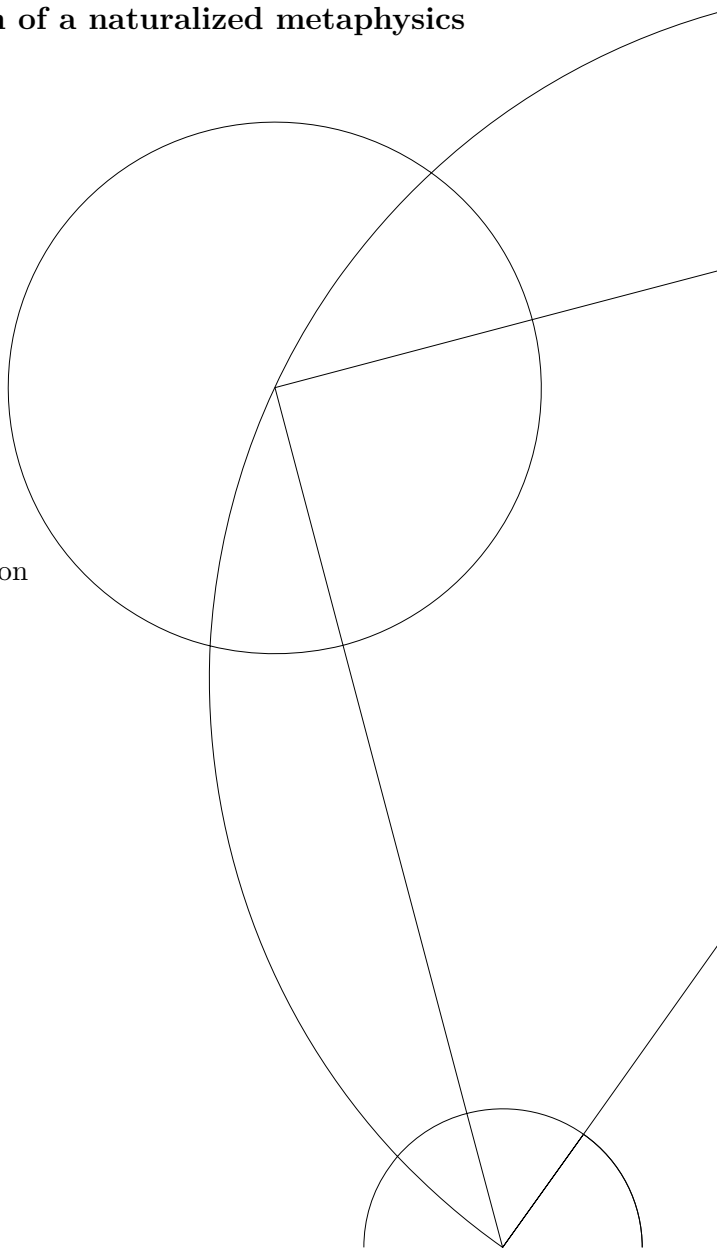
UNIVERSITY OF COPENHAGEN

# The Possibility of Naturalized Metaphysics

**a critical account of the construction of a naturalized metaphysics**



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# Abstract

Dette projekt har sit udgangspunkt den naturaliserede metafysik, som den er kommet til udtryk i en nyere tendens i analytisk metafysik. Denne tradition tager sin begyndelse med *Everything must Go: Metaphysics Naturalized* (2007) af James Ladyman og Don Ross, og dette projekt har et særligt fokus på Alyssa Neys nyere artikel "Neo-Positivist Metaphysics" (2012). Projektets overordnede konklusion er, at naturaliseret metafysik er et fejlslagent forsøg på at besvare, hvordan metafysik er muligt. Mere præcist etablerer projektet, at ethvert svar på dette spørgsmål skal instruere, hvordan det kan lykkes at lave en påstand om den kantianske ting i sig selv, da dette er den eneste forståelse af 'virkelighed', der er robust nok til at rumme en ambitiøs metafysik. Dernæst bliver det demonstreret hvordan naturaliseret metafysik overordnet er et forsøg på at besvare dette spørgsmål, og slutteligt argumenteres der for, at naturaliseret metafysik ikke angiver sådan en instruktion. Problemet består i Carnaps udfordring til metafysikken. Carnap observerer, at intet kan påstås uden for en sproglig ramme [lingusitic framework], og dette medfører, at metafysik nødvendigvis kommer til at udtrykke noget om valget af sproglig ramme snarere end om tingen i sig selv. Det er Neys og de øvrige naturalisters påstand, at metafysik er mulig som en naturaliseret metafysik, der viser en passende ærbødighed for videnskabens opdagelser. Projektet argumenterer for, at dette krav til ikke kan løse Carnaps udfordring. Udfordringen er lige signifikant for naturaliseret og ikke-naturaliseret metafysik, så længe det kræves af begge, at de er succesfulde, når de påstår noget om tingen i sig selv.

Projektet konkluderer, at så længe Carnap's udfordring ikke er tilbagevist, forbliver naturaliseret metafysik lige så umuligt som den metafysik, naturalisterne har til hensigt at erstatte.

