it is about the whatnot in virtue of which rational credence is constrained by *it*, rather than some other probabilistic quantity. Simply *stating* that it constrains rational credence is no explanation.

⁵ What about the kind of primitive moral property posited by a non-reductive moral realist such as Enoch (2011): is *it* the kind of thing that could be primitively action-guiding? Personally I think not. For this reason I believe that non-reductive moral realism faces an analogous problem of missing value too. But I will not discuss this matter here.

⁶ In his (1993), Hirsch attempts to “justify our intuition that there are rational constraints on how the words of a language ought to divide up reality” (p. 7). His demand for justification is similar to the demand for explanation in premise 2, though at times Hirsch seems to have in mind a more “internal” justification that a given thinker could produce as a normative defense of her theorizing.

So understood, it seems to me that the second premise is hard to deny in all these arguments from missing value. If the anti-Humean about chance denies it, she is saying not just that there is a primitive, unHumean whatnot; she is saying that it is an inexplicable fact about it that it constrains rational credence. If the divine command theorist denies it, she is saying not just that there is a supernatural, command-giving whatnot; she is saying that it is an inexplicable fact that we should follow the whatnot's command. Both of these positions strike me as unattractive in the extreme, and it seems to me that the same goes in the case of naturalness. It is one thing to posit a primitive property of naturalness; it is clutching straws to say that it should guide our theorizing *and there is nothing about it that can explain why this is so.*⁷

5. Constitutive explanations

That leaves premise 3, which states that there is nothing about the primitive property of naturalness that could explain why it is theory-guiding. If there is something wrong with the problem of missing value, I suspect it lies here. The challenge for the realist is to say what the explanation could be. Let us explore some options.

It will help to focus on a specific formulation of the claim that naturalness is theory-guiding. I will focus on the evaluative formulation:

Natural beliefs are better than unnatural ones.

The question is what could explain this evaluative claim. But we must be clear on what kind of explanation is required. It would not do for the realist to say “we prefer natural beliefs; that is why natural beliefs are better”. For then there would be no explanation of why other communities who prefer unnatural beliefs make a mistake by theorizing in their own preferred, unnatural terms; yet the realist's central claim is that such communities do make a mistake. The point is that, for the realist, natural beliefs are not *instrumentally* better, but *categorically* better. The question is what could explain this.

I can think of two explanatory strategies. One is to explain it in terms of the “constitutive nature” of the notions involved, such as belief or better belief, or even naturalness. The other is to say that there is something about the rich theoretical role of naturalness—its connection to laws, explanation, reference, and so on—that explains why it is better to believe natural propositions. I will argue that neither of these strategies work. There may of course be some

⁷ Since I discussed the case of moral goodness, it might be worth pointing that these arguments from missing value are not analogues of Moore's “open question” argument (Moore XXXX). The latter assumed that if moral goodness is identical with (or reducible to) X, then it must be impossible for a competent user of the term “good” to grant that something has X and yet wonder whether X is good. But the argument against divine command theory makes no such assumption; nor does my argument against realism. Nor are these arguments from missing value analogues of Mackie's (XXXX) well-known argument against moral realism; at least, not as typically reported. He is typically reported as arguing that a property that by necessity has a causal influence on motivation would be “weird”, unlike anything else that fits inside a broadly scientific conception of the world. But the arguments from missing value are different. For one thing, they do not appeal to a connection with human motivation. But more importantly, they do not assume that everything must fit into a scientific conception of the world; nor do they complain that the proposed action- or theory-guiding property in question—the unHumean whatnot, or the commands of God, or the primitive property of naturalness—is “weird”. The arguments from missing value allow that there may be such properties and that they are anti-scientific and “weird”; they require just that there be some explanation of *why* they are action- or theory-guiding. (To be clear, while Mackie's argument *as typically reported* is different from these arguments from missing value, I do think that a charitable interpretation of Mackie has him offering something like an argument from missing value. But I will not elaborate on that here.)

other kind explanation, so my defense of premise 3 will be suggestive at best. Still, I hope to give some sense of the difficulties involved in providing an explanation, leaving it as a challenge to the realist to overcome them.

Start with the explanation in terms of the constitutive nature of belief. The idea here is that part of what it is for a mental state to count as a belief is that it aim at natural propositions; since this aim is met only by natural beliefs, that is why natural beliefs are better.

This idea is analogous of a common thought about truth, namely that truth is a constitutive aim of belief; that a mental state does not count as a *belief* unless it aims at truth. This is nicely expressed by Williams (1973, p. 148): “If in full consciousness I could acquire a ‘belief’ irrespective of its truth, it is unclear that before the event I could seriously think of it as a belief, i.e. as something purporting to represent reality”. More could be said about what it means for a mental state to “aim” at truth, but for our purposes the idea is clear enough. The current proposal, then, is that something analogous goes for naturalness, and that this explains why it is better to believe natural propositions. Perhaps Sider had this kind of explanation in mind when he wrote that naturalness “is a constitutive aim of the practice of forming beliefs, as constitutive as the more commonly recognized aim of truth” (2001, p. 61).

But the proposal fails for two reasons. First, even if truth is a constitutive aim of belief, Hazlett has convincingly argued that the analogous claim about naturalness is false. His idea is that there is nothing incoherent about a thinker forming non-natural beliefs “in full consciousness”, to use Williams’ phrase. Suppose I believe that this emerald is green, and then look at the definition of ‘grue’ and come to believe that it is also grue. My belief might be *weird*—one that only a philosopher would entertain—but in what way does it not count as a *belief*? As Hazlett (forthcoming) puts it, “although believing that p commits you to the truth of the proposition that p, it does not commit you to the jointness [i.e. naturalness] of the proposition that p” (p. 12).

But suppose for the sake of argument that naturalness were a constitutive aim of belief. The second problem is that this does not explain what the realist needs to explain. Imagine a community of thinkers who have mental states just like beliefs with the one exception that their states do not aim at naturalness, they just aim at truth. Given our supposition, their mental states do not count as *beliefs*. Fine, let us call them *schmeliefs* instead. Suppose they *schmalieve* propositions about grue and other unnatural properties. Realism is the view that this community is making a mistake; that their mental states are worse than beliefs. But why should that be so? The claim that naturalness is a constitutive aim of *belief* does not explain this. All it explains is that these thinkers lack beliefs; it does not explain why it is better to believe than to *schmelieve*.

