

# Naturalistic quietism or scientific realism?

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**Abstract** Realists about science tend to hold that our scientific theories aim for the truth, that our successful theories are at least partly true, and that the entities referred to by the theoretical terms of these theories exist. Antirealists about science deny one or more of these claims. A sizable minority of philosophers of science prefers not to take sides: they believe the realism debate to be fundamentally mistaken and seek to abstain from it altogether. In analogy with other realism debates I will call these philosophers quietists. In the philosophy of science quietism often takes a somewhat peculiar form, which I will call naturalistic quietism. In this paper I will characterize Maddy's Second Philosophy as a form of naturalistic quietism, and show what the costs for making it feasible are.

**Keywords** Quietism · Naturalism · Scientific realism debates · Second Philosophy · Maddy

## 1 Introduction

The realism debate in the philosophy of science follows a well-established pattern.<sup>1</sup> Realists defend the idea that our best scientific theories are approximately true, that we have reason to believe them, and that the theoretical terms in those theories refer.

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<sup>1</sup> Another well-established feature of the debate is that nearly every respective characterization of realism and antirealism has been contested. In appealing to notions like 'approximate truth' or 'the aim of science' in the following characterizations I do not mean to suggest that these notions are unproblematic. For a discussion of the aims of science, see [Rowbottom \(2014\)](#).

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The connection between these separate claims is usually established by a commitment to (referential) semantic realism: for a sentence to be truth-apt, let alone true, terms in that sentence have to refer, and accordingly entities to which these terms purport to refer have to exist. Since many anti-realists, following [van Fraassen \(1980\)](#), share the commitment to semantic realism, their attacks have mostly been focused on the epistemic claim. Contra realism, antirealists suggest that we are not rationally compelled to believe that our best scientific theories are (approximately) true, or even that they aim for the truth. Indeed, some argue, based on the historical record, that we have good reason to believe that they are not true: our past theories were wrong as well, after all. While many philosophers of science feel compelled to side with either realism or antirealism, some philosophers have tried to abstain from the realism debate altogether.

This abstinence is more than a mere lack of engagement with the debate; it is usually based on the thought that the realism debate in a particular area of philosophy is fundamentally mistaken. Quietists in other areas of philosophy frequently argue that the questions debated in a particular realism debate are somehow unanswerable or merely verbal.<sup>2</sup> While this form of quietism can also be found in the philosophy of science, quietists about realism debates over science often hold a slightly different view. They do not think that realism debates about science are irresolvable, but that they are being resolved, continuously, by science itself. There simply is no room for philosophical debate outside of science to settle questions about whether a particular theory is true, whether certain entities exist, or what we have good reason to believe. I will call these quietists *naturalistic quietists*.

Is naturalistic quietism possible, or does it inevitably collapse into scientific realism? I will investigate this question based on Penelope Maddy's version of naturalistic quietism, which she calls "Second Philosophy" ([Maddy 2007](#)). In section two I say why naturalistic quietism can seem like an impossible position to hold. In section three I will characterize Maddy's work as a form of naturalistic quietism. In section four I will lay out some challenges to Maddy's position and suggest possible responses on her behalf. I conclude that the most serious challenge to Maddy's approach arises from the fact that Second Philosophy is the product of a highly idealized inquirer, whom we cannot really hope to emulate.

## 2 What could naturalistic quietism be?

The idea that philosophers ought to abstain from realism debates about science is not a new one. An early, explicitly quietist approach can be found in Carnap's later writings, especially in *Empiricism, Semantics, and Ontology* ([Carnap 1950](#)). Due to its empiricist motivation, Carnap's project threatens to collapse into antirealism, instead of remaining neutral with respect to realism and antirealism (see [Psillos 1999](#) for discussion).

Following Carnap, however, the situation for quietism has worsened. With Quine's notion of ontological commitment and the general rise of Tarski-style semantic realism,

<sup>2</sup> For a range of possible ways of doing so, as well as responses, see [Chalmers et al. \(2009\)](#).

the defense of antirealism has shifted from semantic considerations to epistemic ones, which might seem to make the articulation of a naturalistic quietism more difficult. Consider the following three claims:

1. Knowledge requires truth. A proposition that is not true cannot constitute knowledge. A proposition that is not truth-apt cannot even be believed, and accordingly cannot constitute knowledge either.
2. Truth requires reference. A sentence which contains a non-referring term is either systematically false, or meaningless. A meaningless sentence is not truth-apt.
3. Reference requires ontological commitment. Anybody who believes the theory is committed to the existence of the entities to which the theory must be capable of referring to in order to be true.

