

THE ROUTLEDGE
HANDBOOK OF
SCIENTIFIC REALISM

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REALISM, ANTIREALISM, EPISTEMIC STANCES, AND VOLUNTARISM

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1 Introduction

Debates between different kinds of scientific realists and antirealists are longstanding and show every sign of continuing. In this chapter I examine one explanation of their longevity: lurking beneath various forms of realism and antirealism are conflicting commitments which (1) sustain these positions and (2) are immune to refutation. These deeper commitments are to different *epistemic stances*. I consider the nature of philosophical stances generally and, more specifically, of epistemic stances in relation to the sciences. I investigate the question of how stances are evaluated and adopted and elaborate on the most telling reason for their immunity, namely, a form of *voluntarism* regarding their adoption.

2 Why is the realism debate perennial?

If one is willing to grant the slight anachronism required to read at least some past philosophical concerns as earlier versions of ours today, it is hard to resist the conclusion that disputes very much like contemporary ones between scientific realists and antirealists have been a philosophical preoccupation since antiquity. Of course, this is not an uncommon occurrence in philosophy and no doubt, in each case, there are reasons for the persistence of certain questions and disagreements about their answers. The case of scientific realism and antirealism (I will drop the adjective "scientific" henceforth, taking it as implied) is a case in point. It is arguable that the longevity of this debate and, indeed, its likely central place for years to come in the philosophy of science, has an explanation. One explanation is the subject of this chapter. In what follows, I will explore the idea that underlying the different forms of realism and antirealism available to us are deeper commitments which sustain these positions and which are not, in the final analysis, susceptible to any lasting philosophical defeat.

Before getting underway, let me clarify the use of the terms "realism" and "antirealism" as intended here. Many discussions of these generic positions address the virtues and vices of specific variants of them.¹ For present purposes, however, a more generic understanding will suffice, and one may take the morals of the following discussion to apply, *mutatis mutandis*, to these more specific variants. Generically, realism is often characterized in terms of three commitments. The first is ontological, to the existence of a mind-independent world. The second is semantic, to

the literal interpretation of scientific theories and models as descriptions of this world. The third is epistemological, to the idea that our best such literally construed descriptions give us knowledge – a commitment which is sometimes expressed by saying that our best theories are true or approximately true (see G. Schurz, “Truthlikeness and approximate truth,” ch. 11 of this volume) or that their central terms refer to aspects of the world. Thus described, antirealism is any denial of realism, and since there are several components of the latter, each of which can be denied, there are several ways of subscribing to the former.

With this generic understanding of realism and antirealism in hand, let us confront the question of why debates between the advocates of these positions seem perennial. Wylie (1986) offers a diagnosis which appeals to the idea that the debate had, even at that stage, developed in such a way that certain metaphilosophical differences between the opposing sides were apparent: “Realism and antirealism thus confront one another as preferred and essentially incommensurable modes of philosophical practice” (p. 287); “the locus of debate about realism shifts from differences over the details of rival theories about science to a more comprehensive meta-philosophical disagreement about the principles that govern the formulation and evaluation of these theories” (p. 291). The invocation of the notion of incommensurability here is instructive. In keeping with the introduction of this notion by Feyerabend and Kuhn (see H. Sankey, “Kuhn, relativism and realism,” ch. 6 of this volume) to describe theorizing about the world in different time periods or from the perspectives of different theories, it suggests that realism and antirealism have “no common measure”. Though there is no doubt that certain kinds of comparisons between realism and antirealism are possible, whether or not these positions are ultimately compelling is something that must be judged, to a large extent, from within separate contexts established by certain prior assumptions.

Now, granted, this is all rather abstract. What does it mean? There are three key points that I would like to extract from Wylie’s diagnosis and elaborate in my own way in what follows. The first is that realists and antirealists have conflicting metaphilosophical commitments. Here the ground-level commitments are to realism or antirealism; the metaphilosophical commitments are at a “different level”, in a sense to be explained. The second point is that these commitments concern how the ground-level positions, realism and antirealism, are formulated as views about scientific knowledge and how they are evaluated. The third and last point is that there is a sense in which these formulations and evaluations are relative to, or internal to, different contexts within which they make sense and which are themselves robust and incapable of being dismantled by philosophical argument alone. In the rest of this chapter my aim is to elaborate these three points.