The point is that the claim that naturalness is theory-guiding can be put without explicitly mentioning belief. Call mental states that aim at truth, like belief and *schmalief*, “truth-oriented”. And call a truth-oriented mental state natural iff its propositional object is natural. Then the claim that naturalness is theory-guiding can be express thus:

Truth-oriented mental states that are natural are better than ones that are not.

The claim that naturalness is a constitutive aim of *belief* does not explain why this is so; all it explains is why the natural ones count as beliefs.

I am in the middle of arguing that naturalness is not theory-guiding. But given the potential parallels between naturalness and truth just discussed, one might worry that the argument will overgeneralize to show that truth is not theory-guiding either; an unwelcome result. But I think the worry is misguided. For even if the argument does carry over to the case of truth—and it is not obvious that it does—it would apply only to a non-reductive view on which truth is a *primitive* property. Remember, our current target is the realist idea that naturalness is a *primitive, irreducible* property that some sets have and others lack; premise 3 states that nothing about *it* can explain why it is theory-guiding. My argument leaves open that eliteness, *when reduced to facts about interests or cultural histories*, is theory-guiding. Thus even if our argument carried over to truth, it would not apply to reductive views on which truth consists in correspondence with the facts, or in coherence with other propositions; nor to deflationary views on which ‘true’ is a mere logical device. It should show only that truth considered as a primitive property of propositions is not theory-guiding. And, on reflection, this is not absurd. Suppose there were some primitive property that some propositions have and others lack, where possessing this property is *not* a matter of corresponding to the facts or anything of that ilk. Why is it better to believe propositions with that primitive property at the expense of others? It is not at all clear. I can see—dimly but well enough, as Lewis once said—why it is better to believe propositions that correspond with the facts; it is hard to see why possession of some primitive property should make a proposition better to believe than others.⁸

Returning to the realist’s claim that naturalness is theory-guiding, we have seen that this is not explained by the constitutive nature of belief. But one might instead try explaining it in terms of the constitutive nature of *betterness*, not belief. The idea would be that part of what it *means*—or what it *is*—for one belief to be “better than” another is for the former to be natural and the latter not. Could this explain why naturalness is theory-guiding? I think not. For let me introduce the notion of *schmetterness* thus: what it means for one belief to be *schmetter* than another is that the former is unnatural and the latter natural. Beliefs about grue are therefore *schmetter* than beliefs about green. And now the question is: why should I form *better* beliefs? Why not form *schmetter* beliefs instead? In virtue of what is it a mistake to form *schmetter* beliefs? The claim about what is constitutive of “betterness” does not explain this.

The realist might now try to explain this with constitutive claims about “should” and “mistake”: that it is constitutive of “should” that one should form better beliefs; that it is constitutive of “mistake” that it is a mistake to form *schmetter* beliefs. But the bump is just being pushed around the rug. For one can equally introduce the notion of “schmould” and “schmistake”, such that it is constitutive of them that one schmould form *schmetter* beliefs and that it is a schmistake to form better beliefs. More generally, if one claims that the value-theoretic notions involved in saying that naturalness is “theory-guiding” are constitutively defined in terms of naturalness, then there will equally be a corresponding set of evaluative notions that are constitutively defined in reverse and which favor unnatural beliefs over natural ones. What then is left to distinguish natural beliefs over non-natural ones?

⁸ This analogous argument against primitive truth may have been what William James (1904) had in mind circa pp. 467-8. There he appears to raise an analogous argument against the correspondence theory of truth when he states that “it is not self-evident that the sole business of our mind with realities should be to copy them” (p. 467). But earlier on p. 463 he was at pains to show that the notions of correspondence and copying are desperately unclear, giving the impression that he regards the correspondence theory as being nothing other than a dressed up version of primitivism about truth.

When the realist claimed that naturalness is theory-guiding, her claim was that it is *objectively* theory-guiding. Her picture was that if a thinker A forms natural beliefs and a thinker B forms unnatural beliefs, A is “getting things right” and B is “making a mistake”—not just by A’s own lights but *objectively speaking*, from God’s point of view as it were. One cannot capture this if one understands the value-theoretic notion constitutively in terms of naturalness, for there will then be corresponding evaluative notions constitutively understood in reverse on which B “gets things right” and A “makes a mistake”, and there will be nothing further to say about who is “really” getting things right. Do not say “But the value-theoretic notions that favor A are privileged because they are more natural”, for we are in the middle of looking for an explanation of why naturalness matters! The moral is that *if* there is any truth to the realist’s claim that naturalness is objectively theory-guiding, the value-theoretic notions involved in saying this cannot be constitutively understood in terms of naturalness.⁹

The realist might now try to explain why naturalness is theory-guiding in terms of the constitutive nature of *naturalness*. The idea would be that part of what it *means* to call a property “natural” (or what it *is* for a property to be natural) is for beliefs about the property to be better than others. But this idea is unpromising for two reasons. First, it is not clear that the *realist* is in a position to offer this explanation. For this claim about the constitutive nature of naturalness is the idea that at rock bottom some beliefs are better than others, and we propose to call a property “natural” to the extent that it is the object of those better beliefs. But this is to analyze naturalness in terms of better belief, which is inconsistent with the realist’s view naturalness is a *primitive* property. Admittedly, a formal inconsistency would be exposed only with careful definitions of the terms “primitive” and “constitutive nature”, but it is clear enough that there is a genuine problem here. The realist proposes to *explain* why green is elite and grue is not—that is, why beliefs about green are better than beliefs about grue—by stating that green is natural and grue is not. If she then says that being natural consists just in being the object of better beliefs, she has run a very tight circle indeed.

But even putting that aside, a second worry is that this claim about the constitutive nature of naturalness seems desperate in the extreme. The problem is not that *nothing* can be constitutively guiding—it may be that pain, for example, is by its nature action-guiding. The problem is rather that with a theoretical posit like naturalness, it is clutching at straws to simply propose that it is constitutively guiding. It labels the problem without solving it. To emphasize the point, look at how attractive Goodman’s approach is in contrast, on which one goes through the honest toil of providing an intelligible explanation, in terms of facts about us and our ancestors, as to why green is elite and grue is not. For the realist to simply postulate that there is this primitive property that is constitutively theory-guiding seems positively occult in comparison.

