

# A trilemma for naturalized metaphysics

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## Abstract

Radical naturalized metaphysics wants to argue (1) that metaphysics without sufficient epistemic warrant should not be pursued, (2) that the traditional methods of metaphysics cannot provide epistemic warrant, (3) that metaphysics using these methods must therefore be discontinued, and (4) that naturalized metaphysics should be pursued instead since (5) such science-based metaphysics succeeds in establishing justified conclusions about ultimate reality. This paper argues that to defend (5), naturalized metaphysics must rely on methods similar to those criticized in (2). If naturalized metaphysics instead opts for the weaker claim that science-based metaphysics is only superior to other metaphysics, then this is insufficient to establish (4). In this case, (4) might therefore be defeated by (1). An alternative is to replace (1) with the view that we should just approach metaphysical questions with the best means available. While this would recommend a science-based approach whenever possible, it would also allow for the continuation of science-independent metaphysics in domains that science has no bearing on and thus reject (3). The paper concludes that none of these alternatives is entirely satisfactory for naturalized metaphysics.

## KEYWORDS

epistemic risk, metametaphysics, naturalism, naturalized metaphysics, philosophy of science

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## 1 | INTRODUCTION

Naturalized metaphysics, in its more radical or “strong version” (Guay & Pradeu, 2020, p. 1850), argues that metaphysics must be inspired and constrained by the findings of our best science and that metaphysics not so inspired and constrained has no epistemic credibility. This is so since the methods traditionally employed in science-independent or *autonomous metaphysics*—a priori reasoning, conceptual analysis, intuitions, and common sense—are variously argued to be unsuited for justifying conclusions about ultimate reality. Autonomous metaphysics should therefore be discontinued since such metaphysics is “harmful to the extent that its proponents believe it to be an epistemically adequate form of inquiry that produces justified theories about the nature of the world” (Bryant, 2020a, pp. 17–18). Naturalized metaphysics in contrast, through its association with science, can establish epistemically warranted metaphysical conclusions, or so its proponents argue.

The proponents of such radical naturalized metaphysics are, however, divided in how they theorize this epistemic grounding in science. James Ladyman and Don Ross, on one side, offers what they describe as “wholesale reasoning about science” (2007, p. 74)—more precisely a variant of the no-miracles argument—with the purpose of establishing that science-based metaphysics is epistemically credible. The problem with this *ambitious* approach, as this paper will argue, is that such wholesale reasoning easily comes to depend on precisely those traditional methods of metaphysics and philosophy more generally that naturalized metaphysics criticizes.

Perhaps for this reason, other proponents of naturalized metaphysics refrain from entering general discussions about the epistemological status of science and science-based metaphysics. Instead, they merely observe that science is the best, if not the only, epistemic game in town, and metaphysics can therefore do no better than basing itself on science (see, e.g., Bryant, 2020b, p. 28; Melnyk, 2013, p. 94; Ney, 2012, p. 62). This *cautious* approach, however, comes with a price as this paper will argue. In only arguing that naturalized metaphysics based on science is epistemically better off than autonomous metaphysics, it remains an open question whether better is good enough. Perhaps neither naturalized nor autonomous metaphysics has sufficient epistemic warrant to produce “justified theories about the nature of the world” and not to be “harmful to the extent that its proponents believe it” as Amanda Bryant puts it above. If, in reply, proponents of the cautious approach argue that we should always answer metaphysical questions using the most epistemically credible means available, then this would vindicate an autonomous metaphysics approach for all metaphysical questions where science is currently silent.

The discussion, in other words, shows that naturalized metaphysics—at least in its more radical form—has a hard time sustaining all its central commitments at the same time. Naturalized metaphysics wants to argue (1) that metaphysics without sufficient epistemic warrant should not be pursued, (2) that the traditional methods of metaphysics cannot provide epistemic warrant, (3) that metaphysics using these methods must therefore be discontinued,<sup>1</sup> and (4) that naturalized metaphysics should be pursued instead since (5) such science-based metaphysics succeeds in establishing justified conclusions about ultimate reality. The ambitious approach actively defends (5) but at the risk of violating (2) which in turn implicitly questions (3). The cautious approach insists on (2) but can as a consequence not defend (5) which leaves (4) without justification. The cautious approach instead opts for, what shall be denoted, (5-) [five minus] which claims that science-based metaphysics is epistemically superior to autonomous metaphysics. However, for (5-) to justify (4), the cautious approach must be more liberal with respect to (1) which might allow for violations of (3).

