



# Old problems for neo-positivist naturalized metaphysics

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## Abstract

In her paper “Neo-positivist metaphysics” (*Philosophical Studies*, 160(1), 53–78, 2012), Alyssa Ney promises a naturalized metaphysics that is acceptable even by positivists’ – and specifically Carnap’s – standards. This neo-positivist metaphysics takes its outset in the findings of our best science and relies on them to inform a metaphysics that can avoid the dependence on linguistic frameworks that is inherent to Carnapian deflationism. Neo-positivist metaphysics attempts to sidestep these problems by inheriting its semantic credentials directly from science itself. This paper argues that such attempts are unsuccessful since science contains no resources with which to answer Carnap’s challenge either, and a science-based metaphysics is therefore just as vulnerable to Carnapian deflationism as traditional metaphysics. Consequently, neo-positivist metaphysics does not provide the promised metaphysics that can avoid Carnapian deflationism. While this conclusion focuses on Ney’s neo-positivist metaphysics, its scope includes any attempt to avoid Carnapian deflationism by a naturalized metaphysics that relies on strict deference to the findings of science. Substantial metaphysics – naturalized or not – is impossible unless or until Carnapian deflationism is refuted, and the resources for such a refutation cannot be found in naturalized metaphysics.

**Keywords** Naturalized metaphysics · Carnap · Ontology · Metametaphysics · Deflationism · Scientific realism

## 1 Introduction

Naturalized metaphysics is a prominent recent player in the field of analytic metaphysics. It features both a destructive and constructive component: The destructive

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component echoes and renews the criticism of metaphysics found in the empiricist tradition while the constructive component offers a solution by a closer integration between science and metaphysics. It is the success of this latter constructive aspect of naturalized metaphysics that the present paper explores and ultimately refutes.

In her article “Neo-positivist Metaphysics”, Ney (2012) offers one of the most detailed accounts of a naturalistic approach that is claimed to yield a substantial metaphysics while avoiding the problems faced by traditional metaphysics. In accordance with the overall tenet of naturalized metaphysics, the characterizing feature of neo-positivist metaphysicians “is their serious engagement with the findings of science, particularly fundamental physics” (Ney 2012, 54). This kind of naturalism – the deference to the findings of science – is supposed to ensure the success of the proposed naturalistic metaphysical method. As such, neo-positivist metaphysics is an example of the type of naturalized metaphysics that has followed in the wake of James Ladyman and Don Ross’ seminal work *Every Thing Must Go: Metaphysics Naturalized* (2007). This work shares Ney’s confidence that sensitivity to and engagement with the findings of science<sup>1</sup> legitimize substantial, non-deflationary metaphysical conclusions: “neo-positivist metaphysics [...] is the only legitimate place to begin if one is trying to accomplish at least one of the main tasks metaphysicians set for themselves – to establish conclusions about ultimate reality” (Ney 2012, 76).<sup>2</sup> Thus, where other recent attempts to salvage metaphysics adopt more modest ambitions on behalf of the content of metaphysics to preserve its practice (e.g. Thomasson 2014; Jenkins 2014; Hofweber 2016), naturalized metaphysics, in contrast, preserves the subject matter by altering the practice: “metaphysics should not be abolished but reformed” (Ladyman 2017, 143). Even though naturalized metaphysics preserves the ambition of metaphysics to be a substantial study of ultimate reality, much traditional metaphysics must be left behind<sup>3</sup>: Ney observes that neo-positivist metaphysics – her version of naturalized metaphysics – “is one that aims to be sensitive to a distinction between those metaphysical claims that can be justified and those that cannot, a distinction that finds its inspiration in the work of Carnap and the logical positivists” (Ney 2012, 54). The specific challenge to metaphysics considered by Ney is Carnap’s (1950) metaphysical deflationism that challenges the objectivity or framework-independence of metaphysics. While this challenge to metaphysics, according to Ney, remains a defeating problem for traditional metaphysics, the promise of neo-positivist metaphysics is to be a substantial metaphysics that evades the challenge: as a legitimate yet ambitious metaphysics, neo-positivist metaphysics shows “how a version of metaphysics may survive the genuine worries the positivists had about metaphysics” (Ney 2012, 76).

The present paper argues that neo-positivist metaphysics – and with it any other naturalized metaphysics – cannot live up to this promise. In so far as both traditional and neo-positivist metaphysics are attempts at a substantial metaphysics, they are equally vulnerable to the worries Carnap had about metaphysics. Since Ney – and with her other proponents of naturalized metaphysics – regards Carnap’s challenge to

<sup>1</sup> This deference to the findings of science is also endorsed for instance by Ladyman and Ross (2007, 27), Chakravarty (2013, 30; 33), Kincaid (2013, 1; 5), Morganti (2013, 29–55), and Maudlin (2007, 1).

<sup>2</sup> This ambitious conception of the aims of metaphysics is for instance displayed by Ladyman and Ross (2007, 9; 14), Chakravarty (2013, 31), Kincaid (2013, 5), and Morganti (2013, 20–21).

<sup>3</sup> For the critique of traditional, non-naturalized metaphysics see for instance Ladyman and Ross (2007, chap. 1), Chakravarty (2013, 32), Kincaid (2013, 1; 20–21), and Morganti (2013, 20–21).

metaphysics as a defeating problem for traditional metaphysics, the aim of this paper is not to defend this challenge to metaphysics; though it will be indicated why it is not easily dismissed. Rather, the paper's primary purpose is to advance the view that neo-positivist metaphysics and naturalized metaphysics in general cannot answer to Carnap's challenge; despite the claims to the contrary. Even the strictest deference to the findings of our best sciences cannot exempt a metaphysics from Carnap's challenge and legitimize it as a substantial, non-deflationary metaphysics; the resources to refute Carnap's challenge must be found elsewhere. Thus, even though the subsequent discussion has its focus on Ney's neo-positivist metaphysics, the conclusions go beyond this particular approach and extend to much of naturalized metaphysics.