I conclude that if naturalness is theory-guiding, this cannot be explained by the constitutive natures of the terms involved. Note that the discussion here did not assume anything very specific about *naturalness*. We can therefore expect the arguments to generalize to the other realist views mentioned at the beginning. Instead of naturalness, those other realists start with a primitive notion of “law-hood”, or “grounding”, or “real definition”, or whatever, and then claim that their favored primitive notion is theory-guiding. Thus, the realist who takes grounding as

⁹ To be clear, I do not mean to implicate that one *can* capture the picture if one understands the value-theoretic notions otherwise. For suppose there is an independent notion of “better-ness”, and suppose that natural beliefs are objectively better in this sense than unnatural ones. Still, the fact remains that there are gerrymandered notions value-theoretic such schmetter-ness, and so one might still raise the question of why we should care about forming better believes, rather an schmetter ones. But I will not pursue this line of thought here.

primitive will say that grounding is theory-guiding in some sense, for example that beliefs about ungrounded properties are better than beliefs about others, or something of that ilk. For *that* realist, the problem of missing value arises when we ask what could explain why this primitive relation of grounding is theory-guiding. And the considerations just outlined show that it cannot be due to the constitutive nature of belief. For even if it is constitutive of *belief* to aim at (say) ungrounded properties, this does not explain why mental states that achieve that aim are better than ones that do not; it only explains why the former count as beliefs. Nor can we explain why grounding is theory-guiding by appeal to the constitutive nature of betterness, or law-hood, for precisely the reasons just outlined. Thus, whichever notion the realist takes as her primitive, it appears that she cannot explain why it is theory-guiding by appeal to the constitutive nature of the notions involved.

6. The role of naturalness

So much for explanations in terms of constitutive natures. Returning to the realist view that takes naturalness as primitive, let us turn now to the second strategy of explaining why naturalness is theory-guiding. This strategy attempts to explain it in terms of the rich theoretical role of naturalness.

What exactly is this theoretical role? A number of roles have been proposed, but they largely fall into three categories.¹⁰ First, there are connections between naturalness and *nomic* notions such as laws, counterfactuals, causal dependence, causation, and explanation. Second, there are connections between naturalness and *metaphysical* notions such as metaphysical necessity, duplication, and objective similarity. And third, there is a connection between naturalness and the *linguistic* notion of reference. I will argue that even if naturalness plays these roles, this does not explain why naturalness is theory-guiding. No doubt naturalness plays other roles too, but if the three roles above do not do the required explanatory work I think it is unlikely that other roles would do any better.

Start with the nomic roles. Lewis developed a well-known system connecting naturalness to a variety of nomic notions. First comes the notion of law: he proposed that a proposition is a law iff it is a theorem of the theory that achieves the best balance between informativeness and simplicity, where simplicity is measured relative to a language whose basic predicates are natural. Thus, for Lewis, a law is an informative summary of the distribution of *natural* properties. Next come counterfactuals: a counterfactual is true iff (roughly) all the closest worlds in which the antecedent is true are also worlds in which the consequent is true, where closeness of worlds is determined in part by agreement in laws. Third comes the notions of counterfactual dependence and causation, which Lewis defines in counterfactual terms. Then comes explanation: to explain an event is to provide information about its causal history. The resulting picture is one on which all these nomic notions are analyzed in part in terms of naturalness.¹¹

This suggests an explanation of why naturalness is theory-guiding. There is surely a value in having true “nomic beliefs”—that is, beliefs about what the laws are, what explains what, etc. But if Lewis is right, forming true nomic beliefs requires tracking natural properties. Does this not

¹⁰ See Dorr and Hawthorne (201?) for a compendious list of roles and references to the literature that develops them.

¹¹ Did Lewis intend these “analyses” to be definitions of words? Or analyses in some more metaphysical sense? For our purposes it does not matter either way; here I use “analyses” broadly to include all these kinds of projects. Insert references to the Lewisian corpus. Also papers describing his system.

explain why natural beliefs are better than unnatural ones? Thus, the suggestion is that naturalness is theory-guiding because

- (A) There is a value in nomic beliefs, and
- (B) Forming nomic beliefs requires forming natural beliefs.

To be clear, (A) is the analogue of the claim that there is a value in natural beliefs—i.e. the claim that naturalness is theory-guiding—so the reader may understand (A) in any of the value-theoretic terms listed in section 3. The basic idea is this. Imagine a thinker theorizing in terms of gruesome predicates. She has the true belief that all gremeralds are grue, and she also forms nomic beliefs such as that this is a *law*; that this *explains* why the next gremerald to be discovered will be grue; and so on. Now, if Lewis is right then these nomic beliefs are false, for on his view it is not a *law* that all gremeralds are grue. But consider the gruesome notions of ‘graw’ and ‘grexplanation’, defined just as Lewis defines ‘law’ and ‘explanation’ but on a basis of various unnatural, gruesome properties rather than natural ones. And suppose the thinker forms her “nomic” beliefs with these concepts instead: she believes that it is a graw that all gremeralds are grue, that this grexplains why the next gremerald to be discovered will be grue, and so on. Then these gruesomely “nomic” beliefs are true. But what (A) states is that this thinker is nonetheless “making a mistake”, or “getting something wrong”. Her beliefs are incorrect not in the dimension of truth, but in the dimension of not reflecting the world’s nomic structure.

Supposing that (A) and (B) are true, could Lewis use them to explain why naturalness is theory-guiding? I think not. The problem is that the explanation gets things precisely the wrong way round: surely on Lewis’ view there is a value in nomic beliefs *because* there is a value in natural beliefs. After all, what makes (A) true? Why is it that there is a value in beliefs about what the *laws* are, but not what the *graws* are? The laws *just are* informative summaries of the distribution of natural properties; the graws *just are* informative summaries of some set of gruesome properties. So if beliefs about laws are more valuable than beliefs about graws, surely on Lewis’ view that is because the former track *natural* properties and the latter do not. But this answer presupposes that naturalness is theory-guiding! Thus, far from *explaining why* naturalness is theory-guiding, (A) is *explained by* the fact that naturalness is theory-guiding.

