ORIGINAL ARTICLE

Naturalizing skepticism

Marc Jiménez-Rolland

Department of Philosophy, Metropolitan Autonomous University, Iztapalapa, Mexico City, Mexico

Correspondence
Marc Jiménez-Rolland, Departamento de Filosofía, Universidad Autónoma Metropolitana—Iztapalapa, Av. Ferrocarril San Rafael Atlixco, No. 186, Ciudad de México, C.P. 09310, México.
Email: mjrolland@izt.uam.mx

Abstract

Naturalism, construed as the idea that philosophy should be continuous with science, is a highly influential view. Its consequences for epistemology, however, are rather odd. Many believe that naturalized epistemology allows eschewing traditional skeptical challenges. This is often seen as an advantage; but it also calls into question its claim of belonging to the philosophical inquiry into knowledge. This paper argues that skeptical challenges can be stated to defy epistemic optimism within naturalized epistemology, and that there are distinctively naturalistic forms of skepticism. To that end, it outlines some assumptions underlying many attempts to naturalize epistemology. It contrasts these approaches to traditional epistemology and identifies the reasons offered by naturalistic epistemologists to dismiss traditional skeptical challenges. Next, it argues that the problem of skepticism can be sensibly stated within a naturalistic setting. Finally, it contends that there are distinctively naturalistic strategies to argue for skepticism and diagnoses the prospects of naturalism vis-à-vis these kinds of skeptical challenges.

KEYWORDS

continuity with science, naturalized epistemology, philosophical naturalism, skeptical challenge

1 | INTRODUCTION

Reflecting upon the role that science should play in philosophy, Tim Lewens (2012, 47) noted that there is "an almost universal endorsement of the position known as 'naturalism', … [which has] been defined in numerous different ways … [that] place science on a rather higher footing than some other [views]."[1] According to naturalism, Lewens wrote, science is "valuable for

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[1]Although their self-reported stances do not amount to "an almost universal endorsement," "naturalism" is by far the most common response of philosophers with regard to metaphilosophy, according to the Philpapers Surveys of 2009 and 2020 (Bourget and Chalmers 2014 and 2023).

philosophers. [It] can discipline philosophical theorizing" (55). Even if this shift toward naturalism has had mostly beneficial effects—by offering novel ways to fruitfully engage with problems in philosophy—its consequences for epistemology are rather odd. Or so I argue below.

The project of naturalized epistemology has a "long and distinguished heritage" (Kornblith 1999, 153); nevertheless, both the coinage of the phrase and its explicit programmatic pursuit are commonly attributed to Quine (1969a, 1975). Despite its radical departure from the traditional standpoint, Quine (1974, 3) claimed that his project was "not gratuitous change of subject matter, but an enlightened persistence rather in the original epistemological problem." By relying on science, it aimed to address the very same concerns that occupied traditional epistemologists. While acknowledging that the "project of naturalized epistemology has the interest and the apparent connection with traditional epistemology," Barry Stroud (1984, 253) asserts that those who pursue this project "do not answer or even address themselves to the philosophical problem of the external world." Since providing a plausible response to this problem is considered a central task of epistemology, "the question whether skepticism arises within naturalized epistemology is therefore linked with the question whether naturalized epistemology is continuous with the [philosophical] tradition" (Higginbotham 1992, 115). Eschewing this challenge is usually seen as a defining trait of naturalized epistemology, given "naturalists' well-known and often-criticized disinclination to seriously engage with the traditional problem of philosophical skepticism" (Rysiew 2020, § 1.2). Thus, *pace* Quine, it would seem that one of the central problems of epistemology is absent from the naturalists' agenda: that is, the problem of external world skepticism.

Leaving no room for this kind skepticism has been weighted as an advantage and a shortcoming of naturalized epistemology. Claiming that "there is no hope of deriving the impossibility of knowledge of science from accepted premises within science," James Higginbotham (1992, 123) argues approvingly that by showing, "within what we conceive to be science, how our knowledge is achieved … naturalized epistemology … would answer skepticism. By explaining how knowledge actually comes about, it would explain how it is possible" (123–24). Duncan Pritchard (2019, 2–3) has pointed out, however, that insofar as science takes too much for granted, it fails to engage with traditional skepticism: "[W]hen one is sceptical *about* science itself, then *of course* that kind of scepticism cannot be grounded *in* science" (emphasis added).

Against this background, I argue that philosophical skepticism persists within the epistemological landscape of naturalism. Not only is it possible to restate skeptical challenges in a way that makes them relevant to naturalistic approaches in the philosophical scrutiny of knowledge, there are also distinctively naturalistic ways of sustaining a skeptical position. Since naturalism has been articulated in a variety of different ways, my primary concern here is not to offer a detailed characterization of any of them to then discuss it at length. Instead, I try to identify some common themes in the various ways of conceiving the naturalization of epistemology, in order to show that they are all compatible with skepticism. Furthermore, I argue that, far from opposing naturalism, skepticism can adopt a decisively naturalistic spirit. I take this to support Quine's assessment of naturalism's "enlightened persistence" in the epistemological enterprise. In addition, I argue that philosophical skepticism in a naturalistic setting offers valuable insights for the theory of knowledge.