The attempt to spell out these commitments which underlie realism and antirealism is, in effect, an attempt to illuminate what a number of proponents and critics of realism have already alluded to but only in passing. For instance, Worrall (2000) suggests that the foremost consideration in favour of realism, the so-called miracle argument, is not an argument *per se* (see also K. Brad Wray, “Success of science as a motivation for realism,” ch. 3 of this volume). The miracle argument is typically described as the thought that the best and perhaps only non-miraculous explanation for the amazing successes of our best science is that it is true or close to the truth or that it has genuinely latched onto entities and processes in the world. In Worrall’s (p. 230) estimation, “[a]ny such argument that was valid would inevitably involve either as explicit or implicit premise some assumption that prejudged the issue.” Likewise, the most popular argument of recent times against realism, the pessimistic induction, which leverages the successes of false theories from the past to raise doubts about currently successful theories, is not an argument but rather “a plausibility consideration, which in turn sets a *challenge*” (p. 234) for the realist to articulate a response (see also P. Vickers, “Historical challenges to realism,” ch. 4 of this volume).

In section 3 I will identify the prior commitments of realists and antirealists which operate at a “different level” as *epistemic stances*, and consider the nature of these stances and how they sustain views such as realism and antirealism. In section 4 I will explore the question of how epistemic stances are evaluated, which will clarify the senses in which they are incommensurable and ultimately indefeasible. The thought that different and conflicting epistemic stances are things that can be adopted by different agents is explored in section 5. This variable adoption suggests a kind of *voluntarism*, or voluntary choice, but what it means to “choose” at the level of stances is unclear, and I will consider this issue briefly in conclusion.

3 Epistemic stances

What, then, is a stance? Let us begin with the notion of a stance *simpliciter* and then refine it in a way that is more specifically germane to the issue of realism and antirealism. The notion of a stance broadly speaking reflects the meaning of the term in everyday use, where it is applied to both the physical posture or position a person may adopt and a person’s attitude or standpoint regarding a subject of interest. In the philosophical context this translates into the notion of taking a specific position or standpoint regarding a philosophical question or problematic. It is in this spirit that Boucher (2014: 2319) describes the idea of stances as “*perspectives, or ways of seeing*”, as “particular *orientations on the world, or ways of seeing facts*”. Admittedly, described at this level of generality, a stance would seem to include any sort of philosophical view, but the idea of a “way of seeing facts” does hint at something that is (potentially) more specific and limiting and which provides a clue as to how the term is used in debates concerning realism: in this more specific arena, a stance is not a view as such, which might be exhausted by some factual proposition or propositions, but something that indicates how one thinks or should think about factual propositions themselves.

One take on this more specific notion of a philosophical stance is suggested by Rowbottom and Bueno (2011a: 9), who describe stances as having three components: a mode of engagement; a style of reasoning; and propositional attitudes (such as desires and hopes and even beliefs, though the last of these is not usually constitutive of or necessary to stances). By “mode of engagement” they intend something similar to Boucher’s idea of a perspective or an orientation. A mode, they say, is “a way of approaching the world (or a given situation)”. For example, one’s mode of engagement may be comparatively open-minded or dogmatic or more proactive in investigating the relevant facts as opposed to more *laissez-faire*. As examples of styles of reasoning they suggest tools used in reasoning about a given subject matter including “patterns of inference, diagrams, templates, and other useful devices”, which brings to mind Kuhn’s ([1962] 1970) concept of “*exemplars*”, which refers to standard methods, techniques, or problem-solving devices employed to answer certain kinds of (in Kuhn’s case, scientific) questions (see H. Sankey, “Kuhn, relativism and realism”, ch. 6 of this volume). Elaborating the idea of a stance in these more specific terms certainly helps to differentiate it from the idea of simply holding a philosophical position.