In section 2, Carnap's challenge to the framework-independence of metaphysics is introduced. Section 3 accounts how neo-positivist metaphysics responds to the challenge by singling out (the linguistic state of) physics as the proper starting point for metaphysics. However, as observed in section 4, the semantic nature of Carnap's challenge prohibits any stipulation that certain frameworks are metaphysically privileged. The neo-positivists' attempt to avoid this by appeal to the semantic credentials of physics (section 5) is argued in section 6 to be futile: science does not have the resources to address Carnap's challenge either. Section 7 therefore concludes that the threat to substantial metaphysics due to Carnap's challenge remains for neo-positivist metaphysics. With respect to Carnap's challenge, neo-positivist metaphysics and naturalized metaphysics in general fare no better than traditional metaphysics. It is concluded that neo-positivist metaphysics cannot live up to its promise to "survive the genuine worries the positivists had about metaphysics" (Ney 2012, 76).

## 2 Carnap's challenge

Carnap develops his deflationist challenge to metaphysics in the article "Empiricism, Semantics, and Ontology" (Carnap 1950). The challenge builds on the observation that any question or claim must be made within what Carnap calls a linguistic framework. A linguistic framework can most simply be conceived of as a language fragment that includes certain terms and the syntactic and semantic rules for these terms (Eklund 2013, 234) which establishes the rules of the use and assessment for expressions in which the terms of the framework occur (Thomasson 2014; Flocke 2018). To introduce new terms (or linguistic forms as Carnap calls them) into a language one must adopt a linguistic framework including these terms, thereby giving their linguistic rules. Carnap's claim is therefore that any question or claim must be made internally to a linguistic framework that introduces the terms occurring in the question or claim.

This poses a problem to debates in metaphysics if metaphysicians, as Carnap suspects, regard their claims as evaluated in an objective and absolute sense and not with respect to this or that linguistic framework. Carnap gives the example of a debate over the existence of numbers between a nominalist and a Platonist realist. The nominalist will insist that one cannot adopt a linguistic framework which includes names that refer to numbers, since she believes that numbers do not exist. The Platonist, on the other hand, finds such linguistic frameworks perfectly acceptable, since she believes that numbers do exist. According to Carnap, the metaphysicians' debate over the existence of numbers is different from zoologists asking: "Are unicorns and

centaurs real or merely imaginary?” (Carnap 1950, 22). This latter question is asked within an implicit linguistic framework shared by the zoologists with common linguistic rules that specify the use of ‘real’ and ‘merely imaginary’ and thus provides the semantics required to assess answers to the question. In contrast, the metaphysical question concerning the existence of numbers seems to be asked prior or external to any linguistic framework. According to the nominalist and Platonist, it is a question that must be settled before one adopts a linguistic framework that includes reference to numbers.

The metaphysicians’ question about the existence of numbers is an example of what Carnap calls a theoretical, external question: a question asked outside any linguistic framework (external), but which nevertheless is supposed to have an answer that is true or false (theoretical). But in Carnap’s view, these two components are irreconcilable: without a linguistic framework no rules are in place with which to assess the utterance, i.e. to know what constitutes an answer to the question (Flocke 2018). Theoretical, external questions and claims are simply impossible.

I feel compelled to regard the external question as a pseudo-question, until both parties to the controversy offer a common interpretation of the question as a cognitive question; this would involve an indication of possible evidence regarded as relevant by both sides (Carnap 1950, 37).

Carnap challenges the nominalist and Platonist to specify what linguistic framework their existence question is internal to which should include indications how to assess possible answers to the question. If they fail to do this, their debate must be regarded as cognitively meaningless until they meet this challenge (Carnap 1950, 25). By cognitive content or meaning Carnap understands the “meaning component which is relevant for the determination of truth” (Carnap 1956, 237).

Of course, if metaphysicians are ready to comply and provide an interpretation of their question within a specified linguistic framework, then metaphysics is just as legitimate as all other discourse. The nominalist and Platonist might for instance adopt what Carnap calls “the system of numbers” (1950, 24) which introduces to the language expressions such as ‘five is a number’. About the statement ‘there are numbers’, Carnap observes: “This statement follows from the analytic statement ‘five is a number’ and is therefore itself analytic” (1950, 24).<sup>4</sup> Numbers exist since there is a number such that it is the number five. Carnap anticipates that Platonists as well as nominalists will be dissatisfied with this answer. While they will acknowledge that it is true to say ‘there are numbers’ within the system of numbers, their concern is whether there *really* are numbers. But according to Carnap’s challenge, if this question is asked outside any linguistic framework, then it is cognitively meaningless. It can either be asked within a linguistic framework that includes linguistic rules for the qualifier ‘really’ or it can be a pragmatic question concerning the utility of adopting the system of numbers. It is Carnap’s general thesis that theoretical questions and claims – questions with definite answers and claims that are true or false – can only be made

<sup>4</sup> Importantly, analyticity is for Carnap only defined with respect to a linguistic framework (Flocke 2018, 9). Thus, when he argues that ‘there are numbers’ is analytic this is with respect to the system of numbers and the same sentence might be a contradiction in a nominalist framework.

internally to a framework and that this introduces an inevitable framework-dependence in their evaluation. This is a threat to substantial, objective metaphysics specifically because it is the sort of study that is compelled to evaluate its claims from an objective and absolute perspective and not with respect to this or that linguistic framework.<sup>5</sup>

The same concern applies even if the discussion is recast at the level of linguistic frameworks as a whole: whether for instance the Platonist framework with number terms or the nominalist framework without number terms is the framework that captures the way the world is. Again, we must specify the linguistic framework within which the question is posed or the question is cognitively meaningless, if it is meant in an absolute sense outside any linguistic framework. This signifies how Carnap endorses a principle of tolerance for linguistic frameworks (Carnap 1950, 40, see also 1934a, 49): We are free to adopt whatever framework we want to! In particular, there is no question to ask about which linguistic framework is the true one from a framework free perspective. A metaphysician might stipulate that the terms of a particular linguistic framework are “joint-carving terms” (Sider 2011, vii), but this claim ‘the terms of this linguistic framework are joint-carving’ must by the same argument be made within a linguistic framework if it is meant as a theoretical claim; one that can be true or false. If it is meant to be asked prior to or outside any linguistic framework – in an absolute and framework-independence sense – then also this claim about the linguistic framework as a whole is cognitively meaningless.