The point here does not hang on the details of Lewis’ particular system; it would apply equally to any analysis of nomic notions in terms of naturalness. Consider the Armstrongian view that to be a law that all Fs are Gs just is for F and G to be natural properties and the relation of nomic necessitation to hold between them.¹² Can this connection between laws and naturalness explain why naturalness is theory-guiding? The idea, again, would be that there is a value in beliefs about laws; so, given the analysis of law in terms of naturalness, this would explain why there is value in natural beliefs. But the question arises as to why there should be any value in beliefs about laws. Corresponding to these Armstrongian *laws* there are the gruesome “graws”, where this time it is a graw that all Fs are Gs iff F and G belong to a certain class of gruesome properties and the relation of nomic necessitation holds between them. (If you think that the relation of nomic necessitation can only hold between natural properties, fine: use the relation of gromic grecessitation instead.) Then why value beliefs about laws over beliefs about graws? Surely on this Armstrongian view the answer is that the laws concern

¹² Armstrong did not mention naturalness explicitly in his analysis of laws. But he did require that F and G are universals, and on his view the natural properties just are those that correspond to universals. So I take my statement in the text as a generalization of Armstrong’s account that remains neutral on different conceptions of naturalness.

natural properties. Thus on this Armstrongian view it is surely the fact that naturalness is theory-guiding that explains why there is a value in nomic beliefs, not the other way round.

The lesson is clear. If these connections between naturalness and nomic notions come from an analysis of the latter in terms of the former, then surely nomic beliefs are valuable (if they are) only *because* natural beliefs are valuable. Hence one cannot use the fact that nomic beliefs are valuable to explain why natural beliefs are valuable.¹³

But in drawing connections between naturalness and nomic notions, one need not propose them as an analysis of the latter; one could instead propose them as an analysis of the former. Suppose one took the notion of law as primitive (see Maudlin 2007), adopting the view that there is a primitive, objective property of “being a law” that some propositions have and others lack.¹⁴ And suppose one analyzed the notion of naturalness in terms of law-hood—the natural properties, perhaps, just are the properties that figure in laws. In that case, *if* there were a value in beliefs about the laws, that would explain why there is a value in natural beliefs. But this strategy is no use here. Our current target are realists who, like Lewis, take naturalness to be a primitive notion; our question is how *those* realists could explain why natural beliefs are valuable. To explain it with an analysis of naturalness in terms of something else is therefore out of the question.

Our target realist could, though, claim that the connection between laws and naturalness does not come from an analysis of either notion. She might say that *both* are primitive notions and yet insist there is a tight connection between them nonetheless. She could then say that naturalness is theory-guiding because law-hood is, or she could say that law-hood is theory-guiding because naturalness is. But she cannot say both. Thus, either way, she would not yet have explained why some metaphysical primitive (either naturalness or law-hood) is theory-guiding. The problem of missing value remains.

We can now see why the current problem arises for all realists, not just those that take naturalness as their primitive. Consider the realist above who starts with a primitive notion of law-hood and claims that *it* is theory-guiding. For this realist, the question is what could explain why *primitive law-hood* is theory-guiding. Could the rich theoretical role of law-hood explain this? Could we say that beliefs about laws are valuable because of some connection between laws and naturalness, and beliefs about naturalness are valuable? Not if those connections spring from an analysis of naturalness in terms of law-hood. For if they did, surely beliefs about naturalness would be valuable (if they are) only *because* beliefs about the laws are. And of course there is no question of *this* realist understanding the connections as coming from an analysis of law-hood in terms of naturalness. The fact that law-hood is theory-guiding would therefore remain unexplained.

¹³ Hirsch (1993, pp. 79-87) explores an explanation of why naturalness is theory-guiding that appeals to a connection between naturalness and explanation. His thought is that (i) there is a value in tracking explanations, and that (ii) this requires tracking natural properties, given a connection between naturalness and explanation. He stops short of fully endorsing this explanation since he raises doubts about the truth of (ii) (see his discussion of the “explanatory equivalence principle”). But the kind of argument I run in the text shows that even if (i) and (ii) are granted, they still do not explain why naturalness is theory-guiding.

¹⁴ One might instead say that law-hood is a primitive *operator*, not a property, that truly applies to some propositions and not others. This difference does not matter for our purposes.

The general problem, then, is this. The realist says that some structural notion *X* is primitive and theory-guiding—by “structural notion” here I mean something like naturalness or law-hood or grounding, etc. The question is whether we can explain why *X* is theory-guiding by drawing a connection between *X* and some other structural notion *Y* which is also said to be theory-guiding. Not, we have seen, if the connection comes from an analysis of *Y* in terms of *X*, for in that case the proposed explanation gets things the wrong way round. But if the connection does not come from an analysis of *Y* in terms of *X*, it cannot (by hypothesis) come from an analysis of *X* in terms of *Y* either. Thus this realist is committed to a second metaphysical primitive in addition to *X*—perhaps *Y*, or perhaps some third notion *Z* distinct from *X* in terms of which *Y* is analyzed. Without loss of generality, suppose it is *Y*. Then we may grant that *X* is theory-guiding because *Y* is, but of course the question remains as to what makes *Y* theory-guiding. For this realist, the problem of missing value then arises with respect to *Y*, not *X*. Thus the bump has just been pushed around the rug; no real progress has been made.

Return again to the realist view on which naturalness is the sole primitive. I said earlier that naturalness has been connected not only to the nomic notions just discussed, but also to a variety of metaphysical notions too. The proposed connections here involve connections to possibility and necessity, for example that a possible world is a recombination of natural properties; connections to the notion of a duplicate, for example that *x* and *y* are duplicates iff there is a bijection from the parts of *x* to the parts of *y* that preserves all natural properties; connections to similarity, for example that the sharing of natural properties makes for objective similarity between objects; and others besides. Can these connections help explain why naturalness is theory-guiding? Could it be that naturalness is theory-guiding because one of these other notions—say, duplication—is theory-guiding?