In what follows I will operate with a conception of stances that, while compatible with both of the accounts just mentioned, is more committed than the first and less committed than the second to specific ingredients. This conception, a version of which is suggested by Teller (2004), associates stances with strategies for generating factual beliefs – “*policies*” regarding which principles and methodologies are appropriate or inappropriate to producing knowledge. A stance thus incorporates an epistemic policy or collection of policies, reflective of and including various attitudes and commitments regarding how one learns things about the world. While compatible with the more general notion of a worldly perspective or orientation, the idea of an epistemic policy is focused specifically on questions of generating knowledge, making it directly relevant

to the epistemological dimension of realism and antirealism mentioned in section 2. A broader notion of stance may well incorporate further attitudes, commitments, and so on, but in the interests of thinking about realism and antirealism, a focus on epistemic policies seems appropriate here. Notions such as modes of engagement and styles of reasoning are simply further examples of the kinds of attitudes, commitments, principles, and methodologies that might come together to comprise an epistemic stance. Henceforth, it is this conception of stances as incorporating epistemic policies that I will have in mind.

In order to understand how stances are germane to debates between realists and antirealists, it is important to appreciate that they are not themselves identical to specific claims regarding the nature of the world. Though at any given time or in any one philosopher's hands, a particular stance may be employed so as to arrive at a set of beliefs, thus indicating a connection between the stance and beliefs at issue, stances themselves are not properly associated with any *one* set of propositions about the world. In holding a stance one may generate certain beliefs, but the former is distinct from the latter, which may change even while the stance itself remains fixed. As an illustration of the policy-like components of stances, consider how realists often take the perceived explanatory power of hypotheses about unobservable (by the unaided senses) entities or processes (subatomic particles, molecules of DNA, depression, market forces, etc.) seriously in determining what to believe, and how explanatory considerations typically carry little or no weight with empiricist-minded antirealists who believe only facts about observable things. Here we have different attitudes, emerging as policy differences, regarding how to weigh the evidential import of explanatory power where unobservables are concerned, and the policies are not themselves truth apt. A stance is not the sort of thing that is believed; it is adopted. It is or includes a guide or set of guidelines for acting, epistemologically.

Let us consider some examples of stances that are especially relevant to the context of debates about realism. I will outline, briefly, three stances that have dominated this context historically and in recent discussion. Though these stances are opposed in various ways, it would be a mistake to think of them as necessarily mutually exclusive in the life of any one epistemic agent, in that it is possible that one and the same person might be drawn towards one or another in application to different domains of scientific theorizing and practice. Furthermore, as we will see, the terms in which these stances are described likely admit of variable interpretation, and the commitments of those holding one and the same stance may vary accordingly. As a consequence of these subtleties, any attempt to describe a stance is inevitably something of a caricature; the attitudes and commitments of actual people are surely more complex combinations and interpretations of the relevant principles and methods than any simple description communicates. We must start somewhere, however, and leaving aside the complexities of individual applications, let me now provide a stripped-down exposition of some important contrasts between these stances.

The name of what I will label the "metaphysical stance" has an important historical connotation. On the standard distillation of logical empiricism, which dominated the philosophy of science for much of the twentieth century and the ultimate downfall of which was instrumental in stoking the fires of realism, any aspiration to describe things that go beyond mere observation (again, with the unaided senses) is metaphysical (see also M. Neuber, "Realism and logical empiricism," ch. 1 of this volume). On such a view, to interpret claims about "unobservable entities" like protons and enzymes, not as elliptical for observable phenomena but literally as describing strictly unobservable things, is to engage in metaphysics. This conception of metaphysics seems dated today, where the subject is more typically associated exclusively with the preoccupations of professional metaphysicians such as possible worlds, mereology, and the notion of grounding, as opposed to any of the commonly invoked, unobservable subject matters of science (see S. French, "Realism and metaphysics," ch. 31 of this volume). For present purposes, however, let us think

of all of these subject matters as falling under the remit of the metaphysical stance – one might, respecting changes in the use of the term "metaphysics" historically, simply think of its application to the scientific context as indicating a lesser degree or kind of metaphysical theorizing than is found in the seminar rooms of contemporary metaphysicians.

The core epistemic policies associated with the metaphysical stance are as follows:

- M1. Accept demands for explanation in terms of things underlying the observable.
- M2. Attempt to answer these demands by theorizing about the unobservable.