The structure of the paper is as follows. I begin by outlining some salient features of naturalized epistemology, which allows me to trace their most significant differences from traditional epistemology. In the next section, I provide a broad outline of the traditional problem of external world skepticism and examine the reasons that are often advanced by naturalistic epistemologists to dismiss this challenge. Then, I argue that the problem of skepticism can be restated from assumptions widely shared by naturalistic epistemologists. Finally, I contend that there are distinctively naturalistic ways of arguing for skepticism, which differ in important aspects from traditional skeptical arguments and contribute to addressing significant

issues in epistemology. I conclude with a brief diagnosis of the status of the naturalist project in the face of these forms of skepticism.

2 | NATURALIZED AND TRADITIONAL EPISTEMOLOGY

Sketched in an extremely thin and vague outline, naturalized epistemology conceives the philosophical inquiry into human knowledge as an enterprise that is *continuous with science.*[2] Beyond this, it is not entirely clear what being a naturalistic epistemologist amounts to.[3] Perhaps one of the most heated debates among enthusiasts of this idea revolves around how specifically it should be implemented.

Not pretending to be exhaustive, I contend that different versions of philosophical naturalism (in epistemology and elsewhere) can be identified within the logical space that opens between the following axes of continuity with science:
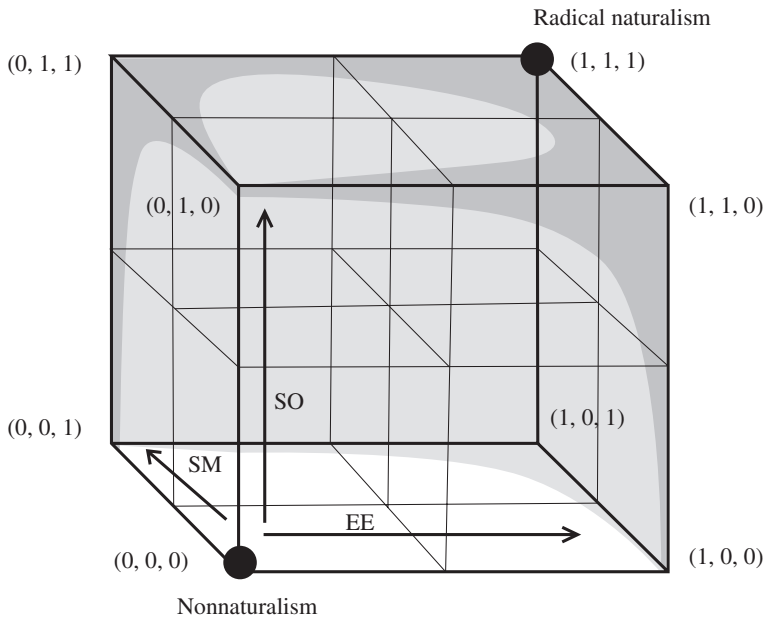
I   *Scientific ontology.* Philosophical inquiry should be carried out under the constraint of only positing entities that are acknowledged by, or at least are compatible with, some of our best scientific theories. It is also often suggested that the accepted furniture of the world has a nature that imposes forms of explanation on scientific inquiry, which cannot be set aside (for example, causal or mechanistic explanations).

II *Scientific methodology.* Theoretical replacements of philosophical or everyday concepts under scrutiny should be built, aspiring to get a kind of understanding akin to the one that is brought about by scientific theories and models. In that sense, philosophy should seek to obtain systematicity through a limited number of explanatory principles that are appropriately linked to the rest of science.

III *Empirical evidence.* The outcome of philosophical inquiry should "make a difference" concerning empirical matters or it should be amenable to be subjected to the "discipline of evidence." Philosophical claims must be susceptible of assessment for supporting or undermining through empirical evidence, whether it is direct or mediated by other scientific disciplines.[4]

Perhaps this characterization is not much more informative than the slogan "Make thy philosophy continuous with science." After all, a broad spectrum of positions can claim to subscribe to those lines, and some of them may not seem to comply with naturalistic credentials. On the other hand, some radical projects of naturalization can show reluctance to be embedded in a continuum with traditional philosophy. Nevertheless, these axes manage to capture extreme positions that hold a strong identification between science and philosophy (what is often called the "replacement thesis"; e.g., Kornblith 1994, 3–4, Feldman 2001, § 2, and Rysiew 2020, § 1.2) as well as more tempered stances that commend an "empirically informed" philosophy or that prescribe doing philosophy "in the light of science" (what is sometimes labeled "cooperative" or "moderate" naturalism; Goldman 1986, 9, Feldman 2001, § 3, and Rysiew

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[2]This extremely influential use of the term "naturalism" diverges from what Peter Strawson called "the way of Naturalism," which emphasized Wittgensteinian "forms of life" and human "natural history" over the contributions of science. Strawson (1985, 10) explicitly claimed that his use of "naturalism" "is not to be understood in the sense of Quine's 'naturalised epistemology'" that inspires most of the naturalistic approaches I discuss in the paper.

[3]It is worth emphasizing that continuity with science might be compatible with a Moorean stance toward the role of common sense in philosophy. Quine (1957, 2) himself suggested that "science is not a substitute for commonsense, but an extension of it"; "science is itself a continuation of commonsense" (6). Against the excessively high standards of traditional philosophy, Quine (6) continues, both science and common sense might share nondemonstrative evidential standards: "The scientist is more careful … [, but] this increased care is not a revision of evidential standards … [, only a] more patient and systematic collection and use of what anyone would deem to be evidence." I would like to thank an anonymous referee for the journal for pointing this out.