While these theses do not go unchallenged,<sup>3</sup> they are widely held and might be regarded as orthodoxies for much of the contemporary realism debate in the philosophy of science. Indeed, commitments to referential realism have been employed by antirealists as well as realists: if truth requires reference, then any non-referring terms in scientific theories can be enough to challenge the claim to truth for scientific theories, thereby undermining a key realist commitment (see [Laudan 1981](#) for a classic argument).

Accordingly a central point of contention between realists and antirealists today is whether scientific theories give us knowledge, or more specifically whether we have reason to believe in even our best scientific theories, and the unobservable entities about which they speak. Realists answer in the affirmative, antirealists in the negative. Antirealists usually offer two lines of reasoning: constructive empiricists suggest that our theories do not even aim for the truth, whereas other antirealists suggest that the historical track record of scientific theories simply does not warrant confidence in our current scientific theories. Realists have focused on responding to these epistemological challenges, while taking the semantic and ontological consequences largely for granted.<sup>4</sup> Since my concern is with quietism rather than realism or antirealism, I will not pursue the question of how plausible this focus on epistemology is. I will note, however, that it seems to make it more difficult to be a quietist.

Most quietists, and certainly all naturalistic quietists, are committed to the idea that scientific theories give us knowledge about the world, and indeed that there is no principled restriction of such knowledge to phenomena, observables, or mere descriptions, rather than explanations. This commitment, combined with the orthodoxies, seems to yield straightforward scientific realism. Denying one or more of the orthodoxies, or denying that the orthodoxies are applicable to scientific theories, however, seems to yield traditional empiricist forms of antirealism: (semantic) instrumentalism, verificationism and the like. Denying that scientific theories give us knowledge beyond the

<sup>3</sup> [Hazlett \(2010\)](#) famously denies the first claim, [Yablo \(1998\)](#) and others deny the third. The second, broadly Tarskian, claim is certainly the most controversial, in large part because there are problem cases, like negative existential claims and true claims about fictional characters. For the scientific realism debate these counterexamples tend to be less worrisome, since for that debate, the claims at issue are usually positive existential claims, and scientific discourse is (usually) not regarded as involving deliberate fictions.

<sup>4</sup> [Psillos \(1999\)](#) develops a thorough defense of all three realist claims, but also relies heavily on semantic externalism, the causal theory of reference, and the reference-ontology link.

observable seems to turn the view into a form of epistemic antirealism. There simply does not seem to be any room for being a quietist about the scientific realism debate.<sup>5</sup>

In light of this, the naturalistic quietist faces two challenges. On the one hand she needs to *articulate* her position without committing herself either to realism or antirealism, and on the other hand she needs to say what is wrong with the realism and antirealism debate that makes abstaining from it the right thing to do. The strategy employed by naturalistic quietists like Arthur Fine and Penelope Maddy is to present naturalistic quietism not as a thesis, an “-ism”, but as an attitude, or in Maddy’s case, as the activity of an idealized inquirer.

“NOA is an attitude as opposed to an ‘ism’ or a philosophical program. It is a stance we can take, a way to begin thinking about a problem or searching for one.” (Fine 1986, p. 173)

“Thus Second Philosophy, as I understand it, isn’t a set of beliefs, a set of propositions to be affirmed; it has no theory. Since its contours can’t be drawn by outright definition, I resort to the device of introducing a character, a particular sort of idealized inquirer called the Second Philosopher, and proceed by describing her thoughts and practices in a range of contexts; Second Philosophy is then to be understood as the product of her inquiries.” (Maddy 2007, p. 1)

This turn to attitudes and avatars is not accidental. It is difficult to give a definition of *Second Philosophy*, or the *Natural Ontological Attitude*, because formulated as theses, each would look like a form of (somewhat lackluster) scientific realism. The NOAer and the Second Philosopher share a strong pro-science attitude: the NOAer has faith in scientific inquiry and inquirers, whereas the Second Philosopher is herself engaged in all areas of scientific inquiry. Neither of them adopts semantic antirealism,<sup>6</sup> and they believe that at least some of the entities referred to by theoretical terms in those theories exist: Fine’s NOAer believes in electrons, Maddy’s Second Philosopher in atoms.