I think not, for much the same reasons as above. Take the connection with duplication, and suppose it comes from an analysis of duplication in terms of naturalness. Then corresponding to duplication there is also a gruesome notion of gruplication. To be duplicates *just is* (roughly) to agree on natural properties; to be a gruplicates *just is* to agree on some set of gruesome properties. Why then is duplication, rather than gruplication, theory-guiding? The answer must be that duplication is theory-guiding (if it is) because naturalness is theory-guiding, not the other way round. Thus, the connection with duplication can explain why naturalness is theory-guiding only if duplication is *not* analyzed in terms of naturalness. But then the result is a realist view that takes another notion—perhaps duplication itself—as primitive and theory-guiding, and the problem of missing value now arises with regards this other notion. For all that has been said, the realist still has a theory-guiding primitive and no explanation of what makes it so.

That leaves the connection between naturalness and the linguistic notion of reference. The idea here is that natural properties are “reference magnets”, somehow easier to refer to than other properties. Can this explain why naturalness is theory-guiding? Again I think not, in part for the kind of reasons just surveyed. But the details here depend on exactly how the theory of reference magnetism is understood.

Williams (2007, forthcoming) developed a theory of reference magnetism based on Lewis’ “interpretationist” account of what it is for a word to refer to something. Lewis’ interpretationism starts by assigning a truth-condition to each sentence of a language on the basis of how the sentences are used. We then select a semantic theory—a theory that states (among other things) what words refer to—that generates those assignments of sentences to truth-conditions. The idea behind interpretationism is then that “*what it is* for *N* to refer to *o* (for that population) is

for the selected semantic theory to entail that *N* refers to *o*" (p. 2). But as Lewis noticed, many different semantic theories will generate the same assignment of sentences to truth-conditions. What then determines which is the "right" semantic theory? Perhaps standard criteria of theory-choice such as simplicity. But simplicity is relative to a language: even complex theories can be made simple when formulated in a language that takes the supposedly "complex" predicates as primitives. According to Williams, Lewis' idea was to say that the relevant notion of simplicity is simplicity relative to a language whose predicates pick out natural properties. This implies reference magnetism: a selected semantic theory will typically be one couched in natural terms; hence speakers will typically turn out to refer to natural properties (or more precisely: the most natural properties reasonably consistent with their usage).

On this view, then, the claim that natural properties are reference-magnets has its source in a claim about theory-choice: that natural theories are *better* than unnatural ones. But "better" here does not mean "more likely to be true"—gruesome theories are just as true as their natural counterparts. So the idea must be that naturalness is another dimension along which a theory is "good". But this is just the claim that naturalness is theory-guiding! Thus, on this approach, the claim that natural properties are reference magnets is *explained by* the claim that naturalness is theory-guiding, not the other way round.

Sider (2011) develops a related theory of reference magnetism. On his view, reference is an explanatory notion: the fact that *N* refers to *o* explains various things. He also claims that natural properties are explanatory and non-natural ones do not: " "theories" based on bizarre, non-joint-carving classifications are unexplanatory even when true." (Sider 2011, p. 23). It follows that (at least typically) speakers refer to natural properties. Thus, on Sider's view, reference magnetism has its source in a connection between naturalness and *explanation*. But we have already seen that the latter connection cannot explain why naturalness is theory-guiding.

There is a third way of understanding reference magnetism, on which it is just a brute fact about reference that it is fixed by a combination of use plus naturalness. On this view naturalness constrains reference not because natural properties are more explanatory (Sider), or because natural theories are better (Williams); it is just a fact about what reference is that the referent of a term is that entity that strikes the best balance of naturalness and fitting usage. But it is hard to see how this could explain why naturalness is theory-guiding, for two reasons. First, even if reference is fixed by a combination of use plus naturalness, there is a gruesome notion of "greference", where the greferent of a term is fixed by a combination of use plus gruesomeness (relative to some base of gruesome properties). Just as natural properties are reference magnets, these gruesome properties will be greference magnets. So, to explain why naturalness is theory-guiding in terms of reference magnetism we must say why reference is more special than greference, else our explanation would equally show that gruesomeness is theory-guiding. But surely on this approach to reference magnetism, reference is special only because naturalness is special—which is of course what we are trying to explain. Yet again, we face the same problem that arose in our discussion of nomic concepts.

But second, even if it is granted that reference is more special than greference, it is hard to see how this could yield an adequate realist explanation of why naturalness is theory-guiding. For how would the explanation go? The idea would presumably be that if reference magnetism is true then natural beliefs are *easier* to form; that is why natural beliefs are better than unnatural ones. But this just explains why natural beliefs are *instrumentally* better than gruesome ones; it does not explain why they are *categorically* better. To see the point, imagine

a community who inherited a gruesome language from their ancestors. It would then be very difficult for *these* speakers to form beliefs about natural properties—they would need to construct a new language from scratch, or else introduce new natural predicates with definitions that look as gruesome to them as grue does to us! For them, gruesome beliefs are easier to form; hence on the current approach it follows that *for them* gruesome beliefs are better than natural beliefs. And that is contrary to realism. The realist wants to say that they are nonetheless getting something wrong, but the current approach offers no explanation of why this is so.

8. Realism and the absence of value

This then is the problem with realism. The realist holds that the world is not just a collection of objects with properties, but is also “metaphysically structured” in a way that privileges properties such as green over their gruesome counterparts. Exactly what this means varies from realist to realist: some posit a primitive property of *naturalness*, others posit a primitive relation of *grounding*, yet others posit a primitive property of *law-hood*, and there are many other varieties besides. But whichever metaphysical posit is chosen, the view is toothless without the value-theoretic claim that we *ought* to conform our theorizing around the posit—without this the realist has no right saying that a community theorizing about grue at the expense of green is making a mistake. And what I have argued is that this value-theoretic claim is baseless. There is nothing about naturalness or ground or primitive law-hood—or, I suspect, any primitive realist posit—that would explain why it should command our attention. There may be various metaphysically primitive whatnots out there, but if so they are normatively inert.