Thus, Carnap’s challenge is simply this: A claim can only be made – and a question posed – if a linguistic framework is specified that introduces the linguistic rules for the terms occurring in the question and claim: “Existence-claims are not singled out for special treatment by Carnap; he asks only that they meet a standard to which all meaningful talk is subject, an appropriate sort of discipline or rule-governedness” (Yablo 1998, 233). Carnap’s challenge is a challenge to metaphysics, because its existence questions and claims do not share the “rule-governedness” of the zoologists’ question whether unicorns exist and the physicists’ claim that Higgs particles exist. In both cases, a linguistic framework is given (implicitly) with linguistic rules for the relevant terms – including rules for ‘exist’ – such that it is specified how to evaluate both question and claim. Metaphysicians are the ones who ask the further question whether the Higgs particle exists – not with respect to the linguistic framework adopted by the physics community – but whether it really exists in an absolute and framework-independent sense. It is this type of question that is problematic according to Carnap’s challenge, and it is thus a challenge to metaphysics and not to physics and zoology, because it is metaphysicians who attempt at these theoretical, external questions; they are the ones who are not content with internal questions and answers (Yablo 1998, 258–60; Sidelle 2016, 60). This is the genuine worry that Carnap had about metaphysics.

Several authors have voiced their worries about metaphysics based on Carnap’s challenge. Chalmers (2009) and Yablo (1998, 2009), among others, defend outright

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<sup>5</sup> Explicated like this, the challenge is semantic in nature; metaphysical questions and claims are cognitively meaningless, because they are meant to be theoretical questions asked and claims made prior to or outside any linguistic framework. There are less semantically and more epistemologically inclined interpretations of Carnap (e.g. Wilson 2014; Bradley 2017). However, this minority view will be set aside here. Those sympathetic to it can recast all of the following in terms of a semantic challenge to metaphysics inspired by Carnap with the same conclusion: naturalized metaphysics has no resources with which to answer this challenge.

anti-realism or eliminativism for metaphysics and even more radically, Price (2009, 2013) proposes, on the grounds of Carnap's arguments, a global expressivism. Others argue that metaphysics remains possible, e.g. Hirsch (2002, 2009), Kraut (2016), and Thomasson (2014), but echoes Carnap's view that metaphysics must be internal to a linguistic framework. Theirs is what Chalmers (2009) denotes a "lightweight realism" as opposed to the "heavyweight realism" of traditional metaphysicians such as the nominalist and Platonist above. Ney shares the Carnapian worries about metaphysics but defends an exemption for properly naturalized metaphysics. While expressivism is appropriate for other metaphysics, the integration of science in naturalized metaphysics permits it to be assertive; it can "establish conclusions about ultimate reality" (Ney 2012, 76). Of course, this might merely amount to a lightweight realism, where 'ultimate reality' is introduced with appropriate linguistic rules such that the stipulation 'metaphysics aims to establish conclusions about ultimate reality' is internal to a linguistic framework and thereby acceptable from the perspective of Carnap's challenge. This, however, would involve a rather deflated notion of ultimate reality, and when Ney offers neo-positivist metaphysics as an answer to the speculation that "perhaps it is possible to reach some objective, non-arbitrary truths in metaphysics" (Ney 2012, 60), she does seem to endorse the traditional inflated notion of metaphysics. This also sits better with the ambition of naturalized metaphysics to preserve the aims of traditional metaphysics, and we shall therefore proceed on the assumption that neo-positivist metaphysics shares the aim to be an objective and framework-independent metaphysics. Consequently, both naturalized metaphysics in general and Ney's neo-positivist variant are at the outset subject to Carnap's challenge and the following will explore how Ney attempts to find resources within science to avoid Carnap's challenge even while insisting that other metaphysics – not properly naturalized – remains problematic. However, I shall ultimately argue that this attempt fails: neo-positivist metaphysics – and with it all other naturalized metaphysics – is just as vulnerable to Carnap's challenge as traditional metaphysics.

### 3 The neo-positivist response to Carnap's challenge

Ney gives the following exposition of the problem facing metaphysics in the light of Carnap's challenge:

As metaphysicians, don't we seek objective truth? But how can we achieve this goal if there will always be rival frameworks offering competing accounts of the truth and no objective way to choose between them? If we agree with Carnap, we must deny we possess any way to verify which ontology is correct (Ney 2012, 59).

Each linguistic framework entails a particular ontology. So, if any linguistic framework may be adopted, this introduces an inherent framework-dependence for ontology. This, as Ney emphasizes, threatens the metaphysicians' search for objective truth. 'There are numbers' is true in the Platonist framework and false in the nominalist framework. So long as any framework can be adopted, the ontological commitment to numbers can only be the expression of preference for a linguistic framework in which the internal

claim ‘there are numbers’ is true. Thus, Ney recognizes that any approach to metaphysics must counter this challenge in order to establish objective conclusions about ultimate reality; to be a substantial and not merely framework-dependent metaphysics.

The problem for neo-positivist metaphysics is therefore to find a way for the metaphysician to seek objective truth. The first step in the neo-positivist method is to defend that there is a linguistic framework – or collection of frameworks – that is proper to adopt for a metaphysician. Being a naturalist, Ney proposes “to select whatever linguistic state fundamental physics is in when we find it and take that to determine our ontology” (Ney 2012, 59), because “[t]his strategy of getting out of the positivist dilemma wouldn’t necessarily have the choice of ontology be subjective or arbitrary because those physical theories that physicalists use to inform their metaphysics have already met high standards for justification and acceptance” (Ney 2012, 59). The linguistic state of fundamental physics can serve as the framework-independent truth sought by metaphysicians because physics has already met these standards. Apparently, the external question regarding the choice of framework can be given a theoretical answer (in Carnap’s sense)<sup>6</sup>: choose the linguistic state of physics.