The difference between the naturalistic quietist and the scientific realist, then, cannot lie exclusively in the contents of their beliefs, since there is a significant overlap between them. Instead it appears to be a difference in the attitudes or methods by which the naturalistic quietist comes to hold the beliefs she holds and the ways in which scientific realists arrive at their beliefs. The naturalists’ realism is not the philosophical position defended under the heading of Scientific Realism, but an attitude or form of inquiry characteristic of the sciences. The Scientific Realists’ position, by contrast, is found to be a superfluous add-on.

It is interesting to note that antirealists, following van Fraassen (2002), have also begun to offer their position as a *stance* rather than a thesis. While the exact nature

<sup>5</sup> Alan Musgrave’s (1989) argument in favor of reading Arthur Fine’s NOA as a form of realism, rather than quietism, heavily relies on versions of these orthodoxies.

<sup>6</sup> Fine seems to think that adopting a deflationary approach to truth and reference is necessary, but also sufficient to dispel deep worries about ontological commitment. It is hard to see that this deflationism is relevantly different from a standard issue semantic realism when it comes to either the ontological commitments involved, or the need to provide epistemic warrant for scientific claims. See also Musgrave (1989) and Asay (2013) for discussion.

of “stances” remains hotly debated,<sup>7</sup> a commonality is the idea that taking a realist or antirealist position goes beyond holding particular beliefs, even though most philosophers seem to agree that holding beliefs is part of taking a stance. Maddy’s “Second Philosophy” might be best understood as a stance in the sense of [Rowbottom and Bueno \(2011\)](#), who suggest that taking a stance involves the following three components: “(a) a particular mode of engagement, (b) a style of reasoning, and (c) certain propositional attitudes” ([Rowbottom and Bueno 2011](#), p. 9). Maddy’s Second Philosopher displays a particular mode of engagement with science: from within, from the perspective of the scientific researcher. Similarly her style of reasoning is informed by her engagement with scientific practice, in contrast to her opponents who take an epistemic stance outside of scientific practice. Her beliefs regarding unobservables overlap with those of the scientific realist at least in part, and they certainly go beyond what the constructive empiricist is willing to believe.

Regarded as a stance or an attitude, then, naturalist quietism can be articulated. Moreover, given the recent attempts to articulate antirealism (and possibly realism) as stances, the naturalistic quietist cannot be faulted for her attempts to articulate quietism not as a thesis. Naturalistic quietism, to a first approximation, is the view that we should not argue, on philosophical grounds, whether science gives us knowledge, but that we should nonetheless accept (a wide range of) scientific claims as knowledge. Why should we follow the quietists’ suggestion?

### 3 Maddy’s second philosophy as naturalistic quietism

To understand how a view like Maddy’s, which has so many of the trappings of ordinary scientific realism, might nonetheless be a form of naturalistic quietism, it is helpful to look at Maddy’s own characterization of scientific realism.

It’s worth pondering the Realist’s foot stamp. Human nature being what it is, even an avowedly naturalistic believer in atoms, when confronted with van Fraassen’s agnosticism, may be inclined to insist that they really do exist, to try to defeat his constructive empiricism on its own terms with arguments of the sort alluded to above. The trouble with this reaction, as we’ve seen, is that it grants van Fraassen too much at the outset, in particular, it buys into his ‘stepping back’ to the ‘epistemic stance’, and as a result, it implicitly grants that the Einstein/Perrin evidence isn’t enough by itself, that it stands in need of supplementation. Once this move is made, the game is lost, because the only compelling evidence has been officially set aside as ineffective for these higher purposes. Even if the Realist’s effort to answer van Fraassen is couched in purely naturalistic terms, he has betrayed his naturalism the moment he allows that evidence like Einstein’s and Perrin’s is inadequate. The Second Philosopher, obviously, would never make this first move. ([Maddy 2007](#), pp. 310–11)