We have been misled into thinking otherwise, I think, by labeling the realist’s posits rashly. Realists typically use the term “naturalness” in such a way that the claim that some properties are natural—or that the world has “natural joints”—licenses the value-theoretic conclusion that our theories should reflect them. Fine; they are free to use terms as they wish. But used that way, a metaphysical posit should be called ‘naturalness’ only if it has already been shown to be of normative significance. Unfortunately, this crucial step is typically overlooked and the term is applied freely. This makes the value-theoretic claim appear unproblematic, when it is anything but.

Sider (2011) is one of the few realists who recognizes this crucial step of showing that the metaphysical posit has normative significance. But I think he still makes much the same mistake of applying labels rashly. For when arguing that naturalness is theory-guiding, he writes that “if belief aims to conform to the world, and if belief and the world are both structured, belief aims not just at truth, but also at the right structure—truth in joint-carving terms” (p. 62). But what does Sider mean by “the world is structured”? On the face of it, just that some things (properties, quantifiers, operators) have the primitive property he calls “naturalness”. If that is all he means, let us grant that the world is structured. But notice that Sider also uses the term “structure” in such a way that the claim that the world is structured licenses the value-theoretic conclusion that our beliefs should reflect that structure. This is a very particular usage. To repeat my earlier example, if I draw the set of green things in ink and the set of grue things in crayon, the world has “structure” in a broad sense: the first set is distinguished from the second thanks to the kind of marker used. But we cannot infer from *this* that green deserves our attention more than grue! If we use the term Sider’s way, then, we must take care to say that the world is structured only if it has already been shown that the world has the particular kind of structure that should guide our theorizing. But Sider does not attempt to show this. Hence the argument equivocates over two meanings of “structure”: if used in the broad sense then the claim that the

world is structured can be granted but has no normative upshots; if used in Sider's particular sense then the metaphysical posit of "naturalness" does not imply that the world is structured.

Another source of confusion lies in the tendency to forget that the anti-realist agrees that properties like green are elite. As I emphasized at the beginning, anti-realism is not the absurd view that I, SD, would make no mistake by theorizing in terms of grue at the expense of green; it is rather a view about what would *make* that a mistake. Forgetting this leads to the false impression that realism is the only sensible view out there, so that naturalness *must* be theory-guiding even if we know not why. For example, Sider argues that naturalness must be theory-guiding because that would explain two related phenomena: that "scientific discovery satisfies the aims of inquiry particularly well", and that "truths stated in extremely non-joint-carving terms... [are] comparatively worthless" (2011, p. 62). But the response is that the anti-realist does not contest these phenomena. Since *our* scientific discoveries are inevitably couched in *our* elite terms, that explains why *our* science satisfies *our* aims. Relatedly, *we* of course find truths couched in terms that are non-elite *for us* comparatively worthless. The anti-realist agrees with all this. Sider writes as if the anti-realist contests the phenomena, when in fact she takes them to be data to be explained just like the realist.

Still, can the realist claim to have the *best* explanation of the phenomenon? No, for what I have argued is that the realist's "explanation" is a non-starter. Grant that there is a primitive property that the realist calls "naturalness"; I simply cannot make sense of the idea that it should guide our theorizing. Compare Lewis' argument against anti-Humeanism about chance. Lewis can agree that *if* an unHumean whatnot rationally constrained credence, that would explain why those whatnots are action-guiding—they would guide action because they would guide one ingredient of decision-making, namely credence. But this is no rebuttal to Lewis' argument! His argument is that it is hard to make sense of the idea that an unHumean whatnot is credence-guiding in the first place; the proposed "explanation" does not get off the ground. Similarly, I have argued that the realist's "explanation" of eliteness in terms of naturalness is in fact no explanation at all.

Clearly, the notion of explanation is central to my argument: premise 3 for example states that there is no *explanation* of what would make naturalness theory-guiding. But what is the notion of explanation in play? The issue here is that the notion of explanation is precisely the kind of notion that a realist and an anti-realist will have different views about. So, does premise 3 state that there is no *objective* explanation; no explanation of the kind that the realist thinks is the proper aim of inquiry? Or does it state that there is no explanation as the anti-realist understands the term; that is, no explanation relative to our own interests or cultural history?

We can interpret the argument either way. On the first way, we read the argument as a *reductio* of sorts. We suppose for *reductio* that realism is true; hence there are objective (ahistorical, interest-independent) facts about what explains what. Premise 2 then claims that if naturalness is theory-guiding, there must be some explanation *in that sense* of why that is. And premise 3 then states that there is no such explanation. Hence naturalness is not theory-guiding, in contradiction with our initial supposition of realism.

On the second way, we make the argument from the perspective of an anti-realist. We make no supposition that realism is true; we simply use the anti-realist, culture-relative conception of what explanation amounts to. Thus premise 2 amounts to the idea that if naturalness is theory-guiding, there must be some explanation *for us* of why that is so, and premise 3 states that

there is no such explanation. This leaves open that for other communities with different histories or concerns, there might be an explanation *for them* of why naturalness is theory-guiding. Still, the conclusion of the argument would be that there is no explanation *for us*; hence *we* should not be realists. This conclusion is weaker than when the argument is run the first way, but it is interesting nonetheless!

9. Anti-realism

Suppose we accept the argument in one of these forms and reject realism. Where does that leave us? Let me finish by remarking briefly on the kind of anti-realist view we are led to (though of course I cannot give it a serious defense here).

I said that the question that divides the realist from the anti-realist is not *whether* green is elite but *what makes it so*. So I described the anti-realist as proposing a view like the following:

(*) The fact that green is elite (for us) is explained by facts about us our interests, cultural history, etc.