As Ney observes, there might be “rival formulations of physics” that “support different interpretations” (2012, 60) such that these comprise different linguistic frameworks that are all included in the linguistic state of fundamental physics.<sup>7</sup> So even if it is rational to adopt the linguistic state of fundamental physics, the problem of competing frameworks remains, and with it a threat to the metaphysicians’ search for objective truth. To accommodate this, Ney proposes to adopt metaphysical commitment only to those “representational features that are as a matter of fact indispensable to our best physical theories as they are actually understood” (Ney 2012, 60). Elsewhere, it is qualified that such “representational features” can include entities, structures, and principles. Indispensability is to be determined by the physics community; it is not the task of philosophers. An element is indispensable simply if it occurs in all the rival formulations of a physical theory endorsed by the physics community. The adoption of the metaphysical commitments to one of these rival formulations would merely be an expression of the preference for that particular linguistic framework, but those elements that are truly indispensable, Ney speculates, can be regarded as having “genuine significance and justification, something that [goes] beyond merely expressing one’s preferences for a particular kind of conceptual scheme or linguistic framework” (Ney 2012, 60–61).

The metaphysical commitments that follow from this indispensability argument are called ‘core metaphysics’. Ney (2012, 63) gives Lorentz invariance and the Born rule as examples of such indispensable elements. Lorentz invariance is part of core metaphysics, since all physicists agree that any relativistic theory must be Lorentz invariant. Likewise, the Born rule is included as a representational element in all the rival formulations of quantum mechanics. This is contrary to for instance determinism, since there are both deterministic

<sup>6</sup> Again, a theoretical answer in Carnap’s sense is an answer that is true or false, i.e. something beyond an expression of preference which is implied by a pragmatic answer in Carnap’s sense.

<sup>7</sup> Exactly what is to be regarded as two rival formulations of the same theory as opposed to two rival theories is not entirely clear. Following the rest of the neo-positivist method this question should perhaps be settled by the physics community. Regardless, this issue will not affect the general prospects of neo-positivist metaphysics, but only the particular metaphysical conclusions that may be inferred.

and indeterministic formulations of quantum mechanics. Therefore, neither determinism nor indeterminism can be included in core metaphysics.

The neo-positivist method thereby addresses Carnap's challenge in two steps:

Using this method, all ontological claims will be given sense and justification using the standards of our best science. Nor are the ontological results achieved trivial or arbitrary, since we have not merely selected one system and read our results off. We have only followed what is common to all systems (Ney 2012, 62).

As the first step, the neo-positivist metaphysician insists that there are good reasons to adopt the linguistic frameworks endorsed by the physics community. The metaphysics implied by these inherits its sense and justification directly from science. The thesis is that the linguistic frameworks of physics are the only genuine competing accounts of the (fundamental) truth.<sup>8</sup> If the physics community unanimously endorsed the same linguistic framework – if there were no rival formulations of physical theories – then our metaphysics should consist of the representational elements of that framework. However, since there are rival formulations of physical theories, we must limit our metaphysical commitments to the indispensable elements of our physical theories, i.e. to those elements that occur in all the rival formulations endorsed by the physics community. The upshot is that these elements – core metaphysics – are then known to be elements of ultimate reality according to neo-positivist metaphysics. Ney regards it to be “appropriate for the neo-positivist metaphysician, when moving beyond the core, to endorse an expressivism about her claims and say they aren't intended to assert something that is true or false” (Ney 2012, 67). The significance of Carnap's challenge is such that expressivism is appropriate for any metaphysical claim not included in core metaphysics. The metaphysical commitment to Lorentz invariance has “genuine significance and justification” and therefore qualify for assertion, whereas a metaphysical commitment to determinism and (most of) the claims of traditional metaphysics are merely expressions of preference for particular linguistic frameworks. Only core metaphysics avoids the framework-dependence due to Carnap's challenge that renders all other metaphysics merely expressive.

#### 4 Carnap's semantic challenge

Ney directly compares the expressivism for non-core metaphysics to the global expressivism defended by Huw Price, but argues that physics justifies that core metaphysics may be assertive rather than expressive (Ney 2012, 67). The comparison is interesting since Price (2009, 2013) also finds inspiration for his expressivism in Carnap's challenge. He finds it instructive to think of Carnap's distinction between internal and external claims in terms of the use/mention-distinction. Price writes:

Legitimate *uses* of the terms such as 'number' and 'material object' are necessarily internal, for it is conformity (more or less) to the rules of the framework in

<sup>8</sup> Perhaps the linguistic state of other sciences may be relevant for the determination of non-fundamental truth.



question that constitute use [...]. The only legitimate external questions simply *mention* the term in question (Price 2009, 324, emphasis in original).

The problem with external questions and claims is a semantic problem. There is simply no way to use terms prior to or outside a linguistic framework. Theoretical, external questions and claims are problematic exactly because they use terms outside the frameworks that introduce the linguistic rules necessary for their use. Theoretical, internal questions and claims use terms, but within a specified framework, and pragmatic, external questions and claims only mention the disputed terms and are therefore legitimate. In contrast, any attempt at a theoretical, external question or claim is a misuse of language. The problem with pseudo-questions and -claims is not that they are questions that cannot (yet) be answered and claims whose truth value cannot (yet) be settled. Carnap's challenge is a semantic and not an epistemological challenge.

Returning to Carnap's example of the nominalist's and Platonist's debate over the existence of numbers, Carnap challenges them to specify the common linguistic framework in which the debate takes place to ensure that their respective existence claims are meaningful. The challenge thus precedes the epistemological worries that one cannot *know* whether numbers exist or *know* which of the nominalist and Platonist linguistic framework that accords with reality. Similarly, the problem with different formulations of physics is not simply that they entail different answers to metaphysical questions with no way to know which is correct. Rather, the challenge is to specify the linguistic framework that renders these questions and answers meaningful in first place; it must be specified how and in what sense the different linguistic frameworks associated with the rival formulations are "competing accounts of the truth" before one can even ask which is the true account. The semantic problem must be resolved before any epistemological issues can even be comprehended.