The difference between the Second Philosopher and the Scientific Realist is not to be found in their beliefs about the existence or non-existence of particular unob-

<sup>7</sup> For a variety of viewpoints see [Rowbottom and Bueno \(2011\)](#), [Lipton \(2004\)](#) and [Teller \(2004\)](#).

servable entities. They both believe that atoms exist. Instead Maddy describes the difference as one about *which* evidence should be treated as relevant to the ontological question at hand. For her, the only relevant evidence is the evidence provided within scientific inquiry, subject to the evidential standards held by that community. Adhering to these standards is what it means to be a naturalist. Accepting the empiricist challenge amounts to an illegitimate ‘stepping back’ from scientific practice, which would amount to adopting a perspective the naturalist does not think can be adopted: a perspective outside of scientific practice from which scientific practice can be evaluated. A true naturalist believes such a perspective to be an illusion, and accordingly rejects any such attempt.

Even if we interpret van Fraassen’s stance not as agnosticism, but as the weaker position that belief in the unobservable is “supererogatory as far as science is concerned” (van Fraassen 2007, p. 343), it seems that Maddy’s Second Philosopher and van Fraassen disagree.<sup>8</sup> Maddy’s Second Philosopher, like the scientific realist, insists that science gives us compelling grounds to believe in unobservables. But unlike the scientific realist, for the Second Philosopher such beliefs are the result of evidence given within scientific practice, not the result of an additional epistemic stance. For van Fraassen, the belief in unobservables might be an ‘add-on’ to scientific practice, but not for the Second Philosopher.

This move raises two questions. First, on what grounds does the naturalist reject the ‘epistemic stance’ van Fraassen and his opponents try to occupy? Secondly, even granting the device of an idealized inquirer to articulate second philosophy, it would be good to understand more clearly why second philosophy should be understood as naturalistic quietism, rather than a form of scientific realism. In particular we need to understand how Maddy’s inquirer responds to the claims I called “orthodoxies” earlier. She clearly accepts that science gives us knowledge, so if she is to end up with anything less than scientific realism, we should expect her to retreat from one or more of the orthodoxies. It turns out that she will use her second philosophical standpoint to transform “orthodoxies” two and three.

Maddy’s strategy is to cast the Second Philosopher as somebody who simply does not see the point of the kind of epistemic stepping back the realist and antirealist engage in. The illustrious history of those who do engage in it notwithstanding, Maddy thinks the result of such an engagement is always a two-tier view, one in which philosophical questions are debated one level removed from the level of scientific discussion. This removal is achieved precisely by dismissing scientific evidence as inadmissible.

To say that the Second Philosopher sees no point in stepping back from scientific practice is not yet an argument not to engage in such stepping back. So far then, the Second Philosopher simply looks like a scientific realist unwilling to face the antirealist’s challenge. More needs to be done to defend naturalistic quietism.<sup>9</sup>

<sup>8</sup> I would like to thank Darrell Rowbottom for helping me to clarify this point.

<sup>9</sup> In his review of Maddy’s book, Harvey Siegel (2010) suggests that Maddy is merely presenting the method of second philosophy, not a defense of it. But to succeed as a form of quietism, such a defense must be offered, at least in the negative. That is, we at least must be given a reason to think that our engagement in the realism debate rests on a mistake, even if we are unpersuaded by the particular way forward exemplified by Maddy’s Second Philosopher.

Maddy does so by interpreting the empiricists' concern as a skeptical challenge, and like all skeptical challenges, it cannot really be answered to the satisfaction of the challenger (Maddy 2007, p. 311). A would-be realist, who takes on the skeptical challenge by accepting the skeptic's premise, namely that all evidence given within the sciences is inadmissible, has given away the game, because on his own turf, the skeptic can never be defeated. Since attempts to answer the skeptic are bound to fail, our next best strategy is to refrain from engaging them.

The Second Philosopher's reaction echoes a familiar worry about constructive empiricism. Gideon Rosen (1994) has formulated the problem as one of the central notion of 'observables'. The constructive empiricist relies heavily on there being an epistemic difference between what is observable and what is not, even if there are no interesting semantic or ontological differences between theoretical and observable terms or entities. But it is unclear that such an epistemic difference can be maintained in the absence of a more far reaching empiricist position. A narrow conception of observability (like the one van Fraassen seems to advocate), suggests Rosen, needs to be defended against wider conceptions of what should count as epistemically reliable. The worry Rosen raises is that any such defense will have to fall back on general empiricist principles.