This is not inaccurate, but it could mislead. For one thing, the anti-realist is clearly not making a claim about the “objective explanatory order” of things, for the anti-realist does not recognize an objective explanatory order. No, in expressing (*) the anti-realist is saying what explains green’s eliteness *relative to her* (her cultural history, or interests, or whatever). Thus it would be a mistake to hear the anti-realist’s expression of (*) as an expression “from nowhere”, to use Nagel’s memorable phrase. It is rather *her* expression—it is correct, if at all, *for her*.¹⁵

The same goes for all ways an anti-realist might express an account of eliteness, including those that do not explicitly use the notion of explanation. Thus, if the anti-realist says that *fundamentally speaking* (or *at rock bottom*) there is just us and our interests, and that this then *determines* which properties are elite, this cannot be interpreted as concerning fundamentality or determination in any objective, realist sense. The general point is that the question that divides realism from anti-realism is stated in terms of the very “structural” notions at issue in the debate, such as what “explains” or “determines” or “makes” something elite; hence the answer must be understood in light of the resulting view of those notions. Insofar as the anti-realist idea is that interests are “prior to” eliteness, this can only mean that interests are prior *for us*. This does not mean that *everything* is relative—this is not undergraduate relativism! For the anti-realist, the fact that a given emerald is green may hold independently of us. What depends on us, on her view, are facts that involve “structural” notions like naturalness, priority, explanation, and so on.

¹⁵ This distinction between an explanation being “objective” vs “relative” is notoriously difficult to define precisely. But the details here do not matter for our purposes. Here it is sufficient to say that an assertion of an explanatory claim of the form “The fact that S is explained by the fact that T” is objective if it has a truth-value independent of facts about us (our interests, our history, etc), and relative otherwise. Here I mean to be rather broad about what counts as a truth-value “depending” on our interests. Even if anti-realism is true, it may be that our interests serve to pick out a certain relation as the explanation relation. If so, the truth-conditions of explanatory claims may not themselves mention our interests. Still, since all relations are metaphysically equal, the only thing that singles out the relation we talk about is our interests; hence the truth-value of explanatory claims would depend on facts about us in the sense I have in mind.

But notice that (*), so understood, does not contradict the realist claim that green's being elite is explained *in the objective sense* by the fact that green is natural. For it is consistent to think that the realist is right about what explains what in the objective sense, and that the anti-realist is also right about what explains what in this other sense! This shows that anti-realism cannot just be a collection of positive claims like (*). It must also be a denial of the realist's account of eliteness; specifically, a denial that the structural notions that the realist appeals to are in good standing. Thus, if the realist says that green's being elite is explained (in the objective sense) by green's being natural, the anti-realist will insist that the realist's notions of naturalness and objective explanation have no real denotation (at least, not if they are taken to denote metaphysical whatnots with any normative significance, as the realist insists they do). It is only then that she offers a positive account like (*) in its place.¹⁶

Anti-realism should therefore be characterized as the negative claim that the realist's notions are not in good standing, combined with a positive account of eliteness such as (*). As we have seen, this positive account must be understood as holding relative to the anti-realist in question. One might then worry whether the positive account loses its force. After all, even if eliteness is explained by interests *for me*, it may be explained otherwise *for you*. Indeed the possibility looms that the anti-realist account might be correct for me and yet the realist account is correct for you! Does that not render my anti-realist assertions objectionably parochial?¹⁷

I do not think so, for two reasons. First, even if the positive account is a relative, the negative claim is not. Recall that we can understand the argument against realism as a *reductio*: we assume realism for the sake of argument and ask whether there is an explanation *in the realist's sense* of what makes naturalness theory-guiding, and we answer "no". So, the argument is that realism fails *on its own terms*; that it is an incoherent view *for everyone*! The result is that the negative claim is one we should all embrace; the realist explanation of eliteness is correct for no one. Second, even if the anti-realist's positive account is a relative matter, I do not think it loses its force for that. If my interests (history, whatever) make green elite for me, then it is likely that your interests (history, whatever) will also make green elite for you. You and I are similar enough to share a large stock of elite predicates! And we are likely similar enough that our (relativized) explanations of what makes those predicates elite will be similar too. True, anti-realism allows that vastly different explanations will be correct for agents vastly different from us, but roughly the same explanations may well be reasonably uniform over much of humanity. It is hard to see why those explanations would be lacking in interest!

Suppose we are anti-realists who claim that green is elite because of our interests and history. I said that the explanation is relative *to us*, but even that might be understating the relativity involved. For we do not just have *interests* and *histories*; we also have gruesome variants that we might call "grinterests" and "gristories". While our interests and histories single out green as special according to our standards of explanation, our grinterests and gristories are by definition gruesome features of us that would, if plugged into the same standards of

¹⁶ Note, then, that in rejecting the realist's account of eliteness, the anti-realist does not *just* think just that it is false. She thinks it is false for a particular reason, namely it uses notions that are not in good standing. This is one respect in which the anti-realist is different from what Karen Bennett (2011) calls a "flatworlder". A flatworlder is someone who recognizes the realist's notions like fundamentality and priority but insists that, as it happens, everything is fundamental; nothing is prior to anything else. The flatworlder rejects the realist's account of eliteness too, but for a different reason.

¹⁷ This mirrors the classic objection to the view that everything is relative. For that view implies that it itself is relative, and does that not render it uninteresting?

explanation, single out grue as special instead.¹⁸ One might object that there are no such features, since our standards of explanation may stipulate by *fiat* that gruesome features cannot be explanatory. Fine: then just consider the same explanatory standards minus that stipulation: our grinterests and gristories are then those gruesome variants that would, if plugged into these *very similar* explanatory standards, single out grue as privileged.

As anti-realists, we should not think that *interests* or *histories* are more natural than *grinterests* and *gristories*. We really do have interests and histories, and they really do privilege green (for us). But equally really, we have grinterests and gristories too, and they privilege grue (for us)! So we must not make the mistake of thinking that there are certain metaphysically privileged facts about us, our *interests* and *history*, that single out green as special. Rather, we say “Green is elite because of our interests and history” only because we talk a language that revolves around those terms. Thus, when an anti-realist is pushed further and further to say ultimately why green is special, it appears that all she can say is “This is the language I speak.” The anti-realist says that green is elite, yet she must recognize that there is nothing in reality making it more special than grue. In this funny sense it is, on her view, a brute fact that green is special and grue is not. Of course the realist agrees that this is brute, so in this respect the two views will start to sound alike! But under the hood they are very different. For the anti-realist denies that green has any kind of *metaphysical* significance that grue lacks. And she recognizes that there is no criticizing other beings who speak different languages—they may be getting anything wrong *from her own point of view*, but not in any further “objective” sense.