Emphasizing this semantic character of Carnap's challenge exposes the ambition of neo-positivist metaphysics: Traditional metaphysics has a semantic defect that renders it merely expressive, but according to Ney, the close integration of core metaphysics with physics somehow removes this defect. Initially, neo-positivist metaphysics may seem promising even taking into account this semantic dimension of Carnap's challenge as Ney insists that "[f]orming one's metaphysics in this way does not involve answering any Carnapian external questions" (Ney 2012, 62). An element is included in core metaphysics only if it is true to say that it exists within each of the linguistic frameworks associated with each of the rival formulations of physics. Core metaphysics is constructed by asking internal existence questions and then selecting those that are answered in the positive by all the linguistic frameworks endorsed by the physics community.

That the procedure is limited to the linguistic frameworks endorsed by the physics community is, however, an important qualification. There are linguistic frameworks in which the claims of core metaphysics are not true. They are just not taken into consideration since the linguistic state of fundamental physics is stipulated as the proper starting point for metaphysics. But how should we conceive of the claim: 'the linguistic state of fundamental physics is the proper starting point for metaphysics'? The first part 'the linguistic state of fundamental physics' refers to a collection of linguistic frameworks; those associated with the rival formulations of physics endorsed by the physics community. Metaphysics is the study of ultimate reality, so arguing that

these frameworks are the proper starting point for metaphysics seems to entail that these frameworks stand in a privileged relation to ultimate reality not shared by other linguistic frameworks. Rather than singling out one linguistic framework as that which carves nature at its joints, Ney singles out a collection of frameworks as the possibly joint-carving ones. But this move must be regarded with suspicion from the perspective of Carnap's challenge.

As already discussed, Carnap's challenge cannot be avoided by moving from individual existence questions and claims to statements about the relation between reality and linguistic frameworks as a whole. Claiming that the Platonist framework accords with reality is just as worrisome as the Platonist's claim that numbers really exist. In both cases, to be a theoretical claim, it must be specified within which framework the claim is made. Whether talking of numbers or linguistic frameworks as a whole, the linguistic rules for these terms as well as those for 'existence' and 'reality' must be introduced before their relation to reality can be asserted. The same goes for 'the linguistic state of fundamental physics' which denotes a collection of linguistic frameworks. The sentence, 'the linguistic state of fundamental physics accords with ultimate reality', might well be true *to say* within some linguistic framework that introduces the relevant linguistic rules. What is illegitimate from the perspective of Carnap's challenge is any stipulation that this claim is not only correct within some framework, but that it really is so independently of any framework. When Ney proposes the linguistic frameworks endorsed by the physics community as the answer to the question 'what framework (or collection of frameworks) accords with reality?', this is subject to the same worries that apply to the nominalist's and Platonist's discussion about the system of numbers: For the nominalist and Platonist, Carnap argues: "Unless and until they supply a clear cognitive interpretation, we are justified in our suspicion that their question is a pseudo question" (Carnap 1950, 25). Both are pseudo-questions, or it must be explicated within which linguistic frameworks they are made.

Emphasizing this semantic dimension of Carnap's challenge thus shifts the main interest from choosing between the competing frameworks of physics to the problem what it means to say that these frameworks are preferred in the first place. Selecting what are common features among the rival formulation of physics will not be relevant until it is settled in what sense these rival formulations are the "competing accounts of the truth" and what it means for their representational elements to "correspond to something in reality" (Ney 2012, 64).

Before we proceed with the neo-positivist's attempt to respond to this problem, notice how this problem is not peculiar to Ney's neo-positivist metaphysics. Rather, it applies to both naturalized metaphysics more generally and to all other attempts to avoid Carnap's challenge by singling out particular linguistic frameworks as the proper starting point for metaphysics. Anyone who takes Carnap's challenge seriously – that you cannot use terms without appropriate linguistic rules – must recognize that any stipulation about some framework being privileged is itself framework-dependent. This applies to Ney's proposal to take the linguistic state of physics as the starting point for metaphysics. But it also applies to other naturalized metaphysicians' proposal to take science in general as the starting point for metaphysics, or the proposal to begin in ordinary language as suggested, for instance, by Thomasson's (2014) easy approach to ontology. Privileging frameworks is not a way to transcend the framework-dependence

of metaphysics due to Carnap's challenge. Unless Carnap's challenge can be avoided, such metaphysics can only ever amount to a deflationary metaphysics, where the significance of metaphysical commitments is that these are the elements for which it is true to say that they exist within the specified framework (or set of framework as it is the case for neo-positivist metaphysics).

## 5 A response to the semantic challenge

Ney does offer some indications of how neo-positivist metaphysics – as opposed to traditional metaphysics – is supposed to avoid the semantic dimension of Carnap's challenge when she argues that “all ontological claims will be given *sense* and justification using the standards of our best science” (Ney 2012, 62, my emphasis); when she declares that “the goal is to get out a metaphysics that has established its *semantic* and justificatory credentials via physical theory itself” (Ney 2012, 64, my emphasis); and when she concludes of core metaphysics that “[t]his is a metaphysics that should meet the positivist's standards for *comprehension* and justification” (Ney 2012, 61–62, my emphasis).

Neo-positivist metaphysics is claimed to be a metaphysics that is both semantically and epistemologically credible, even by the positivists' and thereby Carnap's standards, as opposed to metaphysics established with other (traditional) approaches. The semantic and epistemological credibility of core metaphysics is a result of the strict naturalism imposed by the neo-positivist method. No independent metaphysical reasoning is allowed. The task of the metaphysician is merely to consult the linguistic state of fundamental physics and establish core metaphysics from the indispensable elements. Following the method of neo-positivist metaphysics, the metaphysician can and should not study reality directly. Instead Ney quotes Carnap's suggestion to take science itself as the object of study (Ney 2012, 76; Carnap 1984, 6).<sup>9</sup> Perhaps it would even be appropriate to qualify that the neo-positivist metaphysician should take the physics community as the object of study. The task of the metaphysician is simply to collect into a metaphysics those representational elements – entities, principles, and structures – that are regarded as indispensable by the physics community.