# Abstract

This project investigates naturalized metaphysics as a recent trend in analytic metaphysics originating in the naturalist attitude of James Ladyman and Don Ross in their seminal work *Everything must Go: Metaphysics Naturalized* (2007). The primary focus, however, will be the more recent article "Neo-Positivist Metaphysics" (2012) by Alyssa Ney that originates in this tradition. The project will conclude that naturalized metaphysics is an unsuccessful attempt at an answer to the question 'how is metaphysics possible'. More precisely, the project will establish that any answer to this question must instruct how to succeed at attempts at assertions about the Kantian thing in itself. This requirement is the result of an argument that no other conception of 'reality' is robust enough to accommodate an ambitious metaphysics. Subsequently, it will be argued that naturalized metaphysics is conceived by its proponents as an attempt at such an answer, but that naturalized metaphysics does not provide the required instruction. This problem occurs because of Carnap's challenge to metaphysics. Carnap observes that no assertion can be made outside a linguistic framework which has the consequence that metaphysical assertions must be about the conceptual conventions of the linguistic framework rather than the thing in itself. It is the view of Ney and the other proponents of naturalized metaphysics that metaphysics is possible as a naturalized metaphysics; a metaphysics that appropriately defers or yields to the findings of science. The project argues that this requirement does nothing to ensure that Carnap's challenge is avoided. The challenge is equally significant to naturalized and non-naturalized metaphysics, so long as both require that successful attempts at metaphysics must be assertions about the thing in itself.

The project concludes that until or unless Carnap's challenge is refuted, naturalized metaphysics remain impossible, just like the metaphysics it is supposed to replace.

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# Chapter 1

# Introduction

It is not coincidental that the title of the present project is similar the title of the late Jonathan Lowe's book, *The Possibility of Metaphysics* (1998). In this work, Lowe defends the possibility of metaphysics by readdressing Immanuel Kant's famous question, 'how is metaphysics possible?' (Lowe 1998, 1). While Kant and Lowe have different conceptions of what serves as an appropriate answer to the question – Kant ultimately requiring a demonstration that there are a priori synthetic truths – their motivation for addressing the question is very similar. Kant found metaphysics to be under attack by the empiricism that culminated with David Hume and his famous dictum:

> If we take in our hand any volume; of divinity or school metaphysics, for instance; let us ask, Does it contain any abstract reasoning concerning quantity or number? No. Does it contain any experimental reasoning concerning matter of fact and existence? No. Commit it then to the flames: for it can contain nothing but sophistry and illusion (Hume 1748/2011, 706).

According to Hume, metaphysics has no relevant content and by raising the question of how metaphysics is possible, Kant acknowledges that this attack on metaphysics is so significant that it must be satisfactorily addressed before work in metaphysics can continue. Lowe finds a similar motivation for readdressing the question. He writes: "the question is quite as pressing for us as it was for Kant. Metaphysics is under assault from many sides, both from within the ranks of philosophers and from various external forces" (Lowe 1998, 1). There are challenges to metaphysics that Lowe regards to be so significant that the question of how metaphysics is possible must be answered anew.

By titling the present project "The Possibility of Naturalized Metaphysics", one would from analogue assume that the purpose of this project is to ask how naturalized metaphysics is possible, supposedly due to some significant challenges facing naturalized metaphysics. There are some merits to this picture. However, there are also important non-structural similarities between the present project and Lowe's question of how metaphysics is possible. In this project, I develop the view that naturalized metaphysics is regarded by its proponents as the answer to the same question asked by Lowe. Consequently, by asking about the possibility of naturalized metaphysics, I seek to question whether naturalized metaphysics

answers how metaphysics is possible. This will be the main project undertaken below, and it will be concluded that naturalized metaphysics in a particular sense does not answer this question. With respect to a particular challenge, naturalized metaphysics is no more possible than the suspicious metaphysics that initially made us ask how metaphysics is possible.

## 1.1 How is metaphysics possible?

In some sense, metaphysics is both the problem and the solution to the question 'how is metaphysics possible?' On the one hand, it is a suspicion towards metaphysics that provokes the question. There would be no reason to ask how metaphysics is possible if we did not suspect that metaphysics might be impossible. On the other hand, we want metaphysics as the answer. It candidates as a tautology to say 'if metaphysics is possible, then it is possible as metaphysics'. We will not find 'as a particular sort of square dancing' to be an acceptable answer to how metaphysics is possible because this is not metaphysics. We want an answer to 'how is metaphysics possible' to be 'as metaphysics'. Any answer incompatible with this would seem misguided. It is in this sense that metaphysics is both the solution and the problem. Obviously, no paradox occurs if the same metaphysics simply is both the problem and the answer in the sense that an appropriate answer to how metaphysics is possible involves a defence of the problematic metaphysics, i.e. to show how the metaphysics under suspicion is not problematic after all. This, however, is not the approach adopted by Kant. He regarded Hume's challenge to metaphysics to be significant in such a way that much of metaphysics simply had to be abandoned. Metaphysics, according to Kant, is only possible if it is concerned with something other than the thing in itself. Kant's answer to how metaphysics is possible introduces a revision of metaphysics. I will follow Kant and allow revisions such that the metaphysics of the answer in general is not identical to the metaphysics that is under suspicion. This in turn requires that the question is treated carefully so that the paradox does not emerge.

Allowing for revisions makes it easy to answer how metaphysics is possible. Within reasonable limits, no matter how we conceive of metaphysics and its problems, any challenge to this metaphysics is avoided if metaphysics is a particular sort of square dancing. So, we might as above propose this to be an answer to how metaphysics is possible. Again, this answer will not satisfy us; allowing revisions is not the same as recognizing anything as an acceptable solution. Square dancing does not qualify as an answer to how metaphysics is possible.