[4]I owe the outline of this characterization to Jorge Tagle.

FIGURE 1 Tridimensional naturalistic continuum. In the three axes (*SO*: scientific ontology; *SM*: scientific methodology; *EE*: empirical evidence) are represented varying degrees (from 0 = none to 1 = full) of philosophical continuity with science. In the left corner, on the front lower end, we find nonnaturalism; the right corner, in the rear upper end, captures radical naturalism (which subscribes to the most extreme versions on all three axes). In gray are those positions that are more likely to be identified as instances of the "replacement thesis."

2020, § 1.2). Besides, such stances allow us to locate diverse nonequivalent, and even incompatible, ways of holding intermediate positions.[5] To illustrate this, Figure 1 draws these axes on a tridimensional coordinate plane, representing the continuum from nonnaturalistic philosophy to radical naturalism.[6]

This tridimensional representation of the naturalistic continuum allows us to capture the Janus-faced character of replacement naturalism, which can exhibit both a methodological and an empirical identification of philosophy with science. While recognizing that philosophy is a highly theoretical activity, forms of naturalism that emphasize methodological continuity can preclude a distinction between routinary philosophical practice and scientific theorizing that is far removed from evidence. Thus, the philosopher's tasks would resemble those of a theoretical physicist working on string theory. In contrast, replacement naturalism can also be the result of committing philosophy to an evidential regime in order to become a more experimental practice, making its practitioners refrain from asserting speculative claims until the verdicts of the empirical tribunal have been delivered. Although it might seem that the constraints of scientific ontology do nothing to equate the practice of philosophy with that of science, when conjoined with the other axes that restriction carries heavy weight in the resulting philosophical theses. In their most extreme versions, the conjunction of all these traits in radical naturalism makes philosophy indistinguishable from science.

In order to weigh a stance among these axes, naturalists often vindicate the idea, prominent in American pragmatism, that in philosophy we can gain advantages from what science does,

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[5]Javier Rodríguez-Alcázar (1996, 364–65) found in the work of Quine "two different uses of the word 'naturalism' … in which the theory of knowledge is seen as continuous with science … [that] are independent of each other."

[6]This representation is inspired by the "Darwinian spaces" of Peter Godfrey-Smith (2009, 64).

using some of the means that have proven to deliver results. Thus, it is argued that some of the stances just mentioned show more promise than their alternatives insofar as they can provide examples of successful applications. When applied to epistemology, naturalism shapes several aspects of one's inquiry into human knowledge. As elsewhere, the naturalistic commitment in epistemology is not to the claim that science has already answered our philosophical concerns. It is rather that, in view of its astonishing success, we should not exclude the possibility that science will be capable of responding to ancient philosophical conundrums. Thus, to borrow an image from Hans Reichenbach (1951, 245–46), the naturalistic epistemologist "may be compared to a fisher who casts a net into an unknown part of the ocean—[s]he does not know whether [s]he will catch fish, but [s]he knows that *if [s]he wants to catch fish [s]he has to cast [her] net. … [W]e don't know whether we shall have a good catch. But *we try*, at least, and try by the help of the best means available*" (emphasis added).

To sum up, naturalized epistemology might be characterized by a commitment to the following conditional statement:

> *CNE* If our concept of knowledge has any interesting items in its extension, then we might answer the question of whether we do have any interesting knowledge by means that are continuous with science.

In this light, naturalized epistemology might seem quite optimistic. If in addition to this commitment we assume its antecedent condition (that is, that we do have interesting, substantial knowledge), then this stance offers to deploy scientific means to explain how such knowledge came about, thus explaining how *knowledge is possible*. According to CNE, "the inquiry that will show, if anything does, that our beliefs are true and warranted, will be an inquiry that aims to show that, we and nature being thus and so, we will, given normal experience, actually get things right" (Higginbotham 1992, 127).

This way of unpacking the project of naturalizing epistemology sharpens its contrast with traditional epistemology. According to the epistemological tradition that in many different guises dominated until the middle of the twentieth century, we should endorse something like the following commitment:

> *CTE* Our concept of knowledge has clear-cut application conditions; but if we are to answer the question of whether it has interesting items in its extension, then we cannot rely on means that are continuous with science.

In the eyes of the traditional epistemologist, one of the tasks that the theory of knowledge should undertake is to provide "a precise explication or *analysis* of the *concept* of knowledge" (Williams 2001, 1). In addition, the skeptical challenge defies us to answer the question of whether *that* concept applies to *our actual epistemic situation*. Responding to such concerns about the very possibility of knowledge "cannot be a straightforward scientific issue, since skepticism calls in question all putative knowledge, scientific knowledge included" (Williams 2001, 3). The rationale for excluding a response to the skeptical challenge in continuity with science is vividly captured by Barry Stroud (2000, 120) when he notes: "The demand for completely general understanding of knowledge in a certain domain requires that we see ourselves at the outset as not knowing anything in that domain and then coming to have such knowledge on the basis of some independent and in that sense prior knowledge or experience. And that leads us to seek a standpoint from which we can view ourselves *without taking for granted any of that knowledge that we want to understand*."