The paper proceeds as follows: Section 2 documents that naturalized metaphysics is committed to (1)–(4). Section 3 distinguishes the ambitious (5) and cautious (5-) approach to justifying science-based metaphysics. Section 4 shows how the commitments (1)–(5) are at a tension and concludes that this tension cannot be negotiated

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<sup>1</sup>The word “metaphysics” is used throughout to denote an undertaking that alleges to generate claims about ultimate reality, and (3) should be understood accordingly. Some proponents of naturalized metaphysics have argued that some of the activities of autonomous metaphysics can continue if they are regarded as merely producing tools that science-based approaches can then use in the attempt to establish justified claims about ultimate reality (French & McKenzie, 2012). This, however, will not qualify here as continuing autonomous *metaphysics*.

in a way that is entirely satisfactory by the standards of naturalized metaphysics. Throughout, “naturalized metaphysics” will be used narrowly to refer to approaches that endorse (1)–(5) or variants thereof. As discussed at the end of Section 4, these approaches do not exhaust the views going by the name ‘naturalized metaphysics’ and these other variants will largely be unaffected by the trilemma developed here.

## 2 | THE COMMITMENTS OF NATURALIZED METAPHYSICS

According to one version of naturalized metaphysics, “[n]aturalism requires that, since scientific institutions are the instruments by which we investigate objective reality, their outputs should motivate all claims about this reality, including metaphysical ones” (Ladyman & Ross, 2007, p. 30; see also Bryant, 2020a, p. 1885; French & McKenzie, 2012, pp. 56–57; Humphreys, 2013, p. 55; Maudlin, 2007, p. 78; Melnyk, 2013, p. 94; Ney, 2012, p. 76). The only legitimate metaphysical claims are those that are based on the findings of our best science, what was denoted (4) above. This is so, Ladyman and Ross argue, since the methods that metaphysics has traditionally been based on—a priori reasoning, conceptual analysis, intuitions, and common sense—cannot provide any epistemic warrant for claims about “objective reality.” These traditional methods of metaphysics are part of our evolved cognitive capacities, naturally selected for the service they did to our survival in our original habitat. Our cognitive capacities are thus adapted for “making navigational inferences in certain sorts of environments (but not in others), and [...] anticipating aspects of the trajectories of medium-sized objects moving at medium speeds” (Ladyman & Ross, 2007, p. 3). Claims based on these traditional methods of metaphysics could perhaps be regarded as a noisy signal about our historical evolutionary pressure which in turn would be a noisy signal about the world where this evolution took place, but for Ladyman and Ross this does not qualify as metaphysics. Referring specially to conceptual analysis, they ask rhetorically: “But why should we think that the products of this sort of activity reveal anything about the deep structure of reality, rather than merely telling us about how some philosophers, or perhaps some larger reference class of people, think about and categorize reality?” (2007, p. 16). If our interest is ‘the deep structure of reality’ then neither conceptual analysis nor intuitions, common sense, or a priori reasoning will serve us. As examples of how these methods fail us in metaphysics, Ladyman and Ross give the rejection of Euclidean geometry in general relativity (2007, p. 11) and the discovery of entanglement in quantum mechanics with its associated challenges to locality and separability (2007, p. 19). In conclusion, “there is no reason to imagine that our habitual intuitions and inferential responses are well designed for science or for metaphysics” (Ladyman & Ross, 2007, p. 3). The traditional methods of metaphysics cannot provide epistemic warrant, what was denoted (2) above, a view explicitly shared by Bryant (2020a, pp. 17–18), Steven French and Kerry McKenzie (2012, p. 55), Tim Maudlin (2007, p. 1), Paul Humphreys (2013, pp. 75–76), Andrew Melnyk (2013, p. 94), and Alyssa Ney (2012, p. 66), though only Bryant and Humphreys explicitly repeats the evolution-based argument for this conclusion.