Typically, realists are committed to policies like M1 and M2. Many realists hold that it is part of the mission of science to give explanations of what we observe in everyday life and in scientific inquiry in terms of deeper, underlying facts, and that such explanations should be interpreted literally as revealing the underlying nature of the world (see J. Saatsi, "Realism and the limits of explanatory reasoning", ch. 16 of this volume). In contrast, many antirealists are motivated by some form of empiricism, and van Fraassen, who deserves much credit for the resurrection of empiricism in the philosophy of science after the demise of logical empiricism, characterizes (2002) his own brand of empiricism not as a factual proposition, such as "the only source of knowledge of the world is experience", but rather as a stance.² Reflecting his conception of empiricism as oppositional to historical traditions of metaphysical theorizing, let me characterize what I will call the "empiricist stance" in terms of policies that are diametrically opposed to the metaphysical stance:

- E1. Reject demands for explanation in terms of things underlying the observable.
- E2. *A fortiori*, reject attempts to answer these demands by theorizing about the unobservable.

The intended effect of these policies is to dissuade one from attempting to explain phenomena that are (one might feel) plain enough in experience by appealing to yet further, underlying things – things which are, according to the empiricist, typically less well understood and often mysterious or even occult. The implementation of these policies is in keeping with common empiricist refrains throughout the history of philosophy to the effect that things that are evident in experience do not, in fact, require explanation, and that to the extent that the sciences produce such explanations they should not be interpreted literally and then believed. This more austere epistemology contrasts with the less austere inclinations of those attracted to the metaphysical stance, who view empiricist attitudes towards underlying explanation as robbing us of genuine understandings of the phenomena, which (arguably) one should seek.

Even as disputes between those holding versions of the metaphysical and empiricist stances play out in discussions of realism, a third stance is often found loitering in the neighborhood, associated with philosophers who are suspicious of the very nature of these debates to begin with. This is what I will label the "deflationary stance", and one may express its core policies with respect to scientific knowledge as follows:

- D1. Reject realist and empiricist attempts to describe the epistemic upshot of scientific practice.
- D2. *A fortiori*, reject the analyses of truth and reference in terms of which it is often explicated.

In contrast to the empiricist stance, it is difficult to identify one very specific tradition of philosophy that exclusively or primarily exemplifies the deflationary stance. That said, many who

espouse one or another form of pragmatism do appear to make such commitments. For instance, Blackburn (2002) argues that if one adopts a particular (what one might reasonably describe as pragmatic) understanding of certain claims that realists and antirealists commonly make, some of their supposed differences turn out to be not well posed, and the debate between them essentially collapses. This conclusion is difficult to comprehend, however, unless one reinterprets or deflates the contested claims of realists and antirealists in the sorts of ways that pragmatists are wont to do.

For example, Blackburn takes issue with van Fraassen's claim that one should not believe scientific theories to be true but merely accept them, which entails believing only that they correctly describe observable phenomena and a commitment to use them in practice. But the pragmatist sees no difference between belief and acceptance. For her, the meaning of a proposition just is its practical consequences for human experience, and the commitment to use a theory thus and so is the same in either case. This sort of contention is found in the writings of the very first authors in the modern tradition of pragmatism, such as Charles Saunders Peirce (1992) in "How to Make Our Ideas Clear" (published in 1878). Many points of dispute between realists and antirealists, including differences in epistemic commitment to claims about scientific entities and processes based on their observability, are effectively dissolved on this view. The result is a rejection of some familiar bones of realist-antirealist contention, and a sort of quietism about philosophical issues regarding which, one might contend, nothing sensible can be said.

This seeming combination of pragmatism and quietism is prominent in recent reflections on realism and antirealism by Fine ([1996] 1986: chs. 7 and 8), who recommends what he calls the "natural ontological attitude" (NOA). Fine's (1998: 583) emphasis on taking a particular *attitude* toward scientific work and its output is highly suggestive of the notion of a stance:

NOA is . . . simply an attitude that one can take to science. The attitude is minimal, deflationary and expressly local. It is critically positive, looking carefully at particular scientific claims and procedures, and cautions us not to attach any general interpretive agenda to science. Thus NOA rejects positing goals for science as a whole, as realists and constructive empiricists do. NOA accepts "truth" as a semantic primitive, but rejects any general theories or interpretations of scientific truth . . .