Thus, CTE is incompatible with CNE. In fact, naturalistic epistemologists have explicitly rejected several aspects of the commitment of traditional epistemology. Some refuse to endorse the assumption that our pretheoretical concept of knowledge has clear-cut

application conditions, and they propose a theoretical surrogate for the concept of knowledge, in methodological continuity with science (e.g., Goldman 1979, 1986, and 1994).[7] Others assume that knowledge should be treated as a natural kind amenable to inquiry, in continuity with a scientific ontology (e.g., Kornblith 1994, 1999, and 2021). Still others suggest that the standards of philosophical argumentation are not distinct and independent from the inferences deployed by science; instead, "the inquiry proceeds in disregard of disciplinary boundaries but with respect for the disciplines themselves and appetite for their input" (Quine 1995, 16). As Quine (1969b, 127) emphasized, on this score, for naturalists "there is no external vantage point, no first philosophy. All scientific findings, all scientific conjectures that are at present plausible, are therefore … as welcome for use in philosophy as elsewhere."

3 | TRADITIONAL SKEPTICISM, FROM A NATURALISTIC PERSPECTIVE

In light of their rejection of CTE, it should come as no surprise that naturalistically inclined epistemologists do not flinch before the challenges of traditional skepticism. To see why, I now develop a conventional skeptical strategy within traditional epistemology. Then I explore how it is defused within a naturalistic framework.

Assuming CTE, skeptical arguments attempt to show that *we, as it happens, do not have any interesting knowledge*. That is, given our pretheoretical concept of knowledge and traditional (nonscientific) standards of philosophical argumentation, the skeptic argues that interesting *knowledge is simply not possible* for creatures like us. In contemporary literature, it is common to describe the traditional skeptical argument to that effect with something along the lines of the following structure (Comesaña and Klein 2019, § 3, and Greco 2007, 625):

> *TSA*
> 1. Knowing that *p* requires that we exclude the possibility of *sh*.[8]
> 2. We cannot exclude the possibility of *sh*.
> Therefore, we cannot know that *p*.

Here *p* represents any proposition of a target domain in which we were presumed to have interesting knowledge (such as the external world) and *sh* represents a skeptical hypothesis that is incompatible with our knowing that *p* and that is indiscernible from how things appear to us.

In order to use TSA for a sweeping negative assessment of our knowledge in the target domain, *p* must be a typical example of a proposition in that domain, and the subject considering it should be "representative of the best position we can be in for knowing things [in that domain]; … if the case is truly representative …, that will show that no one can know anything [in that domain]" (Stroud 1984, 10–11). The skeptical hypotheses, on the other hand, should be "consistent with all the evidence that we have or could have at our disposal" (Greco 2007, 640), while they are incompatible with us knowing that *p*. Such an incompatibility might be due to

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[7]According to Douglas Winblad (1989, 100), in "Goldman's attitude towards conceptual analysis … [, intuitions] can be discarded in the interest of conceptual economy."

[8]This premise of the skeptical argument is usually framed as a "closure principle" that states that, for a subject *s*, "If *s* knows that *p*, then *s* knows that no-*sh*" (Greco 2007, 626), or that "If *s* justifiedly believes that *p*, then *s* justifiedly believes that no-*sh*" (Comesaña and Klein 2019, § 3). My paraphrase includes something akin to this principle as a requirement deriving from our *concept* of knowledge.

the fact that *p* would be false in *sh*, or that its truth would be accidental or otherwise detached from our means for believing that *p*.

Concerning the target domain of our beliefs about the external world, the skeptical hypotheses of dreaming or being deceived by an evil demon are the classical examples of this argumentative strategy. The case of dreaming casts doubt on all our perceptual knowledge, since one "cannot tell by means of the senses whether or not [one] is dreaming" (Stroud 1984, 12). On the other hand, since it is an almighty being with the power to deceive anyone regarding almost any proposition, Descartes's evil demon also questions all our perceptual, along with our mathematical, beliefs. Although "it is difficult to say exactly what is required for knowledge" (Stroud 1984, 15), premise 1 of TSA assumes that discarding these scenarios is a necessary condition, since they imply the falsity of our perceptual beliefs, or at least their detachment from our means for having them. The difference between dreaming and being awake, between truly believing and being deceived, "seems to be relying on some knowledge about how things are or were in the world" (Stroud 1984, 17). It is our inability to discard the *mere possibility* of these scenarios, however, that is relevant for premise 2 of TSA.

Since the argument is premised on CTE and naturalistic epistemologists reject that commitment, they could be willing to acknowledge the validity of TSA without embracing the skeptical conclusion. Their reluctance to endorse that conclusion might appear, at first glance, to be the result of them simply refusing to engage with the skeptic: "[T]he naturalistic philosopher refuses to fight the sceptic on the latter's battleground, i.e., denies that a satisfactory answer to the sceptic should honour the [sceptic's] requirements" (Rodríguez-Alcazar 1996, 358). So, naturalists seem to dismiss the skeptic without even addressing TSA. In that spirit, Alvin Plantinga (2010, 173) confesses: "I have never seen much of a need to reply to the skeptic: why … should we think that the or a main concern of epistemology is replying to the skeptic? True, I may not be able *to prove to the skeptic's satisfaction that I know anything* …, but why should I have to do that? The skeptic tells me I don't have any knowledge; it's up to [her], then, to give an argument for that conclusion; but the arguments actually produced are always, as far as I can see, at best questionable" (emphasis added). A usual reaction of traditional skeptics is to stress that we *must* address TSA, while complying with CTE. Occasionally, that is not a straightforward demand, but it presents a more tangled outlook. The skeptic asks for an argument to show (under philosophical, nonscientific standards of argumentation) that the skeptical conclusion (which involves our pretheoretical concept of knowledge) is false. Applying this strategy is not only a shift in the burden of proof; it also ignores the naturalistic epistemologists' main content: that it is precisely CTE that is being contested. No eyebrows should be raised when those replies fall on deaf ears.[9]