Given (2), an undertaking based on the traditional methods of metaphysics cannot, as Bryant states above, be considered an “inquiry that produces justified theories about the nature of the world” (see also de Ray, 2022). As an undertaking that alleges to do so, autonomous metaphysics must therefore be discontinued, what was denoted (3) above. Elsewhere, Ladyman expresses the same sentiment writing: “Prima facie it is puzzling that although we have successful empirical science, philosophers also carry out a separate form of a priori enquiry into the nature of things” (2012, p. 32). Both of these remarks are suggestive of the commitment of naturalized metaphysics, denoted (1) above, that metaphysics without sufficient epistemic warrant should not be pursued. In an assessment of how the subject matter of naturalized metaphysics compares with that of autonomous metaphysics, Ladyman (2017) makes this more explicit. Naturalized metaphysics is not eliminative of metaphysics. Naturalized metaphysics, Ladyman explains with particular reference to the version of it developed by Ladyman and Ross (2007), is at the outset concerned with the same questions that metaphysics has traditionally been occupied with. He adds, however, that “[t]hat is not to say that they [2007] advocate answering all the same questions that are asked by analytic metaphysicians by different means, since they make

it clear that they regard some of those questions as meaningful, but as making insufficient contact with reality to be worth entertaining' (Ladyman, 2017, p. 143). Metaphysics 'making insufficient contact with reality' is not epistemically credible. Ladyman, in other words, argues that we should only answer those metaphysical questions that we can give epistemically warranted answers to, and the findings of our best science is the only means for doing so. Ladyman and Ross also express this sentiment together when they warn that naturalized metaphysics, when leaving a question unanswered, "does not imply that we should look to an institution other than science to answer such questions; we should in these cases forget about the questions" (Ladyman & Ross, 2007, p. 30; see also Melnyk, 2013, pp. 88–89; Ney, 2012, pp. 66–67). In arguing that we should "forget those questions" that naturalized metaphysics cannot answer, Ladyman and Ross maintains the view implicit in (1) that we should *not* just answer metaphysical questions with the best means available. The proposal is not that we should use naturalized metaphysics whenever possible and then other means in the remaining cases. Rather, if we cannot establish an epistemically warranted answer then we should refrain from answering that metaphysical question. This is central for the claim (3) that autonomous metaphysics should be discontinued and not merely relegated to the domains that science-based metaphysics has no bearing on.

Both Humphreys (2013, pp. 70–72) and Anjan Chakravartty (2017, Chapter 3) aptly spell out the problem with autonomous metaphysics in terms of epistemic risk. While any attempt to theorize about the nature of the world will involve some epistemic risk, this risk is simply too large if the theory is solely based on the traditional methods of metaphysics. Chakravartty's proposal is the more elaborate and he details various factors that are relevant for the assessment of epistemic risk, but for present purposes Chakravartty's framework is helpful because it proposes a continuum of riskiness on which we—admittedly somewhat arbitrarily—introduce a boundary between acceptable and unacceptable epistemic risk. The view expressed by Ladyman and Ross above can thus be understood as saying that only the epistemic risk involved in naturalized metaphysics is sufficiently small to be acceptable. Humphreys (2013, pp. 70–71), in contrast, emphasizes a principle of risk aversion—i.e., a principle according to which we should always seek to reduce our epistemic risk—and argues that this leaves "scientific ontology" much better off than "speculative ontology." All Humphreys says, therefore, is that scientific ontology—or naturalized metaphysics—involves less epistemic risk than speculative ontology—autonomous metaphysics—but not where they are, respectively, at the continuum of riskiness, especially with regards to the boundary between acceptable and unacceptable epistemic risk. This difference is indicative of the difference between the ways naturalized metaphysics theorize its grounding in science that we turn to in the next section.

### 3 | THE AMBITIOUS AND THE CAUTIOUS APPROACH

On what grounds can naturalized metaphysics claim to succeed where autonomous metaphysics fails? The basic intuition expressed by most proponents of naturalized metaphysics is that science has proven to be a very successful enterprise and that a metaphysics that is sufficiently differential to science can share in this success. Ladyman and Ross (2007, sec. 2.1.1) develops this intuition into an explicit argument to the effect that naturalized metaphysics can establish justified conclusions about objective reality. Their argument is a version of the no-miracles argument which purports to establish that we are warranted in basing our judgements about the content and structure of reality on our successful scientific theories. "The positive argument for [this scientific] realism is," as Hilary Putnam (1975, p. 73) originally put it, "that it is the only philosophy that doesn't make the success of science a miracle." As mentioned in the introduction, Ladyman and Ross recognize that, in giving this argument, they are engaged in establishing the epistemic credentials of naturalized metaphysics through "wholesale reasoning about science" (Ladyman & Ross, 2007, p. 74). The no-miracles argument involves an external perspective on science which inquires what the success of science might signify about how our scientific theories relate to the world. It is an epistemic argument that infers from the *collective* success of science—its "instrumental reliability" as

Stathis Psillos (2011a, p. 24) puts it—to the conclusion that scientific theories are *typically* (approximately) correct about reality.