At least part of NOA is preoccupied with considering science in a piecemeal sort of way as opposed to generalizing about scientific knowledge more broadly, but there is no obvious reason why realists and antirealists cannot consider science in the same way, and I will leave this particular issue aside here (for thoughts on "local" versus "global" arguments, see L. Henderson, "Global versus local arguments for realism", ch. 12 of this volume). More relevant to our present concerns and in the spirit of deflationism, NOA offers to take science on its own terms without adding any philosophical interpretations in the form of epistemological or metaphysical diagnoses, including claims regarding which parts of scientific theories and models refer to things in the world, which parts are properly subject to belief or properly regarded as true, and so on.

I have described three stances – the metaphysical stance, the empiricist stance, and the deflationary stance – all of which are in the mix of and inform how philosophers engage with debates about realism, and all of which involve attitudes or commitments that are not strictly propositional in that they are not claims as such, but rather strategies or guidelines for how to think about knowledge in the scientific sphere. Each of these stances is a subject of controversy in its own right, and clearly, the kinds of views in the philosophy of science with which they are linked – realism, antirealism, denials of both realism and antirealism, and so on – are likewise contested. This raises some obvious questions: which stance is to be preferred, and how does one go about determining this so as to make a choice? Let us turn to these questions now.

4 Evaluating epistemic stances

It is not uncommon to find oneself holding a belief or adopting a stance without having thought about it much, if at all. The settings in which people are embedded – social, political, and even philosophical – are no doubt relevant to the kinds of beliefs and stances that one may absorb in the absence of careful reflection. Having explicitly placed a few stances relevant to realism and antirealism on the table, however, we have an opportunity to assess them critically in a thoroughly conscious and deliberate fashion. Van Fraassen (2002) suggests two criteria of assessment for stances generally, which I will transpose here as criteria of assessment for epistemic stances in particular. First, a stance should pass some reasonable test of rationality; adopting a stance should not be demonstrably problematic from an epistemological point of view. Second, the stance or stances adopted by a given person should reflect what that person values, again, from an epistemological point of view. Both of these criteria require some spelling out, and it is fair to say that while these criteria have not proven especially controversial in themselves, van Fraassen's specific articulation of them has been a subject of considerable criticism (see endnote 2). As I will suggest, though, it is unclear whether the alternative articulations proposed by critical authors are, in fact, incompatible with the one they critique.

To begin with the first criterion, van Fraassen defines rationality in terms of the internal coherence of the attitudes, commitments, strategies, and policies comprising the relevant stance. As he (2004: 184) puts it, the "defining hallmark" of irrationality is "self-sabotage by one's own lights", by which he means that if one's stance is such that it is likely to frustrate the achievement of the very epistemic aims one seeks to fulfill, there is clearly something irrational about adopting it. If it is one's goal to learn about how segments of DNA are copied in the construction of molecules of RNA in living cells, clearly it would be counterproductive to adopt a policy according to which one forswears theorizing about unobservable entities, since neither segments of DNA nor RNA are observable with the naked eye. If there is no such mismatch between the stance one adopts and one's epistemic project, the former qualifies as rational. There are at least two interesting things to note about this conception of rationality. First, rationality here is something that can only be assessed in relation to an epistemic aim or set of aims and practices which together make up a project. Also, it is in principle "permissive", in the sense that this conception does not stipulate that only one stance in a given domain of scientific (or other) investigation is rational; it is at least open to the possibility that more than one such stance could satisfy the condition of rationality.

A number of philosophers have balked at the idea that the rationality of stances could be quite this permissive.³ The most common complaint is simply that permissive rationality is not demanding enough, thus allowing problematic stances to count as rational. Alspector-Kelly (2012: 189), for example, alleges that this view of rationality "is so wildly permissive that it countenances as rational belief-sets that are obviously completely crazy, including belief-sets which completely disregard all empirical evidence". Relatedly, Psillos (2007: 158, 162) argues that a plausible conception of rationality must include a "principle of evidential support" according to which all relevant evidence is properly considered. Arguably, though, these sorts of concerns point not to a problem with permissive rationality *per se* so much as the fact that "self-sabotage" is a highly under-specified notion. Charitably, one might unpack it in just the ways these authors suggest. For instance, given that disregarding relevant evidence runs a high risk of compromising any epistemic project, it is difficult to see how one could permit such neglect without making it correspondingly less likely that one will achieve one's epistemic aims, which would then render one's stance irrational even on the permissive conception. Paying due attention to relevant evidence thus seems implicit in the idea of "no self-sabotage". This of course leaves open the important task of further specifying what this idea entails.