Naturalistic epistemologists have their own side of the story. They take these skeptical arguments as innocuous fossilized remains of a fateful era in philosophy. They see traditional epistemology "as a confused and victoryless battle between unintelligible skepticism and lame attempts to answer it" (Davidson 1990, 137). They even find in the failure of that intellectual enterprise (naturalistic, scientifically inspired) grounds to explore an alternative approach: "The project of responding to skepticism … is one which naturalists regard as a dead end. Naturalists will argue that this project has a history of failure, and the manner in which the project has failed calls the very point of the project into question" (Kornblith 1999, 166). By

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[9]A colorful illustration of this dialectical impasse is provided by Hilary Kornblith (2021, 13), who claims that "in order to rationally convince the Skeptic that knowledge is, indeed, possible, … we need to construct an argument which leads to that conclusion starting from premises the Skeptic already accepts and proceed by way of a series of inferential transitions which the Skeptic acknowledges as legitimate. But the Skeptic has no beliefs … and … does not accept any inferential transitions as legitimate. So we need to provide an argument … which has no premises and involves no inferences. And, of course, there are no such arguments. So it is clearly impossible to come up with a dialectically effective argument to change the Skeptic's mind. We cannot rationally convince the Skeptic."

acknowledging the remaining logical space of inquiry, naturalism seems to be open to a wide variety of ways to undertake that very task.

4 | THE REVIVAL OF SKEPTICISM

Nevertheless, drawing the moral that we can just leave behind philosophical skepticism may be a misstep. After all, what characterizes the skeptical position by itself are not the specific assumptions it deploys in its arguments but the conclusion that our concept of knowledge—whether pretheoretical or scientifically engineered—is lacking interesting items on its extension: our epistemic situation is sadly precarious.

By realizing this, the skeptic can be rerouted on a more profitable direction to address the naturalist. She could start by pointing out that her conclusion is compatible with CNE; it has not been expelled from the game field by default. In this new dialectical situation, however, it is easy for the skeptic to slide into old habits. That would happen, for instance, if she were to suggest next that, since she had previously shown that *we are incapable of discarding relevant possibilities incompatible with our having knowledge in the target domain*, and from this *it followed* that *we in fact do not have any knowledge in that domain*, science is impotent to change the outcome. So, it would seem that naturalism also leads to skepticism. This would amount to simply insisting on claiming that the skeptical arguments were already there, but naturalistic epistemologists have not managed to respond to them successfully.

At this point, the naturalistic epistemologist should intervene. This trick does not impress her, because the skeptic is not playing fair. Both the assumption that discarding those possibilities is a condition for having knowledge and the supposition that we are in fact incapable of discarding them were made within traditional epistemology. By rejecting CTE, the naturalistic epistemologist has the resources to resist the skeptic's ploy. She may, for instance, claim that the notion of knowledge the skeptic deemed beyond our reach was uninteresting. Perhaps, in line with Alvin Goldman's (1979) process reliabilism, she assumes that true belief formed by highly reliable cognitive processes is an adequate surrogate for knowledge. Being able to exclude the possibility of skeptical hypotheses is not a requirement for achieving this state; it requires only that we are not in one of the skeptical scenarios and that our true beliefs are the result of highly reliable processes. Alternatively, a naturalistic epistemologist could reject the stringent standards of the skeptic to discard some possibilities. This strategy is deployed in Hilary Putnam's (1981, 15) response to the brain-in-a-vat skeptical hypothesis: "[T]he existence of a 'physically possible world' in which we are brains in a vat … does not mean that we might really, actually, possibly be brains in a vat." This possibility can be discarded, writes Putnam (16), not on the grounds of certainty but by "inquiring into what is *reasonably* possible *assuming* certain general premises, or making certain *very broad theoretical assumptions*" (emphasis added). A quite different implementation of this strategy relies on aspects of scientific reasoning. Along this line, "Quine treats skeptical counterpossibilities as rival empirical hypotheses, which [can be discarded] because they now possess less predictive power than contemporary science" (Winblad 1989, 99). Jonathan Vogel (1990, 661) has also suggested that, although the "skeptical hypothesis might present … [an] alternative explanation of your experiences," that hypothesis is not equally supported by the evidence as belief in the existence of an external world. Similarly, following André Kukla (2001, 22), one can recognize that "scientists do routinely and uniformly ignore propositional structures that seem to have a good measure of the empirical virtues." Perhaps an adequate rendering of scientific confirmation would show that skeptical hypotheses turn out to be bizarre structures, accounting for the fact that, in Kukla's estimation (23), "scientists don't give arguments against them—they never think about them at all."