Psillos (1999, Chapter 4) analyses the argument as an instance of inference to the best explanation, an understanding also shared by Ladyman and Ross (2007, sec. 2.1.1). If one questions inference to the best explanation, then this might therefore defeat part of this argument for naturalized metaphysics. The purpose here, however, is not to argue for or against but to ascertain whether this argument might violate some of the other core commitments of naturalized metaphysics. Inference to the best explanation is interesting, therefore, since it is central to Laurie Paul's (2012) attempt to vindicate autonomous metaphysics. Paul observes that in metaphysics, "just as in science, theories are compared with respect to the elegance, simplicity and explanatory virtues of their models, and theories are chosen over their competitors using inference to the best explanation" (2012, p. 12). If inference to the best explanation is sound in science—and thus a legitimate part of the foundation of naturalized metaphysics—then why can it not be used with equal legitimacy in autonomous metaphysics?

Ladyman (2012) has responded that explanatory power—and thus inference to the best explanation—only has a supplementary role in science—with empirical evidence serving as the primary arbiter—in contrast with what is the case in metaphysics. Even in "high science," Ladyman claims, "the explanatory power of the hypotheses is coupled to their fecundity for the development of local theories that are empirically adequate and crucially predictive" whereas in metaphysics "[t]he purported explanations offered are decoupled from anything but the most general and common empirical content and bear no relationship to any research programmes in current science. These disconnections break the continuum between high theory and metaphysics" (2012, p. 48; see also Huemer, 2009; Saatsi, 2017). The difference, in other words, between the legitimate use of inference to the best explanation in science and the illegitimate use in metaphysics is that only science embeds this inference within a context of empirical data. In the spirit of naturalized metaphysics, science provides for a special context whereby methods that are otherwise illegitimate in a philosophical context can nevertheless have epistemic warrant.

But what, then, about Ladyman and Ross' wholesale argument for the epistemic credibility of naturalized metaphysics based on the no-miracles argument? In being about science as a collective, Psillos notes, the no-miracles argument operates at a different level of generality than empirical evidence and scientific theories. "[T]he problem lies in the thought that scientific realism can be supported by the same type of argument that scientific theories are supported" (Psillos, 2011a, p. 33). The no-miracles argument, though taking the success of science as an input, is not just more science. This, however, raises the question whether inference to the best explanation in the no-miracles argument shares in the legitimate use of this inference in science or the illegitimate use in metaphysics. Though approaching the issue from a somewhat different angle, Greg Frost-Arnold offers a rather detailed analysis of this and concludes that "the type of explanation that the NMA [no-miracles argument] uses to explain the empirical success of science is exactly the kind of explanation [...] that scientists do not accept" (2010, p. 47; see also Psillos, 2011b). By this analysis, the no-miracles argument exemplifies the, according to Ladyman, illegitimate use of inference to the best explanation in metaphysics and philosophy more generally and not its legitimate use in science. Ladyman and Ross' wholesale argument for the epistemic credibility of naturalized metaphysics is therefore at risk of being subject to the same criticism that they level against autonomous metaphysics. When they insist on the soundness of this argument, they are implicitly vindicating the use of, at least, inference to the best explanation for philosophical purposes. Following Paul, this should in turn vindicate much of autonomous metaphysics. In the nomenclature above, to justify (5: science-based metaphysics succeeds in establishing justified conclusions about ultimate reality), naturalized metaphysics violates (2: the traditional methods of metaphysics cannot provide epistemic warrant) which in turn questions (3: metaphysics using these methods must be discontinued).