I suggest that this is because square dancing does not have an appropriate relation to the metaphysics initially under suspicion; square dancing is not a candidate as answer to 'how is metaphysics possible' because of the origin of the question. We are provoked to ask how metaphysics is possible because we have been presented with a number of attempts at metaphysics which we suspect are unsuccessful. Supposedly, we are made aware of a

challenge facing such attempts, such that attempts at metaphysics are faced with problem apparently rendering the attempts unsuccessful. Now, when we ask how metaphysics is possible, we want to know how such attempts at metaphysics can be made successfully. To even ask the question we must already know what we require of metaphysics. When asking how metaphysics is possible, one must already be aware what necessary and sufficient conditions something must obey in order to be metaphysics. We ask how *metaphysics* is possible, and this must imply that a conception of metaphysics must already be in place. We identify that which is under suspicion as attempts at metaphysics and this is why we specifically ask how metaphysics is possible and not how, for instance, square dancing is possible. The sort of thing under suspicion is not square dancing but metaphysics; if we were suspicious towards square dancing we would rather ask how square dancing is possible. We can only be suspicious towords metaphysics or squaredancing and thereby be provoked to ask the question how, respectively, metaphysics and square dancing is possible if we already know what we want from metaphysics and square dancing.

When Kant asked how metaphysics is possible, he already knew what he wanted from metaphysics – synthetic, a priori truths. The problem was that Hume's challenge suggested that most attempts at such truths were unsuccessful. What he did was to argue that such truths were possible as truths about the experience and understanding of rational beings. Answering how metaphysics is possible, Kant instructs anyone attempting to do metaphysics that the attempt will only be successful if the metaphysics is about the experience and understanding of rational beings rather than about the thing in itself. Kant is not trying to make sense of the metaphysics under suspicion or to show how this is not problematic after all. In this way his answer is a revision. However, for his revision to be regarded as an answer to how metaphysics is possible, Kant's answer must instruct how to succeed where previous metaphysics supposedly failed due to Hume's challenge. The answer must be *metaphysics*.

These remarks on Kant clarifies the question 'how is metaphysics possible?' as I will understand it subsequently. The question is posed because of the suspicion that attempts at metaphysics are generally unsuccessful. This suspicion arises due to some challenge facing these attempts. As argued, this already presupposes that it has been settled what the metaphysicists attempt to do, i.e. what necessary and sufficient conditions that must be adhered to for something to be successful metaphysics. Now, the answer to how metaphysics is possible should serve to instruct the metaphysicists how to succeed in their attempts. This instruction might prove that some of the metaphysics under suspicion is indeed successful; however, it is in general not a requirement that any of this metaphysics proves to be successful. It is only required that the answer to how metaphysics is possible is metaphysics, i.e. that the answer adheres to the conditions for something being metaphysics. Thus, asking how metaphysics is possible is not a question of whether previous attempts at metaphysics are successful, but how future attempts *can* be successful, that is, how to adhere to the settled upon necessary conditions. It is in this that we allow revisions as answers to how metaphysics

is possible; answers propose a way forward for metaphysics that in general will not preserve the metaphysics under suspicion.[1] However, an answer cannot revise what metaphysics is. This is settled by those necessary and sufficient conditions that must be in place already when the question 'how is metaphysics possible?' is asked. Any acceptable answer must adhere to these conditions and in this sense an answer is merely instructive. We ask how metaphysics is possible, not because we are in doubt what to require of metaphysics, but because we suspect that many attempts to meet the conditions for metaphysics are unsuccessful. Therefore, it is that we want an instructive answer. Such an instruction will facilitate successful attempts at metaphysics. To accommodate the intuition behind the tautological answer 'as metaphysics' as the answer to the question 'how is metaphysics possible', the project will take a strict view of these instructive answers by requiring that any successful attempt at metaphysics follows the instruction, i.e. no successful attempt at metaphysics is in conflict with the instruction. For instance, if the instruction takes the form of a principle, then we will require that no successful metaphysical assertion contradict the principle. This ensures adherence to the tautological answer 'as metaphysics' to how metaphysics is possible. An answer to how metaphysics is possible merely helps us identify successful attempts at metaphysics, it does not alter what to regard as successful and thereby what to count as metaphysics.

Evidently what counts as instructive and, thereby, what counts as an answer to how metaphysics is possible is dependent on what counts as successful attempts at metaphysics. Consequently, an answer to how metaphysics is possible is only determined up to the necessary and sufficient conditions for something to be successful attempts at metaphysics. Even one affirming the possibility of metaphysics and one denying it can prove to agree over everything except these conditions. This emphasizes why these necessary and sufficient conditions must be settled in preliminary clarifications before it can even be considered whether naturalized metaphysics is an answer to how metaphysics is possible. That is, before it can be considered whether naturalized metaphysics presents an instruction that must be followed to succeed in attempts at metaphysics. The question simply has no determinate answer until these prior conditions are explicated. This also suggests an important point regarding the conclusion of the present project. Any conclusion about whether or not naturalized metaphysics answers how metaphysics is possible must be conditional on the necessary conditions for successful attempts at metaphysics that will be proposed below.