The anti-realist picture we are left with, then, looks like this. At its core is the negative claim that the metaphysical whatnots posited by the realist—primitive naturalness, grounding, laws, essences, and so on—are a myth. But this is not to reject a distinction between elite properties and the rest; the anti-realist just rejects the realist’s account of what makes something elite in terms of their metaphysical whatnots. In its place she says that the elite properties are determined by facts about us, for example our interests or history or perhaps even our biology. But we must take her account for what it is, nothing more: as relative to the anti-realist in question in the way just outlined.

Note that the anti-realist, so characterized, need not be critical of science—at least, no more critical than her realist counterpart. She recognizes that “electron” is elite and “electron or cow” is not, so she agrees that our scientists are right to theorize about electrons at the expense of other gerrymandered collections. Like any realist, she can praise the scientist’s methodological standards and criticize those who shortcut those standards, for they are *her* standards. Moreover, from her point of view other cultures get things wrong by theorizing about other properties, so she may vocalize the kind of criticism of alternative sciences normally associates with realists—after all, whose point of view is she to use in day-to-day investigations but her own? The difference is just her interpretation of this practice. The realist claims that to get things right is to get it right “from God’s point of view”; or in more secular terms, to reflect some objective metaphysical whatnot. It is only this particular interpretation of “getting things right” that the anti-realist rejects. Hence the anti-realist is not necessarily “anti-scientific” in anything except the weakest of senses.

¹⁸ You might object that *I* am the kind of entity that necessarily has interests and not grinterests. Perhaps *I* am an *agent*, and agents necessarily have interests not grinterest. But then the point can be put thus: that there is another entity coincident with me, call it a *gragent*, that has grinterests and a gristory. I will not decide how best to put the point here.

Nor, we may note, must she be “anti-metaphysical” or “anti-philosophical” either. Philosophers discuss the nature of mind, persons, and genders, while ignoring various gruesome alternative topics. As in the case of science, the anti-realist can agree that philosophers are right to focus on what they do; she agrees that these topics are “elite”. Moreover, she need not adopt the Carnapian line that metaphysics is “trivial”. Unlike Thomasson (2015), the anti-realist described above need not claim that the answers to metaphysical questions are analytic or can be uncovered by rudimentary conceptual analysis. She might, for example, conceive of many philosophical questions as asking for explanations of a certain sort, in which case answering them may involve the difficult business of assessing rival explanations for plausibility, simplicity, generalizability, and other virtues. She can coherently engage in this practice, arguing in favor of some explanations at the expense of others, and she may even charge other philosophical communities of “getting things wrong”. Thus in her day-to-day engagement with philosophy she may sound just like a realist. What differs is her interpretation of the practice: she rejects the realist view that “getting this right” consists in reflecting some objective metaphysical whatnot.¹⁹

10. Conclusion

I have argued that we are pushed towards this anti-realism picture because of the problem of missing value, the problem that there is no explanation of why the metaphysical whatnots posited by realists are theory-guiding. Let me conclude by gesturing at one way in which that problem might be avoided.

Pain is action-guiding in the sense that, prudentially speaking, one should avoid it. What explains this? What is it about pain in virtue of which you ought avoid it? One tempting answer is that one should avoid pain because it is, well, *pain*. It feels *like that*, and anyone familiar with that sensation will understand why it is to be avoided. The idea here is that our phenomenal acquaintance with pain removes any mystery as to why it is action-guiding. This idea could be packaged in a number of ways. Perhaps the idea is to explain why pain is action-guiding in terms of its phenomenal nature. Or perhaps the idea is that our phenomenal acquaintance with pain reveals why there need be no explanation of why it is action-guiding, so that we can accept it as “primitively” action-guiding. Either way, the idea is that our acquaintance with pain removes the mystery.

Could we say, analogously, that our phenomenal acquaintance with *naturalness* is sufficient to remove any mystery as to why it is theory-guiding? No: we are not acquainted with naturalness in anything like the way we are acquainted with pain. But perhaps we are acquainted with colors. Just as a painful experience is said to reveal the “essential nature” of pain, some think that “the intrinsic nature of canary yellow is fully revealed by a standard visual experience as of a canary yellow thing”, as Johnston puts it (1992, p. 223). This suggests the following possibility: that just as anyone familiar with pain will understand why it is to be avoided, so anyone familiar with green will understand why we should theorize about *it* and not *grue*. This is to give philosophical voice to a standard undergraduate reaction to Goodman’s example, namely that green is *green* and that is why it is privileged over *grue*. The same would go for other “acquaintables” such as sounds, smells, tastes, and feels. The result would be a realist view on which it is an objective fact about these acquaintables that they are theory-guiding, and

¹⁹ I hope to say more about this anti-realist conception of metaphysical explanation in further work. Thompson (manuscript) also develops a picture of metaphysical explanation that fits with this anti-realist picture.

that this is no mystery thanks to our phenomenal acquaintance with them. One might then call these acquaintable properties “natural”, but that would be loose talk. For this is not the view that the natural properties in Lewis’ sense turn out to be acquaintables; that view remains subject to the problem of missing value. It is rather a view that claims *de re*, of each acquaintable property in turn, that *it* is theory-guiding, and that our phenomenal acquaintance with it shows that this is no mystery.

To count as an alternative to anti-realism, the fact that green is acquaintable must hold independently of us—it must not depend on our biological make-up for example. That we happen to be acquainted with it is, of course, a contingent fact about our circumstances, but the fact that it is acquaintable, and that anyone acquainted with it will appreciate why it is theory-guiding, must be independent of us. For if this depended on facts about *our* particular biology, then organisms with a different biological make-up would make no mistake by theorizing in terms of properties that are acquaintable *for them*. Thus the view must be that there is an objective relation of acquaintance that only some properties can stand in. Clearly, this is not for everyone.

Moreover, the resulting realism will likely lead to a kind of idealism. For on this view the privileged properties, the ones on which one’s metaphysics is build, are not the properties of fundamental physics but rather those of direct perception. Perception reveals the maximally “elite” properties; other properties like those of physics are derivative upon these.

I do not know how popular this kind of view would be amongst contemporary realists. But it is the only realist view I can think of that *might* avoid the problem of missing value. Whether it does so I leave for another time.

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