Perhaps for this reason, Ney seems to be more cautious to enter these wholesale discussions about the epistemic credibility of science and science-based metaphysics. Though Ney appears to echo Ladyman and Ross when she concludes "that physics has a proven track record of *success* making it a good place to begin metaphysical inquiry" (2012, p. 62, emphasis added), she also explains to have adopted "a more restrictive approach" to naturalized

metaphysics “because the goal is to get out a metaphysics that has established its semantic and justificatory credentials via physical theory itself, without having to also develop a semantic theory and epistemology for physics” (2012, p. 64).<sup>2</sup> Ney’s proposal seems to be that naturalized metaphysics inherits its epistemic credentials from (realist) science and whoever questions naturalized metaphysics therefore also questions science. On one reading, Ney in turn regards the success of science as sufficient for justifying it as the starting point for an epistemically credible naturalized metaphysics—possibly following Ladyman and Ross’ appeal to the no-miracles argument—but perhaps the point is merely that *if* science makes justified claims about reality, then so does naturalized metaphysics. Naturalized metaphysics stands and falls with realist science, but this view of science is then in turn not further justified.

On this view, however, there is no argument that establishes metaphysical conclusions inferred from science as epistemically warranted. This view therefore leaves open that naturalized metaphysics may not be an epistemically legitimate approach to metaphysics either. Melnyk is one of the few proponents of naturalized metaphysics who considers this possibility explicitly: “I think there is a real possibility that the activity that we call ‘metaphysics’ should turn out not to constitute a viable form of inquiry at all, either empirical or non-empirical” (Melnyk, 2013, p. 81). Melnyk, however, finds that, for purposes of answering metaphysical questions, science is the most (and possibly only) promising ally: “the only possible approach to such a question requires scrutinizing our best current physical theories and working from there” (Melnyk, 2013, p. 94). Melnyk, as such, opts for a view that avoids the challenge of providing a principled argument for the viability of naturalized metaphysics and thus the associated risk that this argument will rely on the problematic traditional methods of metaphysics. Instead, he merely suggests that naturalized metaphysics is superior to other approaches to metaphysics (the view denoted (5-) above) such that if naturalized metaphysics fails, then so do all other approaches. This view also appears to be the view endorsed by Ney, Bryant (2020b, p. 28), and possibly Ladyman later on, who more recently writes that “science is the worst source of knowledge about the world apart from all the rest” (2018, p. 115).

Hilary Kornblith identifies this reasoning as common to many forms of scientific naturalism.

What does have priority over both metaphysics and epistemology, from the naturalistic perspective, is successful scientific theory, and not because there is some a priori reason to trust science over philosophy, but rather because there is a body of scientific theory which has proven its value in prediction, explanation, and technological application. This gives scientific work a kind of grounding that no philosophical theory has thus far enjoyed. (Kornblith, 1994, p. 49)

The successes of science do not, according to Kornblith, provide for some a priori argument that can establish the epistemic credentials of science, but they are nevertheless better than nothing. Without anything else to go by, the success of science provides it with “a kind of grounding,” as Kornblith writes, that cannot be contested by any philosophy theory or system, and this might therefore serve as an argument for why science, as suggested by Ney, is “a good place to begin metaphysical inquiry.” Given the character of the argument, however, ‘good’ may be somewhat misleading, as the next section argues.

## 4 | A TRILEMMA FOR NATURALIZED METAPHYSICS

On Kornblith’s rendering of scientific naturalism, there is no a priori argument that establishes that science can serve as a credible foundation for metaphysics (or epistemology). Nonetheless, such scientific naturalism finds that in the absence of anything else to go by, the success of science suggests science as the best grounding available including being the *best* or least bad place to begin metaphysics. However, as Melnyk points out, even if science-based metaphysics is best, it may not be good enough. Above, the criticism of the traditional methods of metaphysics was

<sup>2</sup>Though Ney mentions both semantic and epistemic credentials, the focus here will continue to be on the latter.

recounted as the argument that these methods are too unreliable for purposes in metaphysics and that using them therefore involves too big an epistemic risk. Melnyk's argument could therefore be construed as saying that also science-based metaphysics might be too epistemically risky, i.e., that (4: naturalized metaphysics should be pursued instead) might be defeated by (1: metaphysics without sufficient epistemic warrant should not be pursued). So long as the argument in favour of science-based metaphysics merely is that it is better than metaphysics informed by the traditional methods of metaphysics (5-), it remains a possibility that neither "constitute a viable form of inquiry," as Melnyk puts it. In the nomenclature of the introduction, if (5) is replaced with (5-), then (1) might defeat (4).