This strict naturalism of neo-positivist metaphysics then ensures that any question regarding the semantic or epistemic credibility of core metaphysics is deflected with the response that core metaphysics simply inherits its credentials from physics. A challenge to the semantic and epistemological credibility of core metaphysics becomes a challenge to the credibility of physics. This is the essential feature of the neo-positivist response to Carnap's challenge:

the relevant semantic and epistemological claims I mean to endorse here are only the following. First, the claims of our best, fundamental physical theories are

<sup>9</sup> Ney here refers to Carnap's “On the Character of Philosophic Problems” (1984) which was originally published in 1934 under the same title (Carnap 1934b); the same year as Carnap's *Logical Syntax of Language*. In both works Carnap proposes that philosophy should take science as its subject matter. Ney takes this to imply that science is the preferred evidence for metaphysics, whereas Carnap's intention is that philosophy should primarily be involved in developing languages for science (Carnap 1934a, 277–84).

meaningful. Second, the claims of our best, fundamental physical theories are justified (Ney 2012, 62).

Anyone who challenges the semantics of core metaphysics also challenges the meaningfulness of our best fundamental physical theories. Anyone who challenges the epistemological standing of core metaphysics also challenges the justification of these physical theories. This is why the linguistic state of physics can be a starting point for metaphysics and ultimately the neo-positivist response to Carnap's challenge: Fundamental physics is meaningful and justified, and by its strict naturalism, so is neo-positivist metaphysics.

Any question regarding how the neo-positivists' core metaphysics can be a substantial, framework-independent metaphysics – and thus overcome Carnap's challenge – is deflected with reference to the semantic and epistemic credibility of physics. Concerning the semantics of physics, Ney insists that the only relevant semantic claim to endorse is that physics is meaningful and continues: "The point is that physics has a proven track record of success making it a good place to begin metaphysical inquiry" (Ney 2012, 62). This, I take it, is ultimately the neo-positivists' response to a sufficiently insisting Carnapian interrogator. It is the track record of physics that legitimizes a metaphysics derived from physics. Any question regarding the semantics – and for that matter the justification – of such metaphysics is dismissed with reference to this track record of success in physics. There is no need for such questioning, as the foundation of neo-positivist metaphysics, namely physics, has already proven itself. Generally, this is what the proponents of naturalized metaphysics find so promising about physics (e.g. Hawley 2006; Bryant 2017, sec. 2.3). Physics and science in general are the only fields of inquiry which can display such a track record of success, one that is particularly impressive in comparison with traditional metaphysics, which, as Ladyman and Ross argue, "can claim no such success" (Ladyman and Ross 2007, 7).<sup>10</sup>

While on Ney's view the Platonists' and nominalists' commitment to the existence and non-existence, respectively, of numbers is merely an expression of preference of a particular linguistic framework and *cannot* be a statement about ultimate reality due to Carnap's challenge, the success of science warrants a commitment to the indispensable elements of its competing linguistic frameworks (as judged by the physics community) as really existing in an absolute and framework-independent sense. The success of science somehow guarantees that a commitment to its indispensable entities, structures, and principles can be meaningfully asserted as a theoretical, external claim; this in a way that is acceptable to positivists' and Carnap's standards, despite Carnap's repeated insistence that theoretical, external questions and claims are without cognitive content. In summary, the neo-positivist metaphysicians seek to avoid Carnap's challenge by deflecting any question regarding the semantics of core metaphysics by reference to the semantic credentials it inherits from the linguistic state of the physics community. They then in turn refuse to answer any question regarding the semantics of the physics community with reference to the success of physics, which apparently is supposed to make such questions obsolete.

<sup>10</sup> See Stoljar (2017) for a recent discussion and refutation of this received view that there has been little progress in philosophy.

## 6 Old problems for neo-positivist metaphysics

The success of science, however, is arguably neither metaphysical nor direct referential success. Rather, this success is a success in prediction and explanation. Thus, a further argument is needed to show why it is meaningful to say in a theoretical, external sense ‘reality is really such that Lorentz invariance holds’ whereas it is merely an expression of preference for a particular linguistic framework to say ‘there are really numbers’. There seems to be two ways to understand the neo-positivists’ and other naturalists’ response that physics has proven itself by its success such that any further questioning of its semantics is obsolete. Either this may be understood as implying an argument that defends the semantic credentials of physics based on its track record of success, or the response should be taken at face value as the naturalists’ final remark on the matter. A Carnapian will probably regard the latter as simply giving in to the challenge, i.e. as the confession that neo-positivist metaphysics simply accounts what is true to say within the linguistic frameworks adopted by the physics community about the reality of its entities, structures, and principles. The adopted linguistic rules for the term ‘reality’ and the role of Lorentz invariance within the linguistic frameworks associated with the rival formulations of physics are adequately relevant for their predictive success so the claim ‘reality is such that Lorentz invariance holds’ is true within these frameworks. However, any further stipulation such as ‘reality is really such that Lorentz invariance holds’ should be treated no differently from the nominalists’ and Platonists’ debate over whether numbers really exist: either we introduce linguistic rules for the qualifier ‘really’ or this is meant as a theoretical, external claim and is therefore without cognitive content according to Carnap’s challenge. Giving in to Carnap’s challenge in this way, the looming framework-dependence and entailed lack of objectivity is just as significant for neo-positivist metaphysics as for traditional metaphysics.