Naturalists, including Maddy's Second Philosopher, do not generally share those empiricist principles. Maddy's Second Philosopher, who begins from within scientific practice, does not take herself to have good reason to privilege observation epistemically. For her there is no stance outside of science from which to assess the methods and epistemic practices of science, any more than there is a stance from outside of science to assess particular existence claims made by science. Asking us to distrust methods beyond observation in scientific inquiry is to impose an unwarranted epistemic preference. Indeed, given that the empiricist's challenge is meant to apply to *any* claims beyond the observable, it is a *global* challenge, not a local criticism of a particular inference or experiment. It is the global nature of van Fraassen's challenge which likens it to skepticism.

The Scientific Realist, by contrast, takes herself to be in the possession of a suitable response to the scientific skeptic: the no-miracles argument.<sup>10</sup> The empirical success of scientific theories is best explained by their truth, and since that requires the entities to which such theories purport to refer to exist, we should believe in the existence of all entities posited by successful scientific theories. Unsurprisingly, Maddy rejects the no-miracles argument, more specifically she rejects the inference to the best explanation on which it relies. To understand her reasons, we need to look more closely at her account of scientific evidence.

“Now, I've been suggesting all along, on the Second Philosopher's behalf, that the evidence involved in establishing the atomic hypothesis wasn't just more

<sup>10</sup> Not all realists accept the no-miracles argument. But even realists who, like Alexander Bird, reject the no-miracles argument, think they have a response to the empiricist on general epistemic grounds. Bird (2010) argues that we should accept the thesis that evidence is knowledge, and that this thesis poses a problem for empiricism. Note that this defense of realism relies on global epistemic arguments, in contrast to the naturalistic quietist's local arguments from within scientific practice.

of the same, but a new type of evidence altogether, what we've been calling 'detection'." (Maddy 2007, p. 405)

Maddy introduces the notion of 'detection' in the context of the Perrin experiments, which are commonly taken to have confirmed the atomic hypothesis. Perrin's experiments are of interest to all sides of the realism debate, since they might seem to pose a challenge for all contestants. They pose an obvious challenge to the antirealist: denying the atomic hypothesis after Perrin seems like an oddly stubborn insistence on epistemic caution, which fails to take seriously the new evidence. But they also pose a challenge for those realists, who insist that inference to the best explanation provides a sufficient reason for belief in the entities posited by successful scientific theories. For if they were right, then what did the Perrin experiments add? At best more empirical success for the atomic hypothesis, not evidence of a new kind. Understanding the effect the Perrin experiments had on the scientific community of the time is a matter of careful historico-philosophical investigation,<sup>11</sup> but even independent of that we might ask ourselves, whether *we* take the Perrin experiments to provide simply more, or radically different empirical evidence for the atomic hypothesis. Maddy's Second Philosopher clearly goes in for the latter. Perrin's experiments are a case of 'detection', and by her lights, that changes the status, within the theory, of the entities so detected.

Maddy's alternative epistemology, then, is one in which inference to the best explanation plays a smaller role in scientific theorizing than realists and anti-realists alike tend to assume. From within scientific theorizing, by contrast, we can identify different kinds of local evidence, and it is this local evidence we should take seriously in our attempts to decide what to believe. Any assessment of the quality of our evidence and our methods for obtaining it, in turn, will have to be carried out in broadly scientific terms. Regarding observational evidence as reliable should take into account theories of perception, and not be the result of a prior commitment to empiricism.

From the Second Philosopher's point of view, then, what goes wrong with the realism/antirealism debate in the philosophy of science is that either side relies on global epistemic arguments, whereas the Second Philosopher, as a practitioner of different scientific fields, treats all evidence as local. A particular experiment can be treated as confirming or disconfirming a particular hypothesis, but not as confirming or disconfirming science.

Together with this localist take on epistemology comes a localist take on ontology. Despite her naturalism, Maddy's Second Philosopher does not adopt a Quinean criterion of ontological commitment, not even in a modified form that would take into account different forms of evidence. Instead of a global criterion, Maddy's Second Philosopher is a strict localist about ontology.