The argument could be put as follows: If one can only show that science-based metaphysics is superior to autonomous metaphysics, then this raises the concern that the difference in epistemic risk between science-based and traditional approaches to metaphysics is perhaps rather small compared to the risk involved in attempting to answer metaphysical questions in the first place. This concern becomes particularly pertinent if Chakravartty is correct when he claims that "metaphysical inference is inescapable" even in "scientific ontology" (2017, p. 45); his name for naturalized metaphysics. While he explains that the empirical input is typically greater in scientific ontology than in other metaphysics, such that the "metaphysical inferences" are more constrained there, a rather immediate worry would be that the epistemic risk involved in making a metaphysical inference in the first place is much greater than the difference it might make that the inference is more or less empirically constrained. Both constrained and unconstrained metaphysical inference could well be on the wrong side of the boundary between acceptable and unacceptable epistemic risk. If this is so, then according to (1) neither science-based nor autonomous metaphysics should be pursued even though the former would be slightly less epistemically risky. The problem with (5-) is that, in only arguing that science-based metaphysics is epistemically superior, it does not answer this worry, i.e., it remains uncertain whether engaging in metaphysics in the first place is epistemically responsible. Instead, (5-) merely answers what method should be employed *if* the epistemic risk involved in metaphysical inference proves acceptable. Ladyman and Ross avoid this problem by providing a wholesale argument for the epistemic credibility of naturalized metaphysics, but those proponents of naturalized metaphysics who are sceptical of such arguments—perhaps for naturalist reasons—leave open these uncertainties regarding epistemic credibility which threatens to render their position untenable. The literature currently offers little in terms of an analysis even of the relative size of these uncertainties beyond the proposal that science-based metaphysics is epistemically superior to metaphysics based on its traditional methods.

One might reply that the success of science at least places the burden of proof with those who question the viability of naturalized metaphysics, the view ascribed to Ney in Section 3. One might even allow this attitude for all metaphysics at the outset but then point to the concerns about the traditional methods of metaphysics raised in Section 2 as evidence that metaphysics based on these methods is not viable. However, McKenzie's (2020) argument that the impossibility of metaphysical approximation impedes naturalized metaphysics could be regarded as providing evidence that also naturalized metaphysics is epistemically problematic. Furthermore, Larry Laudan's (1981) pessimistic meta-induction and Kyle Stanford's (2006) unconceived alternatives challenge the foundational assumption of scientific realism in naturalized metaphysics. While these are arguably short of a proof that naturalized metaphysics is not viable, they signify that autonomous and naturalized metaphysics alike are faced with challenges. If such are sufficient to defeat the former, then they may also be sufficient to defeat the latter. In the schematic form, this involves a version of (1) whereby a metaphysical approach with reasonable arguments against it should be discontinued which, however, risks defeating naturalized metaphysics as well as autonomous metaphysics. Again, therefore, the concern is that (5-) is insufficient to preserve (4).

Still, if science-based metaphysics is best as (5-) claims, then the epistemic risk involved in that will be less than that involved in any other approach to metaphysics. Thus, if the aim is to answer metaphysical questions, then science-based metaphysics is the best option even though also it may still involve a relatively large epistemic risk. The issue with this response is that naturalized metaphysics already insists that we should only answer those metaphysical questions that it is epistemically safe to answer, commitment (1). Despite the absence of any alternative, we should not resort to the traditional methods of metaphysics because the answers they would produce

would be too unreliable to be worth anything. Bryant, Ladyman and Ross, Melnyk, and Ney very explicitly reject the notion that we should answer metaphysical questions with the best means available. This again emphasizes why Ladyman and Ross find it important to provide a wholesale argument for the general epistemic credibility of science-based metaphysics. It warrants the claim that science-based answers to metaphysical questions are generally epistemically credible. This is not achieved by an argument that only establishes the science-based approach as epistemically safer than the traditional methods of metaphysics. Though science thereby provides a better basis for metaphysics than these traditional methods, this argument cannot establish that science provides sufficient epistemic warrant for answering any metaphysical questions. If one cannot establish the general epistemic credibility of science-based metaphysics, then naturalized metaphysics as well as autonomous metaphysics could both be too epistemically risky forms of inquiry.