The alternative is that the mention of the success of physics signifies an implicit argument that may establish other semantic credentials for physics, and thereby for neo-positivist metaphysics, than those held by traditional metaphysics. Ney does not provide any details as to how the track record of physics may reinstate framework-independence for neo-positivist metaphysics in such a way that the claims of core metaphysics may be regarded as true about ultimate reality. Refusing to explicate an argument cannot be a viable strategy in defending it, but without such details, it will be speculation how the track record of physics ensures that physics and therefore core metaphysics can avoid Carnap’s challenge.

The immediate candidate for such an argument is some variant of the well-known no-miracles argument for realism: “The positive argument for realism is that it is the only philosophy that doesn’t make the success of science a miracle” (Putnam 1979, 73). Just as ordinary empirical evidence is taken to support first order scientific theories, so is the general success of science taken as evidence for (semantic) scientific realism – that the posits of successful scientific theories are real – as a second order theory about the referential success of the first order theories of science. Thus, if the no-miracles argument – or some other argument – can establish scientific realism as a framework-independent thesis, then this might vindicate neo-positivist metaphysics. But according to Carnap’s challenge, also scientific realism and the no-miracles argument must be stated within a linguistic framework which introduces the relevant terms and their linguistic rules; most importantly the terms ‘reality’ and ‘real’. Assuming a linguistic

framework where we say of something that it is real if it plays the right explanatory role for the predictive success of a scientific theory (the realist framework), then ‘the predictive success of science implies that its posits are real’ is true to say within that linguistic framework. However, in a framework where we say of something that it is real if it is observable (the anti-realist framework), then ‘the predictive success of science implies that its posits are real’ is false to say within that linguistic framework. Within the realist framework, scientific realism is true, and the no-miracles argument holds, but this is not the case within the anti-realist framework.

Following this Carnapian spirit,<sup>11</sup> Psillos (2011) argues that “scientific realism is *not* a theory; it’s a framework which makes possible certain ways of viewing the world” (311, emphasis in original).<sup>12</sup> Since scientific realism is framework-dependent, a commitment to scientific realism can merely signify the decision to adopt a particular ontic framework: the linguistic framework that introduces into the language the relevant terms and associated linguistic rules needed to make existence claims. More precisely, a commitment to scientific realism is nothing but the implicit expression of preference for the realist framework which introduces linguistic rules for terms such as ‘real’ and ‘exist’ to the effect that for instance ‘electrons exist’ is true to say within that framework. Since other ontic frameworks are available, a commitment to scientific realism can be no different from the Platonist’s and nominalist’s commitment to the existence and non-existence of numbers when identified as the expression of preference for the nominalist and Platonist linguistic frameworks, respectively. Following Carnap’s challenge, it is a pragmatic choice whether to adopt a Platonist or nominalist framework, and the same applies to the question whether to adopt a realist or anti-realist framework: “the decision to adopt the realist framework is an unforced decision” (Psillos 2011, 310). Even the no-miracles argument is no help here. As observed above, the argument is not framework-independent. Psillos concludes: “the no-miracles argument works within the *realist* framework; it’s not an argument *for* it. It presupposes rather than establishes the realist frame” (Psillos 2011, 312, emphasis in original).

One might object that the no-miracles argument was never meant to establish the realist framework; an objection that relates to the worry that Psillos misconstrues scientific realism, when he identifies it with the realist framework.<sup>13</sup> Though the adoption of the realist framework reproduces an ontology that resembles the realist ontology, it is upon further scrutiny instrumentalism in elaborate disguise (Jaksland 2017). The significance of the ontological commitments – the significance of positing ‘electrons exist’ – within the realist framework is simply that these are elements that play a particular role in the predictive success of our theories, i.e. instrumentalism. The realist framework introduces linguistic rules for ‘real’ and ‘exist’ to mimic realist talk, whereas scientific realism is a theory about what exists. The problem, however, due to

<sup>11</sup> Psillos more precisely finds the inspiration for this view in Feigl’s empirical realism (1950) which Carnap in a footnote describes as advancing “a closely related point of view on these questions” (Carnap 1950, 32).

<sup>12</sup> A more careful Carnapian might instead say that scientific realism is a framework which makes possible certain ways of talking about the world to avoid any impression that this framework holds a special relation to (aspects of) the world.

<sup>13</sup> Thank you to an anonymous reviewer of this journal for pressing me on this point.

Carnap's challenge and as identified by Psillos, is that scientific realism as a thesis is only meaningful within a linguistic framework, and only true within the realist framework. Similarly, while the no-miracles argument can establish scientific realism as a theory, it can only do so *within* the realist framework and the argument is thus framework-dependent, as already observed above. Psillos is not proposing an alternative form of scientific realism, but rather develops the only form of scientific realism that is viable given Carnap's challenge: one that is inevitably tied to the realist framework and thus framework-dependent.

In summary, Carnap's challenge is semantic in nature, and this semantic challenge is just as relevant for theoretical, external claims about the entities or whole frameworks of science, as it is to metaphysics as exemplified by the nominalist and Platonist. Any claim about the correspondence between reality and the linguistic frameworks endorsed by the physics community – any claim about their semantic credentials – is a pseudo-claim unless it is made within a linguistic framework. This entails that Carnap's challenge cannot be avoided by adequately relating metaphysics to science: Adopting the framework of the scientific community, so that scientific and metaphysical questions and claims are internal to a framework, has the consequence of reintroducing the framework-dependence. There are no theoretical (in Carnap's sense) grounds on which to adopt a framework or class of frameworks; not even those endorsed by the physics community despite physics' track record of success.

## 7 Conclusion

A footnote with a remark about Carnap and Quine summarizes Ney's view and exposes the problem of neo-positivist metaphysics:

Note that this does involve in one sense at least siding with Carnap against Quine. Quine, recall, argued that we don't even have objective, not-merely-pragmatic standards of verification within science. So, Quine was a pragmatist about all matters, not just metaphysical matters. The present view depends on rejecting such a global pragmatism. Science can provide us with objective justification for its claims (Ney 2012, 62 fn 9).