Let us turn now to the second criterion suggested for evaluating stances of interest to debates about realism (among others): the idea that any stance passing muster must be one that is appropriate to or in tune with the kinds of things that one values, epistemologically. If predictions regarding things in the world are an important or central feature of one's assessment of scientific knowledge, one's stance should reflect this. The same goes for scientific explanation or unification or any other goal whose realization would count as a feature of knowledge that is valued and thus sought in this domain. The notion that an epistemic stance should allow for and promote epistemological goods is hardly controversial all by itself. It becomes controversial, however, with the further suggestion that different agents may reasonably value different and even incompatible goods. Recall that the permissive account of rationality leaves open the possibility that different stances may qualify as rational. If different people have different values, epistemologically speaking, this would explain the continuing appeal of different and conflicting stances. And given that the metaphysical, empiricist, and deflationary stances outlined previously are all still very much in play in debates about realism, the concurrence of different and conflicting values here seems undeniable.

How should one view this sort of conflict? One possibility is that when stances conflict there is at most one choice that is the right choice, so that conflicts are properly viewed as the result of some confusion on the part of one or more interlocutors about which stance is the right one to adopt. Certainly, debates between realists and antirealists (and non-realists) generally convey unmistakable intentions to convince us that the parties with whom a given author is arguing are confused about something or other and that if only those interlocutors could be made to see clearly, they would adopt *the correct* stance in the context of scientific knowledge, whatever that may be. Conversely, the suggestion that there is no one correct stance for all epistemic agents – that values are not only found to vary between philosophers in practice but also that they are in principle or properly regarded as relative to individual judgment – urges the further suggestion that different stances may be appropriate to different people, namely, people with different and conflicting epistemological values.

The contention that different stances may be ultimately defensible is sometimes linked to the historically influential essay "The Will to Believe" by William James ([1897] 1956), in which he argues that there is no one, rationally obligatory way to make epistemic commitments. At one extreme, driven by the laudable goal of believing truths, one may end up believing far too much. At the other extreme, driven by the equally laudable goal of not believing falsehoods, one may end up believing far too little. The epistemic risks one takes in charting a path between these extremes, says James, are determined by an agent's own assessment of how best to do so, in keeping with her values. One might translate this thinking into the present context by noting that there are a number of factors that seem relevant to determining the epistemic policies that one adopts – does one seek an explanation of something, or is mere prediction sufficient or preferable?; what sorts of phenomena require an explanation in the first place?; what kinds of explanations are genuinely illuminating?; and so forth – but chief among them is the degree of risk that one is willing to accept in believing any given proposition. It is arguably difficult to imagine that there could be one correct answer to the question of precisely how much risk an individual should accept, let alone what degree of risk one should attribute to any given proposition.

Inspired by the Jamesian picture, one may diagnose many disputes between those holding different positions in the realism debate as indicative of differences in the conflicting stances they adopt and subtract the usual judgment that at most one party to these disputes is, in fact, correct. When a certain kind of realist, for example, believes in certain properties of molecules described in biochemistry or of black holes described in cosmology, she does so on the basis of assessments

of how telling the evidence is one way or another. A certain kind of empiricist may feel the force of this evidence less strongly and come to different assessments. A certain kind of deflationist may worry that in the very act of disagreeing about whether to attribute these properties of things to a mind-independent world, one operates with a conception of knowledge that exceeds the bounds of what creatures like ourselves, who have no god's-eye perspective on reality, after all, can meaningfully discuss. To the extent that these differences are irresolvable, because they reflect different judgements about different kinds of risk which agents may be willing or unwilling to accept, the diagnosis of many disputes about realism in terms of stances suggests that there is likely more than one, ultimately defensible way to think about scientific knowledge.