"Where it [second metaphysics] differs from the old normative project is not in renouncing normativity, but in its piecemeal approach: it doesn't begin with the demand for a general criterion." (Maddy 2007, p. 403)

<sup>11</sup> For such discussions see Achinstein (2001), van Fraassen (2009), Psillos (2011).



“For her [the Second Metaphysician], the answer to ‘what is there?’ takes the form of a list; what she actually confronts are a series of particular existence questions.” (Maddy 2007, p. 403)

Localism of this sort marks a sharp turn away not only from standard issue global scientific realism, but also from Quine’s naturalism. In the absence of a general criterion of ontological commitment, Maddy’s Second Philosopher is free to adjust her commitments to meet local standards of evidence. The Second Philosopher is not committed to the idea that science as a whole gives us knowledge, but only to particular knowledge claims. Whether those claims amount to knowledge depends on local evidence, not on whether they are made within scientific inquiry.

Maddy’s Second Philosopher turns out to be ontologically committed to some unobservable entities, and she does not reject referential semantics in general. Unlike a Quinean naturalist, however, the Second Philosopher does not incur such commitments in virtue of referring to certain entities. Instead she refers to certain entities, because she takes herself to have good reason to believe that they exist, in light of the evidence she finds in her investigations. Here, as elsewhere, local epistemic considerations trump commitments to global philosophical theses.

What about the second orthodoxy, the link between truth and reference? Maddy’s response is two-fold. Whether a particular subject matter is suitable for truth-discourse is something to be determined by local, scientific investigations of the subject matter, not general views about the relationship between syntactic structure and reference, or semantics and truth. The correct theory of the latter, in turn, is not a matter of specifically philosophical theorizing, but a matter of psycho-linguistic investigations. As a result of this two-fold naturalizing, whether we should take a theory as true, and what we mean when we say we do, will be a matter to be decided within scientific theorizing.

We can now begin to see why Second Philosophy is to be understood as naturalistic quietism, rather than scientific realism. Scientific realism and antirealism are global positions regarding the status of science, cashed out in global epistemological, semantic and ontological terms. Maddy’s Second Philosopher rejects globalism on each count, starting from the rejection of a global epistemic stance. In doing so, she puts herself in a position to accept something close enough to the “orthodoxies” not to count as an antirealist, while falling short of a global commitment to realism.

The difference between Maddy’s Second Philosopher and the standard issue scientific realist comes down to a difference in how the commitment to the existence of unobservable entities is established. Where the realist goes for a global defense of science and its ontological commitments, based on a uniform assessment of the semantics and epistemology of science, Maddy’s Second Philosopher takes a local approach. And as an expert in a vast range of scientific discipline, Maddy’s Second Philosopher indeed seems well-situated for such an undertaking.

Second Philosophy is naturalistic quietism only with regard to any global debate over the nature of science; locally the Second Philosopher will turn out to be a realist or an antirealist, depending on what the evidence best supports. Instead of putting forward a global defense of realism, on the basis of something like the no-miracles argument, the Second Philosopher seems willing to defend realism locally, one existence question

at a time. Does that mean the Second Philosopher is a local realist? We need to be careful. Her localism is closer to Magnus and Callender's (2004) retail approaches, than to what Fine (1991) describes and dismisses as piecemeal realism. Fine attacks piecemeal or 'contextual' realism as an attempt to respond to instrumentalism or empiricism about science. As such, Fine finds it insufficient. But Maddy's second philosophy, self-consciously, is not an attempt to respond to instrumentalism at all. The Second Philosopher's goal is not to show that we can be overall realists about science in light of its local successes. Instead she takes science for granted as the only means by which to address any existence questions whatsoever, and proceeds to employ these means as a way of finding out what there is. The results of such inquiries are realisms about atoms and viruses, not realism about science.

#### 4 Challenges and responses

Second philosophy conceived of as a form of naturalistic quietism faces a number of challenges.