Feeling cornered, in a desperate move the skeptic could instead *demand* from the naturalistic epistemologist an argument supporting epistemic optimism, under *her preferred naturalistic standards* and according to *her naturalistic concept of knowledge*. Were such an argument to be advanced, perhaps the skeptic could show—under these naturalistic assumptions—that specific strain of naturalism to be unsuccessful, accomplishing a *reductio ad absurdum*: "[S]he is quite within [her] rights in assuming science in order to refute science" (Quine 1975, 68). Indeed, the naturalistic epistemologist may be *tempted* to answer the skeptic's challenge. But *she does not have to do it*. She can also withdraw from that discussion with a clean conscience. To do that she does not need to assume that epistemic optimism is in a privileged position (for example, that it is a "default" position until challenged). The problem of philosophical skepticism was not to comply with the skeptic's *demands* but to "come to terms with [her] arguments … for the thesis that knowledge is impossible" (Williams 2001, 2). And, from the naturalist's perspective, a reasonable argument to that effect has not yet been presented in a naturalistic setting. Surely that does not mean that the problem of skepticism has been (dis)solved; but it grants the stance of not giving it priority. Without the skeptic's blockage, the naturalistic epistemologist can devote herself to more interesting (and perhaps more useful) tasks. Under these dialectical conditions, some skeptics prefer to throw a tantrum and refuse to seriously engage the naturalist, alleging that they are not compelled to endorse her starting point. They even occasionally accuse her of begging the question. But it does not seem that this is an accurate description of this confrontation; at least, not always.

The skeptic can instead take advantage of another strategy. She can start by recognizing that CNE, the naturalistic commitment, is a *conditional statement*. Since its antecedent (that our concept of knowledge has some interesting items in its extension) is what the skeptic is attempting to reject, her efforts should be directed at denying its consequent. Of course, that does not mean that she should insist on the *demand* for an answer to the question of whether we do have any interesting knowledge that is *completely independent of science* that it must not take "for granted any of that knowledge that we want to understand" (Stroud 2000, 120). The naturalist would be within her rights to reject that *demand*. Instead, the skeptic could *use science* to show that, according to *scientific standards*, a *scientifically inspired concept* of knowledge does not have interesting items in its extension. Can that feat be performed? Is there "hope of deriving the impossibility of knowledge of science from accepted premises within science [?]" (Higginbotham 1992, 123). Can skepticism about science "be grounded in science [?]" (Pritchard 2019, 3).

5 | NATURALIZED SKEPTICISM

In the previous section, I said that the skeptical conclusion was compatible with naturalism. Many naturalistic epistemologists are willing to grant that much, without making that concession with much care:

> There are, from a naturalistic perspective, interesting questions about how knowledge is possible, and none of these involve attempts to respond to the [traditional] skeptic. Instead, *they are empirically based questions about the extent to which our cognitive faculties are apt for the production of true belief.* (Kornblith 1999, 166, emphasis added)

> [S]keptical doubts *are scientific doubts.* (Quine 1975, 68, emphasis added)

> *Some*, but not all, skeptical doubts *are scientific doubts.* (Goldman 1986, 57, emphasis added)

> The naturalists' commitment is at most … that when science speaks with a firm and unified voice, the philosopher is either obliged to accept its conclusions or *to offer what are recognizably scientific reasons for resisting them*. (Burgess and Rosen 1997, 65, emphasis added)

Somehow, this is often interpreted as a claim that philosophical skepticism *can be tamed* within naturalism: the claim that, even if there are doubts, they can "be quieted by scientific means" (Winblad 1989, 99), eventually leading to epistemic optimism. By carefully reflecting on that compromise, however, skepticism can take a much more defiant stance: it can itself become a *naturalistic thesis*.

In order to develop a distinctively naturalistic way of sustaining the skeptical conclusion, the conditional commitment of CNE has to be assumed. Insofar as it must deny its antecedent, this leaves two routes open for achieving the skeptical conclusion:

> *First route*. The skeptic can assume the truth of the antecedent while she deploys scientific means to answer the question of whether we do have any interesting knowledge, to produce a *reductio ad absurdum* of epistemic optimism.

> *Second route*. The skeptic can assume the falsity of the antecedent to make sense of science being "the best means available," in Reichenbach's phrase.

Insofar as they endorse CNE, both routes support *naturalistically* the skeptical conclusion. In order to be dialectically consistent, they have to be receptive to the kinds of resources that naturalism deems respectable (for example, responsiveness to empirical evidence, acknowledgment of entities posited by respectable scientific theories, development of concepts for scientific understanding). Thus, to advance arguments that really address the naturalistic epistemologist's concerns, the skeptic must become more involved. Otherwise, she would slide back into the fruitless dialogue of the traditional skeptic and the naturalistic epistemologist that we rehearsed in the previous section. Although I do not endorse any of these positions, to illustrate this point, it will be useful to consider some examples of the kind of naturalized skepticism I have in mind.