Following the above analysis, these conditions must stand in an appropriate relation to the metaphysics under suspicion such that it is the settled upon conditions that a metaphysicist attempts to obey. The conditions must mirror criteria for successful attempts at metaphysics. Consequently, the conditions are closely related to the metaphysics under suspicion. This

[1] Obviously, there will remain a residual question regarding how to explain away the discussions taking place in the metaphysics of our suspicion that are not part of the revised metaphysics. What is going on in these discussions if they cannot be a metaphysical debate.

suggests that a certain degree of circularity is unavoidable in the present project. On the one hand, the project starts with attempts at metaphysics that is suspected to be unsuccessful. To answer how and whether such a metaphysics is possible, it must be determined what this metaphysics attempts to achieve. On the other hand, the project starts from naturalized metaphysics as a proposed answer to how metaphysics is possible. These two must co-vary. To evaluate whether naturalized metaphysics is an answer to how metaphysics is possible, necessary and sufficient conditions for successful attempts at metaphysics must already be in place. However, it would be uncharitable to evaluate naturalized metaphysics as un-instructive, and therefore, not an answer based on conditions that are not necessary conditions from the point of view of naturalized metaphysics. One is a prerequisite to establish the other and vice versa. This circularity does not affect the argument of the project, but it does have the consequence that the clarifying work below miraculously settle on the right conditions based on the metaphysics of our suspicion such that the proponents of naturalized metaphysics attempt to answer how such metaphysics is possible.

This, however, once again brings up the so far unaddressed question, 'What is naturalized metaphysics?'. The content of naturalized metaphysics will be an extensive subject in the next chapter, but some preliminary indications are instructive here with regards to which literature in the philosophical tradition is considered to be concerned with naturalized metaphysics. The following can therefore be viewed as an extensional explication of naturalized metaphysics that will precede the later detailed intensional explication.

## 1.2 The recent history of 'Naturalized metaphysics'

Naturalized metaphysics is central to the present project. This obviously follows when the overall conclusion is that naturalized metaphysics is not an answer to how metaphysics is possible. This conclusion is after all about naturalized metaphysics. The significance of the conclusion is also dependent on naturalized metaphysics. This is already suggested, when it is argued that it would be uncharitable to evaluate naturalized metaphysics as un-instructive with respects to a particular conception of metaphysics if naturalized metaphysics did not share this conception. Not only would it be uncharitable, but once this divergence was uncovered, it would prove the conclusion of the present project to be insignificant. Along similar lines, the conclusion will bear no significance if it is not the intention that naturalized metaphysics should be a solution to the question of the possibility of metaphysics. To conclude in this case that naturalized metaphysics does not answer this question would be to argue against a straw man. This suggests two important tasks when it relation to naturalized metaphysics: First, that naturalized metaphysics attempts to be an answer to how metaphysics is possible. Second, that naturalized metaphysics shares the requirements imposed here to be considered an adequate answer to this question.

Here, we will consider an implicit preliminary to both of these conditions on the significance of the present project, namely that there are proponents of naturalized metaphysics. I will argue that there are such proponents. I will advance the view that naturalized metaphysics in a recent trend in analytic metaphysics from the last ten years. When I argue that naturalized metaphysics is not an answer to how metaphysics is possible, this is a direct attack on this new trend in analytic metaphysics. Below I will indicate which recent works in metaphysics I take to be part of naturalized metaphysics and therefore vulnerable to the conclusions of the present project. This will also indicate what parts of metaphysics are not considered to be naturalized metaphysics from the perspective of the present project.

Compared to the term 'naturalized epistemology', the term 'naturalized metaphysics' is in fact quite uncommon. This emphasizes the relevance of explicating what works in recent analytical metaphysics that I take to be naturalized metaphysics. The term 'naturalized metaphysics' occurs in a discussion between Leemon Mchenry (1996, 1998) and Daniel Hutto (1998) concerning Francis H. Bradley's (1893) views on metaphysics. Also, 'naturalistic metaphysics' is the name given by Randy Friedman (2011) for John Dewey's view of metaphysics. Neither Dewey nor Bradley are the primary proponents for the sort of naturalized metaphysics considered in this project, though Dewey's views of metaphysics might be seen as somewhat related to the metaphysics in question through Willard V. O. Quine.

Alvin Goldman has a non-historical use of the term in his article "A Program for 'Naturalizing' Metaphysics, Application to the Ontology of Events" (2007). The naturalization proposed here has much in common with the guiding thought in Quine's famous article "Epistemology Naturalized" (1969a) where Goldman proposes "to advance a certain program for doing metaphysics, a program in which cognitive science would play an important role" (Goldman 2007). While metaphysics out of such a project certainly is entitled to the name 'naturalized metaphysics' due to its association with the Quinian project, this is not the sort of metaphysics under consideration here either.

Instead 'naturalized metaphysics', as we will understand it here, occurs frequently in relation to the works by James Ladyman (2007; 2011a; 2011b; 2012) and Don Ross with a first occurrence as the subtitle of their seminal book *Every Thing Must Go: Metaphysics Naturalized* (2007). The term occurs again in the title Jack Ritchie's (2010) review of this and three other books published in 2007: Alexander Bird's *Nature's Metaphysics*, Tim Maudlin's *The Metaphysics within Physics*, and Penelope Maddy's *Second Philosophy: A Naturalistic Method*. While Maddy's book might be regarded as slightly off compared to the others, all these works shares the characteristic views of naturalized metaphysics which, as we will see later on, are the requirements that metaphysics should adequately defer or yield to science. 'Naturalized metaphysics' occurs again in the titles of two papers in the anthology, *Scientific Metaphysics* (2013), edited by Ross, Ladyman and Harold Kincaid[2].