First, it might seem obviously question-begging. After all, the whole point of epistemic anti-realism is that the methods and theories of science are not anywhere near as reliable or compelling as realists want us to think. In falling back on those very methods to defend realism locally, the Second Philosopher seems to be begging the question against antirealists. Even if Maddy is right to reject the constructive empiricist's challenge as broadly skeptical, there are naturalistic challenges to scientific realism as well. Arguments from the history of science do not rely on epistemic stepping back, they merely assess science as a practice from a historical perspective, which would itself seem to be rooted in science. Kyle Stanford (2009), for example, has argued, based on the historical track-record of science, that we have good reason to believe not only that our current best scientific theories are also likely to be overthrown in the future, but more importantly that since any new theory will only be selected from a narrow range of possible alternatives, there is no strong reason to think that the true theory will be within the range of the possibilities considered. Unlike the constructive empiricist, Stanford's instrumentalist does not need to step back from scientific practice, or to provide a philosophical defense of empiricism. Like Maddy's Second Philosopher he can stay within scientific practice, yet unlike her he comes to the conclusion that the overall evidence speaks against realism.

It seems to me that Maddy has two possible responses on behalf of her Second Philosopher. First, she might stress the difference between detection and (mere) positing. It makes an epistemic difference whether an entity, posited by a theory, has been detected, or whether that entity remains merely a posit within a theory that is overall successful. The latter cases are significantly more vulnerable both to pessimistic meta-induction arguments, and to the problem of unconceived alternatives. If a theory is accepted as the best explanation, it is only the best explanation relative to the theories under consideration, with no guaranties that the correct theory was even contemplated. If Maddy is right and detection indeed adds a different kind of evidence, however, once an entity has been detected, our confidence in the existence of that entity, as well as the theories which led to its detection, should increase. To push for instrumentalism, the concerns raised about the limitations in theory choice and the misleading successes

of past theories would have to include cases of ‘false detection’ as well as mistaken inferences to the best explanation.

Secondly she might point out that taking into account total evidence (that is, in particular also evidence from the history of science) does not require us to take a global perspective on science again. Which particular theories we should believe, and to which entities we should take ourselves to be ontologically committed, is still a matter of what we currently regard as good evidence within our scientific practice. The history of science can inform scientific practice, but it cannot replace it. Here she might fall back on Magnus and Callender’s (2004) diagnosis that both the ‘no miracles argument’ and the ‘pessimistic meta-induction’ fail as statistical arguments. If so, any arguments from the history of science should be specific arguments against particular claims the Second Philosopher wants to hold, not global arguments for or against the reliability of scientific methods. Since the Second Philosopher’s realism is not a realism about science, but a realism about particular entities and claims, the historical record will have bearing only insofar as it addresses such particular commitments.

A second concern might be that the Second Philosopher does not have enough distance from the scientific practices she is engaged in to reflect critically upon them. Her reports ‘from within’ scientific practice might seem to be a form of embedded journalism, lacking sufficient distance from the subject matter on which she is reporting. While engaged in scientific inquiry, inquirers have to set aside doubts about their presuppositions and methodology. It is precisely this necessary immersion into the practice at hand from which philosophers try to step back, whether that practice is scientific inquiry, political and legal decision making, or moral condemnation. If the Second Philosopher has no use for such stepping back, she cannot aptly be described as being engaged in philosophy.

I believe the Second Philosopher has three responses available to this objection, the first two of which concern the practice of scientific inquiry. To become a scientific inquirer, certain traits, like curiosity, open-mindedness, and general intelligence are required, which make it more likely that scientific inquirers should be able to evaluate their own practice critically. More importantly, scientific inquiry is itself a diverse set of practices, carried out, ideally, by a diverse set of practitioners. Even if the Second Philosopher is not stepping back from scientific inquiry as a whole, she might nonetheless be stepping back from the particular practice she is engaged in, to evaluate it from the perspective of a different practice. This is more likely to happen, of course, if her inquiries yield surprising results, leading her to turn to possible sources of error, but it might also happen if she is prompted by other inquirers to defend her presuppositions. If that is indeed possible, scientific practice itself would seem to offer enough room for stepping back, without having to step *outside* scientific practice altogether.

A second line of defense is open to her by falling back on a more traditional Quinean naturalism. Even if she were to concede that a stepping back from scientific practice would be desirable, stepping back will not work unless there is a point of view outside of scientific practice from which an assessment could be made. Naturalists maintain, of course, that no such point of view from the outside is possible, and accordingly they conclude that any epistemic assessment of scientific inquiry has to proceed from within. Second Philosophy, for all its drawbacks, remains our only option.