There is a temptation here to read this conclusion too strongly. Contrary to what one might think at first glance, it does not entail the hopelessness or futility of debates about realism *simpliciter*. Rather, it indicates that at least some debates about realism – ones in which what is at stake is ultimately reducible to differences in the stances adopted – need to be engaged differently than they have been traditionally. One focus of a productive, worthwhile engagement is the question of whether the relevant stances are, in fact, internally coherent in the sense of avoiding evident risks of self-sabotage. Since any ultimately defensible stance must pass the test of rationality, the acceptability of the stances at work in debates about realism is properly subject to this kind of examination. On the flipside, disputes that are ultimately diagnosable in terms of different parties simply holding different but rational stances are, it would seem, futile after all. Certainly, this does not preclude attempts to persuade an interlocutor of the virtues of one's own stance or the deficiencies of her otherwise rational stance from one's own perspective.⁴ Furthermore, it is always open to individuals to change their minds about what they value, epistemologically, and thus about which stances they should adopt. But if in the face of such discussion, differences remain, there would seem to be no philosophical antidote to disagreement.

That there are limits to the extent to which debates about realism can be resolved should come as no surprise. Recall, we began with the aim of exploring what it could mean to say that realists and antirealists have conflicting metaphilosophical commitments which are relevant to understanding how views such as realism and antirealism are evaluated, and which are in some sense incommensurable with one another. Having identified these commitments as different stances which very naturally support different positions in debates about realism, the source of incommensurability and stalemate should now be clear. While all defensible stances must pass the test of rationality, there is no one answer to the question of what a responsible epistemic agent should value. Epistemological values are variable, and though an individual may change her mind about them, she need not. Indeed, commitments to values are often deeply entrenched, and whatever common ground there may be between the holders of different stances, it is apparently insufficient (if the history of philosophy is any guide) to serve as a strong enough ground from which to convince those having certain alternative casts of mind. Add to this the inherent robustness of stances – they include strategies or policies for belief formation, but they are not themselves equivalent to whatever beliefs may result and change over time – and their resiliency is all the more unsurprising.

5 Voluntarism, about beliefs and stances

Let us grant that at least some different and conflicting stances are rationally permissible, and that these stances include ones such as the metaphysical, empiricist, and deflationary stances that factor into commitments to a number of contrasting positions in debates about realism. The extant variety of positions suggests that different parties to these debates have chosen different stances – ones that accord with their values. Rationally permissible but nonetheless variable adoption of

opposing stances suggests a voluntary choice of some kind, a form of (epistemological) *voluntarism*. But what does it mean to say that people choose stances?

Voluntarism in epistemology is commonly described as the view that it is possible to exercise voluntary control over one's doxastic states, such as belief, disbelief, and suspension of belief. Opposed to this doxastic voluntarism is the view that doxastic states are not a matter of choice but are rather, to put it somewhat dramatically, forced upon the agent who has them. Arguably, perceptual beliefs are an example of beliefs that are formed automatically through processes not subject to an agent's control, and one might further argue that even beliefs that follow as a consequence of evaluating evidence for and against a proposition follow automatically via the application of one's faculty of reason as opposed to being chosen as such. While debates between doxastic voluntarists and involuntarists about whether some or all beliefs are chosen are instructive, they are something of a distraction presently. When realists and antirealists end up with different doxastic states regarding propositions about electrons or attention deficit disorder, these states are "downstream" consequences of the fact that they have different stances. The (putative) voluntarism at issue here concerns something "upstream": the prior attitudes and policies one has pertaining to whether certain kinds of scientific propositions are to be entertained as belief apt in the first place.

Thus, the subject matter of voluntarism here is not belief, at least not in the first instance, but stances. This insulates the question of whether stance voluntarism is a compelling idea from the more common debate about doxastic voluntarism in epistemology, and even those who are wary of doxastic voluntarism are often ready to admit that attitudes and commitments regarding how beliefs are acquired (how evidence is procured and assessed, etc.) may well be subject to choice (e.g. Clarke 1986). Granted, if stance voluntarism is a compelling idea, there is a sense in which the doxastic states that an agent has as a result of implementing her stance-given strategies and policies (for generating beliefs) may be described as subject to a kind of choice, but note: this sense of choice is indirect as opposed to direct with respect to belief; it concerns not belief in the first instance but rather how agents *come to* believe, disbelieve, or suspend belief in the ways they do. With this distinction between direct and indirect senses of choice in hand, doxastic voluntarism and stance voluntarism are revealed as related but nonetheless separate and independent notions.