[2]Kincaid also calls naturalized metaphysics by the name 'scientific naturalism'. This term has also been

These are articles by Andrew Melnyk (2013) and Anjan Chakravartty (2013). The anthology also include contributions from the editors and notable researchers such Mark Wilson (2013), Paul Humphreys (2013), and Micheal Friedman (2013). I regard all of these to engage in naturalized metaphysics and as part of what I describe as a trend in analytic metaphysics that has received extensive treatment in the last ten years or so. Besides those already mentioned, I include in this trend works by Sophie Allen (2012), Jonathan Knowles (2008), Bradley Monton (2011), Laurie Paul (2012), Huw Price (2004; 2007; 2011), and Alexander Rosenberg (2013).[3] Interestingly, from a thematic point of view one might include Mario Bunge's "Is Scientific Metaphysics Possible" (1971) among the literature in naturalized metaphysics, though it appears to be unrecognized by the aforementioned authors and therefore not an inspiration for recent interest in naturalized metaphysics. Finally, it is worth emphasizing Alyssa Ney (2012) who will be the main exemplar of a proponent of the naturalized metaphysics that proves to be unsuccessful in answering how metaphysics is possible.

There is another so far unmentioned direct occurrence of 'naturalized metaphysics' found in the title of Simon Saunders' "Naturalizing Metaphysics" (1998). This predates the naturalized metaphysics discussed so far by almost ten years and would seem to cast in doubt that naturalized metaphysics is a recent trend in analytic metaphysics. However, even though Saunders article is concerned with both metaphysics and science, I do not regard it as part of the naturalized metaphysics as I conceive of it in the present project, but rather as belonging to a related field with which Saunders is most often associated—the philosophy of physics. The distinction between the philosophy of physics and naturalized metaphysics is not clear cut. Arguably, many of the previously mentioned books and articles could be considered part of philosophy of physics, perhaps particularly the later chapter in *Every Thing Must Go*. Further, many of the previously mentioned philosophers have made significant contributions to the philosophy of physics, most notably perhaps Ladyman, Maudlin, Monton, Ney, and Price. I regard the philosophy of physics to be less concerned with metametaphysical issues in comparison to naturalized metaphysics and to be more concerned with particular problems such as the following: the identity and individuality of quantum particles, entanglement, the ontological status of field, symmetry groups etc.; the relation between the metric and space-time; and simultaneity to mention some examples. This means that philosophers within the philosophy of physics considerate of metametaphysics might be counted as engaged in naturalized metaphysics. These include Stephen French (2006; 2011; 2014), Katherine Hawley (2006), Mateo Morganti (2013), and Saunders (1998; 2003; 2006). Nevertheless, I regard it as worth keeping naturalized metaphysics and philosophy of physics

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used in the title of a recent book (Lightman and Reidy 2014) about John Tyndall and his contemporaries. These two occurrences of 'scientific naturalism' are unrelated.

[3] Of course this list in not exhaustive, however, it includes many of the most important works both for and against naturalized metaphysics.

apart because I will argue that naturalized metaphysics attempts to answer how metaphysics is possible; this is not a similar concern for those working in philosophy of physics. They inherit their problems directly from physical theories and debate them without much thought to the metametaphysical issues relating to their work. By more directly addressing the metametaphysical issues relating to the possibility of metaphysics, naturalized metaphysics is more vulnerable to the conclusion of the present project that naturalized metaphysics does not answer this question. However, neither does the philosophy of physics insofar as it shares its view on metaphysics with naturalized metaphysics.

Finally, let us briefly mention the occurrence of 'naturalizing metaphysics' as the title of the fifth chapter in Ritchie's *Understanding Naturalism* (2008). Here Ritchie writes: "Naturalism is synonymous with another '–ism' – physicalism" (Ritchie 2008, 110) and continues: "According to physicalists, everything is or is in some appropriate way dependent upon the physical" (Ritchie 2008, 110). Identifying naturalized metaphysics with this sort of physicalism commits naturalized metaphysics to a reductionist thesis about the hierarchical structure of reality. If naturalized metaphysics is physicalism, then naturalized metaphysics has a much longer history than the proposed ten years. According to Daniel Stoljar (2015), the term 'physicalism' is originally introduced by Otto Neurath (1931) and Rudolf Carnap (1932). However, whereas Neurath and Carnap associated physicalism with a linguistic thesis, contemporary philosophers regard physicalism to share similarities with the much older thesis of materialism such that they are often used interchangeably (Stoljar 2015). Just like materialism is often summarized by the slogan "everything is material" so can physicalism be summarized as "everything is physical"; again this implies the reductionist thesis. Physicalism (or materialism) has had prominent proponents including David M. Armstrong (1978), David Lewis (1983), David Papineau (1993), and John J. C. Smart (1963; 1978) all preceding the claimed rise of naturalized metaphysics.

There are two reasons why I regard physicalism and materialism to be distinct from naturalized metaphysics. First, both physicalism and materialism are most prominent within the philosophy of mind (Stoljar 2015). The reductionist program is here specifically concerned with the reduction of the mental to the physical or material. In comparison, naturalized metaphysics concerns all of metaphysics and it not related to any specific issue. Second, the reductionism of physicalism is itself a metaphysical doctrine within traditional metaphysics. I will argue that proponents of naturalized metaphysics are suspicious of traditional metaphysics and suggest naturalized metaphysics as an answer to how metaphysics is possible. Physicalism is not an answer to how metaphysics is possible, physicalism is metaphysics. Contrary to Ritchie's claim, physicalism cannot be identified as the naturalism guiding naturalized metaphysics.

Finally, I will mention the anthology, *Metaphysics and Science* (2013), edited by Stephen Mumford and Matthew Tugby which has some superficial similarities to the works that I

propose belong to naturalized metaphysics. The contributions to the anthology, however, are largely concerned with traditional metaphysical issues and then problems originating in the philosophy of physics rather than metametaphysics and the possibility of metaphysics.