The final, and ultimately most serious concern, is that in casting the Second Philosopher as an ideal inquirer, Maddy has created a monster. “This Second Philosopher is equally at home in anthropology, astronomy, biology, botany, chemistry, linguistics, neuroscience, physics, physiology, psychology, sociology, ...and even mathematics, once she realizes how central it is to her ongoing effort to understand the world.” (Maddy 2007, p. 2) This enviable epistemic position is not one many of us can claim for ourselves. Instead we find ourselves outsiders with respect to most scientific fields, even if we can claim to be an expert in one. Indeed, the overall development of scientific inquiry seems to point in the direction of more narrow specializations, with larger numbers of participants involved in any given project. The Second Philosopher’s attitude towards inquiry might then simply seem like one we cannot possibly adopt, and as such her advice might be unsuitable given the kinds of inquirers we in fact are.

This might seem like a somewhat tedious complaint, if it weren’t for the fact that Maddy herself makes essential reference to the Second Philosopher’s capacities at a key stage in the argument:

“She [the Second Philosopher] is more aptly described, from birth, as the ‘busy sailor’, not as someone who later elects to enlist, perhaps in reaction to some deep disappointment. This may seem a fine point, but it’s important to maintain the distinction between ‘I believe in atoms because I believe in science and it supports their existence’ (as the enlistee might say) and ‘I believe in atoms because Einstein argued so-and-so, and Perrin did experiments such-and-such, with these results’ (as the Second Philosopher says).” (Maddy 2007, pp. 85–86)

It is precisely because the Second Philosopher is at home in the sciences that she has no need to rely on trust in the abilities and honesty of other inquirers or institutions. And it is because she does not have to fall-back on such trust that she can denounce as misguided any global attempts to defend or attack the epistemology of the sciences. Those of us in a less fortunate epistemic position, however, might nonetheless feel a justified need for a general rule by which to judge whether we should believe in the Higgs particle and the Ebola virus, or angry gods and ghosts. The Second Philosopher, in virtue of her extensive engagement in scientific practice, can indeed confront all of these existence questions one by one. We however, cannot. So where does this leave us with respect to Second Philosophy?

It seems what is needed here, provided we do not wish to fall back on a possibly untenable first-philosophical position from which to evaluate science, is a social version of Second Philosophy, to accompany Maddy’s individualistic inquirer. We need to understand how we can accept the outputs of a communal inquiry in a second philosophical manner, without having to be able to carry out all aspects of the investigation ourselves. To delineate the outlines of this community, and to defend its practices against alternatives, however, does seem to invite back in many of the characteristic questions raised in the realism debates over science.

Even though realism debates and skeptical challenges may seem like arcane philosophical concerns, they arise from a genuine, everyday need: the need to trust knowledge claims made by others, and the need to decide, which questions to take on, and whom to trust. The Second Philosopher may be right that global skeptical challenges are an unhelpful way of trying to sort out what to believe, and what not

to believe, but we do need to make such choices, and we cannot answer all the questions ourselves. Unlike for the Second Philosopher, for us reflections about scientific practice do not involve an artificial stepping back from a practice in which we are immersed. We are trying to understand whether a given practice is sufficiently vindicated to enable us to trust it from the outside. Whether Second Philosophy is all the philosophy we need, then, is not so much a matter of philosophical temperament, but of our epistemic needs.

## 5 Conclusion

I've argued in this paper that the prospects for quietism in a naturalistic setting might seem dim, because all available logical space seems to be neatly divided between realists and anti-realists. I have then shown how Maddy's second philosophy can be understood as a form of naturalistic quietism, arguing that Maddy initially succeeds at articulating her position by presenting it through the means of an ideal inquirer, rather than as a philosophical thesis. Finally I've presented various points at which a naturalistic quietist following in Maddy's footsteps might run into problems and suggested several responses on her behalf. I conclude that second philosophy succeeds as an articulation of naturalistic quietism, but that it remains unclear whether it is indeed a position we are able to adopt, given the sorts of inquirers we in fact are. I suggested that what would be needed is a social epistemology version of second philosophy.

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