An alternative is, of course, to give up (1), i.e., give up that metaphysics without sufficient epistemic warrant should not be pursued. Instead, our aim could just be to reduce epistemic risk, as Humphreys suggests above. By replacing (1) with this principle of risk aversion, however, little seems to justify insisting on (3), that autonomous metaphysics must be discontinued, at least in those circumstances where science-based metaphysics is not an alternative. If there were no such circumstances, then this problem would be only theoretical. Ladyman and Ross, however, explicitly mentions the “resurgence of the kind of metaphysics that floats entirely free of science” (2007, p. 9) as a central motivation for their criticism of traditional metaphysics. They seek to deal with such metaphysics through their (epistemic) verificationism whereby “no hypothesis that the approximately consensual current scientific picture declares to be beyond our capacity to investigate should be taken seriously” (Ladyman & Ross, 2007, p. 29).<sup>3</sup> This is the principle behind Ladyman's qualification above that naturalized metaphysics does not promise to answer all questions “asked by analytic metaphysicians by different means” since the problem with these questions is that they make “insufficient contact with reality.” Implicit, again, is the expectation that there are questions of analytic metaphysics that cannot be answered based on science.

Ladyman and Ross' verificationism gives another exemplification of (1), that metaphysics without sufficient epistemic warrant should not be pursued. In replacing this principle for a principle of risk aversion, as Humphreys proposes, nothing seems to prevent the pursuit of these questions that lie beyond the scope of science-based metaphysics. Autonomous metaphysics can in good faith pursue these issues using the traditional methods of metaphysics because no other less risky approach is on offer, as Steve Stewart-Williams (2005) has suggested. Thus, contrary to the intention of naturalized metaphysics, seemingly including Humphreys (2013, p. 75), autonomous metaphysics can continue if one gives up (1) in the attempt to salvage (4: that naturalized metaphysics should be pursued instead).

Notice finally that, while this consequence is in tension with the more radical version of naturalized metaphysics discussed above, it is welcomed as a virtue rather than a vice by proponents of more moderate versions of naturalized metaphysics. They recognize that the traditional methods of metaphysics can provide some epistemic warrant and therefore see a continued role for metaphysics using these methods, i.e., they reject (2) and (3), though they still maintain that metaphysics is better off when informed by science (5-) (see, e.g., Hawley, 2006; Morganti, 2020; Morganti & Tahko, 2017). Katherine Hawley explains the coherence of the latter by noticing that “to maintain that there can be non-scientific reasons for belief does not entail that these must outweigh the reasons provided by science” (2006, p. 453). The purpose here is not to evaluate moderate naturalized metaphysics but to make explicit that the trilemma detailed here only applies to a more radical version of naturalized metaphysics that *rejects*, in Hawley's terminology, “non-scientific reasons for belief.” One might consequently think that moderate naturalized metaphysics is a better option than the more radical version. This discussion, however, should rather be seen as revealing that these two

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<sup>3</sup>Other than the question whether God caused the big bang, Ladyman and Ross (2007, p. 29) give no concrete examples of such metaphysical questions that are beyond the scope of science-based metaphysics. No attempts will be made here to speculate what other questions Ladyman and Ross, or other proponents of naturalized metaphysics, would regard as further examples.



versions of naturalized metaphysics are not competing solutions to the same problem (in the way the ambitious and cautious approach are). Where radical naturalized metaphysics attempts to salvage metaphysics under the assumption that its traditional methods cannot provide epistemic warrant, moderate naturalized metaphysics is an answer to how the findings of science can contribute to an already legitimate field of inquiry.

## 5 | CONCLUSION

There are, in conclusion, three different ways to negotiate the tension between the five core commitments of radical naturalized metaphysics, neither of which are entirely satisfactory by its own standards. One can (a) opt, as Ladyman and Ross do, for an ambitious wholesale argument for the epistemic credibility of naturalized metaphysics. This, however, comes with the risk that such an argument will have to rely on the very same traditional methods of metaphysics that naturalized metaphysics is so critical of. This implicitly questions (2) and therefore (3). Alternatively, one can (b) opt for the more cautious approach of Melnyk and Ney where the success of science gives some prima facie warrant for the view that science-based metaphysics is epistemically superior to other metaphysics but which leaves the possibility that neither is an epistemically responsible undertaking. Thus, (b) threatens (4). In response, one can (c) argue that we should simply pursue metaphysics with the best available approach. This should vindicate naturalized metaphysics in cases where science has some bearing on the metaphysical question of interest. However, when this is not the case, (c) would warrant pursuing these questions as autonomous metaphysics, and (c) therefore questions (3).

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