## 1.3 Ambitions for the present project

In this project I will argue that those works that I have claimed belong to naturalized metaphysics share the attitude that they take traditional metaphysics – particularly newer analytic metaphysics – to be problematic. As a result, they ask how metaphysics is possible and their answer is that metaphysics is possible only as naturalized metaphysics. However, as proclaimed I reject this proposal by the proponents of naturalized metaphysics. I will argue that naturalized metaphysics is no more possible than the metaphysics they are suspicious of.

This argument will employ an asymmetry between a general affirmative and a general negative answer to the question of whether metaphysics is possible. To answer in the affirmative, it must in principle be shown how the answer avoids or address all challenges to metaphysics. Depending on the exact conditions for metaphysics, these challenges might be numerous. In contrast, to answer in the negative, one has to demonstrate that there is a single challenge to metaphysics that is insurmountable for all conjectured answers to how metaphysics is possible. Both projects are immense. They each involve going through all possible challenges – to answer in the affirmative – or answers – to answer in the negative – unless a general proof can be made. This marks the ambition for constructive programs such as Lowe's or Kant's involved with defending an affirmative (or negative) answer to the possibility of metaphysics. In comparison, the present project is more modest due to its destructive character. I do not have the ambition to show how metaphysics is possible by advancing instructions as to how to overcome all the challenges facing metaphysics. Nor do I aim to demonstrate how a particular challenge to metaphysics is insurmountable for any proposed answer to the question 'how is metaphysics possible?'. The present project is merely concerned with the rejection of naturalized metaphysics as an answer to how metaphysics is possible, and thereby, the present project can be viewed as a small part of an argument for the impossibility of metaphysics.

More precisely, the present project aims to demonstrate how naturalized metaphysics is just as vulnerable to one of the challenges it intends to accommodate as the metaphysics it was supposed to replace. Consequently, metaphysics and naturalized metaphysics are equally possible in the light of this challenge. There is no ambition that this project should prove that both metaphysics and naturalized metaphysics are impossible due to this challenge; as proposed it would be an immense task to find conclusive arguments for such a thesis. More modestly, the present project serves to demonstrate how metaphysics and naturalized

metaphysics stand and fall together when it comes to this challenge. However, this is an important conclusion. It will be argued that naturalized metaphysics is not only a descriptive term, but that it also contains a normative aspect due to the conjecture that it is an answer to how metaphysics is possible as opposed to the metaphysics it is supposed to replace. Naturalized metaphysics is conjectured by its proponents to be better than this metaphysics. By demonstrating that naturalized metaphysics is just as problematic as this metaphysics, the normative aspect of the term must vanish—at least with respect to the challenge to which they are both equally vulnerable. In terms of the question of how metaphysics is possible, naturalized metaphysics might be better off than traditional metaphysics when it comes to a range of challenges facing traditional metaphysics. This will not be addressed in the present project. Rather, I will conclude that there is an unresolved challenge to metaphysics for which neither naturalized metaphysics nor traditional metaphysics seems to have any answer. With respect to this challenge neither naturalized nor non-naturalized metaphysics appears to be possible. Thus, this is not a defence of traditional metaphysics against naturalized metaphysics. Rather, both must hold their breath and await a solution to this challenge; such a solution is not found in naturalized metaphysics. In summary, I will argue that until this challenge is refuted, naturalized metaphysics is no more possible than non-naturalized metaphysics. Refuting this challenge would open the question anew. But until or unless the challenge is refuted, I will conclude that naturalized metaphysics is not an answer to how metaphysics is possible. The significance of the present project is that it, at least for now, refutes the belief held among proponents that metaphysics is possible as naturalized metaphysics.

Presented as such, this project evidently must involve a significant amount of clarifying work before the conclusion can be established. Three entangled topics occur in this clarification: Metaphysics, naturalized metaphysics, and their relation to the already explicated question 'how is metaphysics possible'. The first part of the project will therefore be devoted to an (inevitably incomplete) explication of what metaphysics is; more precisely it will propose a necessary condition for something to be metaphysics. It will also consist of an investigation into the details and content of naturalized metaphysics along with an examination of the relation between naturalized metaphysics and the question 'how is metaphysics possible'.

Only after this extensive preliminary investigation will the systematic part of the project be carried out. I will present the challenge posed to metaphysics by Carnap in his article "Empiricism, Semantics, and Ontology" (1956) as the challenge that metaphysics and naturalized metaphysics are equally vulnerable to. The challenge is specifically addressed by Alyssa Ney in her article "Neo-positivist metaphysics" (2012), and I therefore take an outset in this article to establish my conclusion. I will first argue that Ney's proposed solution is a prototype of naturalized metaphysics, and then demonstrate how Ney, contrary to her own view, does not avoid the challenge posed by Carnap. Finally, I will generalize the problems faced by Ney to show how any variant of naturalized metaphysics must face the

same problems with respect to this challenge.

# Chapter 2

# Metaphysics and naturalism

This chapter will take on the first part of the above mentioned clarifying work. The clarifying work will revolve around this question 'how is metaphysics possible', addressing what is asked about and how to answer along with the particular task of establishing why naturalized metaphysics is even a candidate answer, which obviously involves an explication of what naturalized metaphysics is in this context. However, initially the matters regarding naturalized metaphysics will be set aside until the question 'how is metaphysics possible' has been appropriately clarified and along with it 'metaphysics'.

## 2.1 What is metaphysics?

The necessary conditions for something to be a successful attempt at metaphysics will be the topic discussed below. The task undertaken will in fact be more modest, in that I will merely establish a single necessary condition that is shared by the proponents of naturalized metaphysics, but which we will later show cannot be obeyed by naturalized metaphysics. For convenience we will call the necessary and sufficient conditions for successful attempts at metaphysics 'conditions for metaphysics' below.