Ney rejects global pragmatism and adopts the view that science is objective. According to Ney, science makes claims that are not framework-dependent, and beginning with the frameworks of science, we can therefore derive a metaphysics with genuine significance and justification. However, in doing so, Ney sides with neither Quine nor Carnap: "the acceptance of a framework must not be regarded as implying a metaphysical doctrine concerning the reality of the entities in question" (Carnap 1950, 32). Following Carnap's challenge, a claim can only be made – and a question posed – if a linguistic framework is specified that introduces the linguistic rules for the terms occurring in the question and claim. Every evaluation of the truth of a claim must be made within a linguistic framework that introduces rules governing such an evaluation; how else to proceed with the evaluation? But this is what institutes an

unavoidable framework-dependence such that the evaluation can never be objective and non-pragmatic. According to both Quine *and* Carnap, one must for semantic reasons adopt this sort of global pragmatism.<sup>14</sup> It makes no difference that Ney at places such as the above seems to express it as an assumption – or perhaps rather a hope – that science provides objective grounds for metaphysics. As argued in section 6, neither the no-miracles argument nor any other argument based on the success of science can secure realist science – and by association, naturalized metaphysics – an exemption from Carnap’s challenge; science generally has no resources with which to construct an argument against it. An assumed local exemption for neo-positivist metaphysics would be just as ungrounded as a nominalist’s insistence that the nominalist framework escapes Carnap’s challenge while the rest of metaphysics remains subject to it. The neo-positivist metaphysician can of course reject Carnap’s challenge entirely, but such a rejection would have to be global, and therefore entail that all metaphysics goes free of the challenge; including the traditional metaphysics that naturalized metaphysicians so vigorously criticize. Nothing entitles an exception specifically for core metaphysics. The promise that neo-positivist metaphysics is a way to avoid Carnap’s challenge is therefore unfulfilled. No deference to science can save metaphysics from this threat to framework-independence and objectivity.

In *Theories and Things*, Quine nicely illustrates the spirit of Carnap’s challenge when it comes to science and science-based ontology. He writes: “The scientific system, ontology and all, is a conceptual bridge of our own making, linking sensory stimulation to sensory stimulation” (Quine 1981, 20). This, however, does not result in relativism. To quote Quine at length:

But it is a confusion to suppose that we can stand aloof and recognize all the alternative ontologies as true in their several ways, all the envisaged worlds as real. It is a confusion of truth with evidential support. Truth is immanent, and there is no higher. We must speak from within a theory, albeit any of various [...]. What evaporates is the transcendental question of the reality of the external world – the question whether or how far our science measures up to the *Ding an sich* (Quine 1981, 21–22, emphasis in original).

While the framework internal questions about the existence of unicorns and Higgs bosons remain, the whole question “whether or how far our science measures up to the *Ding an sich*” – whether unicorns or Higgs bosons *really* exist – is a pseudo-question if it is meant to be asked outside any linguistic framework. This follows directly from Carnap’s challenge.<sup>15</sup> The question of realism “evaporates”, as Quine puts it. There are framework-independent claims neither in metaphysics nor in science and therefore no semantic credentials to inherit from science that grant neo-positivist metaphysics an exemption from Carnap’s challenge.

This deflation of realist science and metaphysics alike renders the Carnapian immune to the neo-positivists’ insistence that physics simply *is* semantically credible

<sup>14</sup> Indeed, as argued by several authors (e.g. Alspector-Kelly 2001; Price 2009; Soames 2009), Carnap and Quine more or less agreed about the nature and prospects of metaphysics and their disagreement primarily concerned the analytic/synthetic distinction.

<sup>15</sup> Creath (1990) argues that Quine indeed made this thesis based on Carnap’s views.



and the general attitude of naturalized metaphysics that “[t]he onus is on the sceptic about metaphysics to point out some relevant semantic or epistemic difference between the theoretical content and the metaphysical content of theories” (Ladyman 2007, 185). With the insistence that framework-independent discourse and not metaphysics as such is the problem, the Carnapian can simply consent that, on the part of semantics, there is no difference between science and metaphysics: both are framework-dependent. Metaphysics becomes problematic only when it attempts to change the mode of speech and particularly the mode of evaluation so that it is not conducted within linguistic frameworks, but the same applies to science when it shares in this ambition. Carnap’s challenge is a challenge to metaphysics simply because it is most often metaphysics that attempts to transcend linguistic frameworks, but this goes for naturalized metaphysics as well when it attempts to make this move on its own, on behalf of science, or argues that the move is already made in science by the scientific community. The semantic parity with science is no help here, since Carnap’s challenge is just as significant for scientists as it is for metaphysicians. It is equally significant for any inquiry that attempts to move beyond the discourse internal to frameworks. Questions about objective, ultimate reality are pseudo-questions, whether they are asked within metaphysics or science, if they are meant as theoretical, external questions.

Ultimately, this is why naturalized metaphysics cannot be a solution to Carnap’s challenge. Likewise, Carnap’s challenge is the reason why naturalized metaphysics is not a successful answer to how metaphysics is possible. In the light of Carnap’s challenge, naturalized and non-naturalized metaphysics are equally problematic. When the proponents of naturalized metaphysics, like Ney, are suspicious towards traditional analytic metaphysics for Carnapian reasons, they should be just as suspicious towards their own naturalized metaphysics and even towards realist science. If Ney’s neo-positivist metaphysics aims to be an objective, substantial metaphysics, it is just as vulnerable to Carnap’s challenge as every other type of metaphysics. Even the very strict naturalism imposed by Ney cannot save neo-positivist metaphysics from this challenge. The neo-positivist metaphysician is no better off than the nominalist and Platonist who discuss the existence of numbers(, abstract entities, or mereological sums) without any regard for scientific findings.

To conclude: Neither naturalized nor traditional metaphysics is possible until or unless Carnap’s challenge is refuted or resolved and naturalized metaphysics holds no resources with which to achieve this. As a naturalized metaphysics, neo-positivist metaphysics can therefore not live up to its promise to “survive the genuine worries the positivists had about metaphysics” (Ney 2012, 76).

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