Focusing our attention squarely on the issue of stance voluntarism, then, let us return to the question of what it means to choose a stance. Arising from the previous section we have an injunction to choose stances that are rational and another to choose stances that reflect one's values, epistemologically speaking. So at least part of the relevant conception of choice here involves examining one's stance or prospective stances for signs of potential self-sabotage in the senses alluded to earlier. This aspect of choice has both a positive and a negative dimension: through considerations of rationality one admits candidate stances for possible adoption – those that pass the test of rationality – and rejects those that do not. Another part of the conception of choice at issue, which similarly has both positive and negative dimensions, involves matching one's values with candidate stances. Those that are suitably matching pass this test, and those that are not do not. Thus, minimally, one can say that a *good choice* of stance is one that incorporates these two aspects, a negligent choice is one that neglects one or both, and a poor choice is one that for reasons of either mistaken assessment or negligence results in the adoption of a stance that fails to pass the test of rationality or value matching.

It is arguable that neither of these aspects of choice amounts to the simple application of any explicit decision procedure or algorithm. Some strategies or policies for generating beliefs may seem obviously or self-evidently at odds with one's epistemic goals, but others may be less transparent in this regard, and assessing whether the latter engender the risk of self-sabotage may well rely on unavoidably intuitive judgements. Furthermore, it is unclear how much we

can say about what precisely is going on when one is attracted to stances which thereby, presumably (one would reasonably conclude this on the basis of such attraction), match up with one's values. Is there an analysis to be had of what this kind of attraction amounts to? Perhaps this is a question for empirical psychology or phenomenology. When pressed, it is difficult for individual agents to say more than to narrate facts about how certain stances strike them as the right ones to adopt, about how some "feel right" or "make sense" to them on some deep level that is resistant to further articulation, and one might think that psychology or phenomenology is the sort of inquiry that is capable of shining a light into this otherwise black box (on the latter, see Ratcliffe 2011).

Conversely, one might argue that further investigation of these kinds is unlikely to yield any *epistemological* insight. Learning about how the adoption of certain stances may be correlated with features of the mind that are of interest to psychology or how they are correlated with affective states (what kinds of explanation does one find deeply satisfying?; what kinds are frustratingly mysterious?) is interesting in its own right, but unless one thinks that epistemology is reducible to psychology or phenomenology, one may yet hope to understand more about the nature of choice in the context of stances. Here, however, I think we simply run out of explanations. Consider: the heat is stifling and the ice cream parlour inviting. There are several flavors and all of them are permissible; the batches that didn't work out were thrown out by a conscientious chef. Having limited your choice to recipes that seem to work, there is no further, agent-transcendent basis for deciding. Something pushes you toward vanilla. Is there anything further to say about the nature of your choice? This is a silly example and surely disanalogous to the choice between stances relevant to realism and antirealism in numerous ways. Nevertheless, when one says (as I would recommend) that pistachio and a stance leading to realism are the ways to go, there is a sense in which one is irrefragably correct.

Notes

- 1 Some influential accounts of antirealism are discussed in D. Rowbottom, "Instrumentalism", and O. Bueno, "Empiricism", chs. 7 and 8 of this volume. For some important accounts of realism, see I. Votsis, "Structural realism and its variants", and M. Egg, "Entity realism", chs. 9 and 10 of this volume.
- 2 A number of authors have alluded to the general idea of stances under different headings, but current interest owes a great deal to the provocation of van Fraassen (2002). For critical responses to this work and the conception of stances it describes, see Monton (2007) and Rowbottom and Bueno (2011b). For a study of how this theme relates to van Fraassen's philosophy more generally, see Okruhlik (2014).
- 3 For a longer and more detailed list of concerns than I will give here (as well as an argument to the effect that they miss their mark), see Chakravartty (2015: 183–186).
- 4 Van Fraassen does this in connection with beliefs held by some scientific realists which he regards as overly metaphysical (cf. 2004: 89). For reflections on the efficacy of these and other attempts at persuasion, see Chakravartty (2007: 20–26) and (2011).

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