### 2.1.1 A terminological remark

Before we undertake the investigation, it is worth making some terminological remarks. First, it is worth noticing that the term 'metaphysics' shares an ambiguity with the term 'science'. 'The ambiguity concerns their respective reference, as Bas van Fraassen (2002) notes:

> The word 'science' displays a typical ambiguity between activity and product. We say that science tells us that smoking is unhealthy: this refers to the product—findings, well-confirmed theories accepted in the scientific community. We also say that science investigates such structures as links between smoking and health or between background radiation and the history of the universe. Here we refer to the activity in which scientists are engaged (van Fraassen 2002, 155).

The same is the case for metaphysics. 'Metaphysics' refers to both the activity conducted by the metaphysicist and the product of this activity. In van Fraassens account of the ambiguity regarding 'science' is not settled. He seems consent to the presence of the ambiguity, and merely notifies the reader that he will primarily focus on the activity (van Fraassen 2002, 156). I will similarly consent to the ambiguity of the referent of 'metaphysics', however, contrary to van Fraasen, our focus will primarily be the product of metaphysics.

On a related note, there are those who does metaphysics and brings metaphysics about. Those I will call 'metaphysicists' throughout. This is less common compared to the often used 'metaphysicians', however, I find the former name to be better suited to those engaged in metaphysics which after all shares similarities with science rather than medicine.

### 2.1.2 Is there metaphysics?

Generally, such conditions for metaphysics are by no means evident. Merely surveying the titles, works of metaphysics include Aristotle's posthumously titled work *Metaphysics* (ca. 350 b.c.), Leibniz' *Discours de métaphysique* (1686), Kant's *Prolegomena zu einer jeden künftigen Metaphysik* (1783), and Heidegger's *Einführung in die Metaphysik* (1935). Inferring any unifying conditions from these four works seems difficult, without even taking into account the considerable parts of the philosophical tradition that have been categorized as works of metaphysics (see Peter van Inwagen and Sullivan Meghan (2015)).

As it was proposed, the referent of 'metaphysics' is ambiguously an activity or a product. This will also manifest itself in the conditions that might be suggested as conditions for metaphysics. As an example, Cartesians might propose that metaphysics is something that engages in a particular rationalistic activity to bring about an assertion. This explication actually concerns both product and method. However, proposing that the product is an assertion does not do much to single out what metaphysics is. Indeed, I will regard it to be uncontroversial that the products of metaphysics are assertions; an expression that is true or false. Rather, this Cartesian proposal is an attempt to unify and single out metaphysics based on its activity. Alternatively, one could consider the view of Platonists, who might argue that the unifying and singular feature of metaphysics lies in the content of the product, which she might propose to be eternally true proposition. This Platonist explication of metaphysics sets no boundaries to the activity, but only requires that the product of the activity has this particular feature.

This preliminary exploration already suggests that it is not an easy task to find any unifying conditions for metaphysics. This problem is still manifest even if we consider only more contemporary metaphysics, where attempts to characterize the activity of metaphysics by an appropriate method are strongly debated. Notable among these methodological discussions are the recent anthology *Philosophical Methodology: The Armchair or the Laboratory?* edited by Matthew Haug (2014b). But also Braddon-Mitchell and Nola (2009), Corradini, Galvan

and Lowe (2006) Lowe (1998), and Maddy (2007), include extensive and diverse discussions about the appropriate method for metaphysics. Further, looking at the products similar disagreement can be found in the literature on metaphysics. While the products are taken to be assertions, it has particularly been debated what these assertions are about. The topic is most notably discussed in the anthology *Metametaphysics* (2009), edited by Chalmers, Manley and Wasserman, which in particular investigates the problems faced by non-deflated metaphysics. Also the recent interest in neo-Aristotelian metaphysics (see for instance Tahko (2012)) has a focus on what metaphysical assertions should be about. Nevertheless, in the "Metaphysics" entry in the *Stanford Encyclopedia of Philosophy*, Peter van Inwagen and Sullivan Meghan (2015) do suggest that if anything unifying and singular can be explicated about metaphysics, that explication must attend to the content of metaphysical theories and assertions. However, investigating the different aspects of contemporary metaphysics they conclude that it may be that nothing unites these aspects, and speculate whether "contemporary metaphysics just [is] a compendium of philosophical problems that cannot be assigned to epistemology or logic or ethics or aesthetics or to any of the parts of philosophy that have relatively clear definitions" (van Inwagen and Meghan 2015).

This conclusion at least finds some support in the vast literature available in the field of metametaphysics.[1] If the discussion in a field is dominated by meta-discussions regarding the appropriate content and methodology of that field, then it seems fitting to proclaim that that particular field is, currently, no field at all. However, taking a look at analytical metaphysics from the last sixty years or so, there seems to be an overwhelming number of books and articles that shares an agreement about the content of their discussion and instead debate substantive positions. While these discussions are exactly those that are under suspicion in most metametaphysics for being unsuccessful and problematic, metaphysicists in contemporary analytic metaphysics can nevertheless be said to agree over what they attempt to discuss. This is enough for our purposes as the interest here is the conditions of successful metaphysics.