On the first route, naturalized skepticism embraces CNE and in addition assumes that we have managed to scientifically acquire some interesting items of knowledge. Deploying these items, it then attempts to answer scientifically the question of whether we do have any interesting knowledge. By showing—contrary to its assumption—that knowledge would not be possible under that assumption, it performs a *reductio*. This strategy is illustrated by Mark Allan Walker's (2004, 69) noetic skepticism, which "does not challenge the justification for any particular hypothesis, but questions whether we are capable of formulating the correct hypothesis in the first place. … [It] claims that the hypothesis that correctly describes the truth might be beyond the 'reach of our minds.'" Walker (80) contends that we might assume some of the best confirmed hypotheses in the biological and cognitive sciences. Among these, we find the claim that there are endogenous limitations on the kinds of concepts certain organisms can form. If, turning to the question of whether we do have any interesting knowledge, "*qua* naturalists we … welcome a retreat from the purely theoretical plane to the world of experiment and observation, … the most promising means to [address] this issue is by empirical tests." Thus, according to Walker, we could perform experiments to probe our cognitive limitations through genetic engineering or by means of extrapolations from computer science. As a result of these "crucial experiments," we might find out that, given the kind of organisms we are, "we are incapable of formulating a final theory of everything" (87). This would amount to a form of local skepticism. It would entail that our knowledge of the world cannot be complete. If, however, several domains of inquiry prove to be "beyond our cognitive reach …, our local skepticism is going to mutate into a

full-blown global skepticism" (87). In such a scenario, as a matter of contingent evolutionary chance, we would be biologically incapable of even conceiving approximately true theories (perhaps in *any* domain). Thus, "it may turn out down the road that we conclude that our cognitive apparatus is after all badly suited to the world in which we live" (Higginbotham 1992, 127). This is a very general form of philosophical skepticism, and it definitely has a naturalistic outlook.[10] Following this route seems paradoxical, since global skepticism casts doubt on the very assumptions that supported it. As Douglas Winblad (1989, 106) noted, "the belief that all our cognitive processes are unreliable … can never be justified for us." But that does not show that this route to skepticism is self-undermining. The strategy of the skeptic was, after all, to perform a *reductio*. And an argument like the one presented by Walker effectively poses a challenge for epistemic optimism in a naturalistic setting.

Following the second route toward naturalized skepticism, we are invited to deny that science offers interesting items of knowledge. Faithful to CNE, however, we have to reject the idea that the question concerning the possibility of knowledge has to be answered by a tribunal over and above science. Scientific means are the best we have to go on; but according to our best scientific understanding, they do not amount to knowledge. Kyle Stanford's (2006, 24) epistemic instrumentalism can be seen as such a variety of skepticism, since it "regards even our best scientific theories merely as effective tools or instruments for achieving our practical goals." Stanford (2016, 92–93) has compellingly argued that by taking "evidence concerning the distinctive characteristics of our scientific theories and ourselves as theorizers, … [assuming] that *all* (good) evidence matters, and … [refusing] to automatically elevate … any … particular form of evidence into a privileged position while simply neglecting the rest," we can find an explanation of some aspects of scientific theorizing. In particular, Stanford (2016, 95) emphasizes "our repeated failures to even conceive … fundamentally distinct and even more empirically impressive successors that … replace [our best] theories." Those failures strongly suggests that the astonishing empirical success of our science is not a reliable indicator of its (approximate) truth. Thus, our overall evidence confirms that we are not proficient at conceiving theoretical alternatives to contemporary scientific theories, which indicates "that we lack sufficient warrant for regarding some of even the most successful contemporary scientific theories as probably and/or approximately true" (Stanford 2016, 95–96). As Tim Lewens (2012, 50) notes, "[T]here is something odd about Stanford's argument." If Stanford's assessment is sound, it would support (under naturalistic standards) the conclusion that ampliative inferences implemented in scientific practice are not truth conducive. At the same time, Stanford (2006, 209) "acknowledges that scientific theorizing has produced and shows every promise of continuing to produce increasingly powerful and sophisticated tools for guiding our engagement with nature." Epistemic instrumentalism contends that scientific theories "do help us successfully navigate the world in productive and systematic ways, even when the claims they make … are not even approximately true" (Stanford 2016, 96). Our nets cast into the ocean, to recall Reichenbach's image, despite their being our best means available to secure the catch, may simply not be enough: our cognitive efforts may be doomed from the start. This, again, is a form of skepticism under naturalistic assumptions: it is a form of naturalized skepticism.[11]

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[10]Although I will not develop the example here, a similar skeptical argument could be produced by elevating Nick Bostrom's "simulation hypothesis to the status of a serious possibility to which we should assign substantial probability…. Once it is a serious possibility that we're in a simulation, none of [the] arguments allows us to know that we're not" (Chalmers 2022, 102).

[11]A similar strategy opposing scientific realism is inspired by Bas van Fraassen (1980; for instance, in Bueno 1999 and 2011). Otávio Bueno explores a different avenue for the compatibility of skepticism and naturalism. Bueno (2022, 153) claims that "on the Pyrrhonian stance, skepticism and naturalism, understood as practices of investigation, are different sides of the same coin." When naturalism is "conceptualized as a claim about the sciences, the Pyrrhonist suspends judgment about it" (162); in contrast, by conceiving it as an attitude towards life, naturalism and (Pyrrhonian) skepticism "are perfectly woven together" (149). These views on the compatibility of naturalism and skepticism characterized as stances are beyond the scope of my present paper.

As a contribution to our understanding of science, epistemic instrumentalism—like many other forms of scientific anti-realism—is usually presented as a local variety of skepticism: one that targets theoretical knowledge, concerning unobservable entities and theoretical claims of our best scientific theories. Thus, it might seem to grant a significant amount of knowledge about the observable world. And, as a matter of fact, anti-realism is compatible with epistemic optimism. In order to develop a more thorough account of scientific practice, however, this route can also lead to global skepticism. An adequate explanation of our practices of inquiry might show that, even if they aim at providing empirically adequate descriptions of the world—at "saving the phenomena"—most claims about the world from science and common sense fall short of knowledge.

A strikingly distinctive feature of naturalized skepticism, in contrast to traditional strains, is that—as in Quine's (2008, 135–36) portrait of Humean philosophy—"while it is skepticism, it is not a doctrine of despair and inactivity. The same old drive to science … exists, and is applauded; but it is a natural drive. … [S]kepticism in this sense, far from being antithetical to science, is decidedly in the scientific spirit." Although its conclusions are far from optimistic and they may seem to induce despair, the only way to assess them requires taking science seriously and actively pursuing the philosophical enlightenment inspired by it. Thus, naturalized skepticism, as I have portrayed it, must engage with science. In the first route, this means that skeptical arguments should pay attention to relevant aspects of evidence, ontology, and methodology of scientific practice. A *reductio* that relies on caricatures of science will not pose a challenge for naturalized epistemology. Thus, this path toward skepticism directs our attention toward those aspects of science that, according to its own standards, pose deep worries about the possibility of knowledge. In the second route, the skeptic's engagement with science is rather rooted in our attempt to make sense of science from within. It results from the recognition that "understanding what our best scientific theories are telling us about the world and understanding how we go about theorizing that world in the first place are not distinct challenges" (Stanford 2016, 93). If successful, this skepticism would combine "ardently scientistic varieties of philosophical naturalism with resistance to scientific realism" (92).

Naturalized skepticism still poses profound and vexing challenges to epistemology in a naturalistic setting. Especially, insofar as it has expansionist consequences that involve the very philosophical practice, as naturalism conceives it. In an important sense, responding to these challenges is not a trivial matter: we cannot simply reject the bona fide scientific theories and inferential practices that oppose epistemic optimism just for the very reason that they do not achieve that goal. To do so would be inconsistent with naturalism.

6 | CONCLUDING REMARKS

I began this essay by outlining some traits of naturalized epistemology that distinguish it from traditional epistemology. After reviewing the reasons advanced from this perspective to dismiss traditional skeptical challenges, I argued that the skeptical thesis is compatible with naturalism. Finally, I presented naturalistic ways of arguing for the skeptical conclusion. The upshot is: naturalism does not preempt skepticism. But what does that tell us about the naturalistic project?

One could be tempted to conclude that the revival of skepticism within naturalism should lead us to reconsider undertaking this philosophical enterprise. After all, as Richard Fumerton (1994, 324) pointed out, "the naturalistic epistemologist seems moved, in large part, by the conviction that it is only by taking a naturalistic turn that the epistemologist can avoid massive skepticism." In the absence of that incentive, what would be the drive to endorse naturalistic epistemology? Some have drawn the moral that we have not taken

naturalism far enough. They lean toward even more radical versions of naturalism, which hold that the very notion of knowledge, as well as other epistemic categories, should be abandoned altogether. They argue that "the best we can do is give up the notion of knowledge as a bad job. ... [This] is not skepticism. Skeptics accept the concept of knowledge and deny its applications. What we are concluding rather is that the term does not meet scientific and philosophical standards of coherence and precision" (Quine 1987, 109). But is this a form of naturalism? Since it denies the antecedent of CNE, it would appear to vacuously endorse it. From the vantage point of epistemic optimism, however, this remedy may seem as bitter as the skeptical disease.

Nonetheless, rather than opposing the naturalistic endeavor or forcing it into another direction, I contend that naturalized skepticism offers another way of understanding naturalism as a philosophical project. In an interesting sense, the very existence of naturalized skepticism shows that naturalism is a much more radical project than is often recognized. Striving to mimic our best philosophical and scientific achievements, it broadens the limits of what we can question in order to obtain a better understanding of the world we inhabit, and of ourselves in it. It is even willing to question assumptions that philosophers took as hallowed ground. Yet new skeptical challenges still arise. The question of whether it is reasonable to be optimistic concerning our epistemic situation *is still an open question*, even within philosophical naturalism. And now all of us—the skeptic included—are in pursuit of an answer, to the best of our abilities.

ORCID

Marc Jiménez-Rolland https://orcid.org/0000-0003-0775-1301

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AUTHOR BIOGRAPHY

Marc Jiménez-Rolland is a professor of epistemology at the Autonomous Metropolitan University—Iztapalapa. His main publications address issues concerning scientific realism ("What Neuroscience Tells Us About Mental Illness: Scientific Realism in the Biomedical Sciences" and "Giere's Scientific Perspectivism as *Carte Blanche* Realism," both with Mario Gensollen) and aggregative epistemology ("Using Simulation in the Assessment of Voting Procedures: An Epistemic Instrumental Approach," with Julio Macías-Ponce and Luis Fernando Martínez-Álvarez). He is interested in formal approaches to epistemology and the philosophy of science.