Without an appropriate explication of 'metaphysics', one might worry that the term 'contemporary analytical metaphysics' is equally problematic, but I shall define this term extensionally as that which is discussed in for instance *Metaphysics: An Anthology* (2011) edited by Kim, Korman, and Sosa. Though not all articles in this anthology exhibit a metaphilosophical consensus, most of the entries engage in genuine discussions both which each other and with positions that are only mentioned. The topics considered include for instance ontology with questions regarding the existence of abstract entities, possible worlds, natural kinds, among others; and questions about identity, persistence through space and time, modality, causation, objecthood and properties. As a particular example consider the

[1] Metametaphysics is here used following Tahko (2015) as a term for the field standing in the same relation to metaphysics as metaethics stand to ethics.

discussion regarding mereological sums. The problem is easy to state: Is there a heap, if there are particles or hay arranged heapwise? This is immediately an ontological question, but also a structural question regarding the relation between the heap and its constituents. Further, answers might depend on whether the object and the constituent are, respectively, observable or unobservable.

As I will argue later, it is exactly the metaphysics of this tradition that advocates of naturalized metaphysics are suspicious of, and the attempts at metaphysics made in this tradition that are proposed to be possible only if they are naturalized. Thus, the apparently arbitrary choice to investigate what is attempted by metaphysicists in contemporary analytic metaphysics manifests the slight circularity of this preliminary clarifying work.

### 2.1.3 Ambitious metaphysics

Lowe is among the most prominent figures in this tradition, and he suggests that metaphysics is attempting a "systematic study of the most fundamental structure of reality" (Lowe 1998, 2). Similar proposals are found in this tradition for instance in Peter van Inwagen's (2015) book *Metaphysics*, where he cites an explication of metaphysics from his time as an undergraduate. He writes: "metaphysics is the study of ultimate reality. This still seems to me to be the best definition of metaphysics I have seen" (van Inwagen 2015, 1–2). Both Lowe and van Inwagen thus emphasize that the interest of metaphysics is reality, and though Lowe emphasizes that metaphysics is about the fundamental structure of this reality, whereas van Inwagen simply suggests that metaphysics is about ultimate reality unqualified, there is no reason to believe that Lowe disregards the ontology of fundamental reality (Lowe 1998, 210–227). In the introduction to his entry on metaphysics in the *Blackwell Companion to Philosophy* Simon Blackburn (2002) also provides an explication of metaphysics. He writes: "*Metaphysics is the exploration of the most general features of the world"*(Blackburn 2002, 61, emphasis in original). If world here is taken to mean the same as Lowe's and van Inwagen's reality, Blackburn's explication is again very similar. As a synthesis, these three explications suggest that attempts at metaphysics are successful if they produce assertions about the general features of ultimate reality.

This explication accords very well with the discussion regarding the existence of a heap when there is hay arranged heapwise. It seems reasonable to propose that what is attempted here is to uncover whether reality in general is such that the mereological sum exists if a certain arrangement of its constituents obtains. In general, the proposal is that metaphysicists attempt to establish such assertions about ultimate reality. This sounds promising: It has the right sort of gut-feeling to it. It suggests that all these metaphysical disputes are attempts to settle what ultimate reality is, whether ultimate reality has abstract entities or possible worlds, and what sort of natural kinds there are in ultimate reality, if there are any.

Obviously, this suggestion is only as good as our understanding of the terms 'reality' and 'ultimate'. van Inwagen is well aware of this and remarks that both need further qualification in order for the explication to be of any use. To get a grasp of 'reality', van Inwagen suggests some paradigmatic assertions, which should qualify our understanding. According to van Inwagen, one of them, "the earth is *really* rotating, despite the fact that it is *apparently* stationary" (van Inwagen 2015, 3, emphasis in original) suggests that 'really' and 'apparently' are closely related to each other, and he speculates that neither has meaning in isolation from the other.[2] 'Really' and 'apparently' are derived from 'reality' and 'appearance' which shares a similar relation; "We talk about *reality* only when there is misleading appearance to be 'got behind' or 'seen through'" (van Inwagen 2015, 3, emphasis in original). However, this reality might itself be an appearance, he writes: "what we find behind appearance is often something called 'reality' only in relation to that appearance" (van Inwagen 2015, 3). As an example van Inwagen reports how popular science books in the 1920s and 1930s recounted the new discovery from particle physics that what appear to be solid objects in reality are mostly empty space. This story, however, was told just as physicist were making the discoveries in quantum field theory on virtual particles that revealed empty space to be filled with particles being created and then quickly annihilated again. van Inwagen summarizes: "no sooner had people begun to digest the idea that what are normally called solid objects contain a lot of what is normally called empty space than it was discovered that what is normally called empty space is actually very densely populated" (van Inwagen 2015, 3). Behind an appearance we find something that we can call reality in relation to this appearance, however, this reality might itself be an appearance in relation to another reality. Based on this van Inwagen speculates: "Could it be that the reality behind every appearance is itself only a further appearance? If the answer is No, then there is a reality that is not also an appearance. This final or 'ultimate' reality is the subject-matter of metaphysics" (van Inwagen 2015, 3). Following this suggestion by van Inwagen, when we ask whether there is a heap, if there is hay or particles arranged heapwise, what we are asking is whether we will find such heaps in the ultimate reality that is not itself an appearance when there is hay or particles arranged heapwise.

Even with this explication, it is still not quite clear what it means to meet the proposed necessary condition that attempts at metaphysics are successful only if they produce assertions about this ultimate reality. Part of the problem might be that van Inwagen conflates several ways that the terms 'appearance', 'appear', 'real', and 'really' are used in ordinary discourse. Before I turn to these issues, however, let me consider the most obvious candidate for van Inwagen's ultimate reality; the Kantian thing in itself. Kant distinguished between the thing in itself and the world of phenomena or appearances. The world of phenomena is the world of our experiences. It is the world as it appears to us. Beyond this world of phenomena we

[2] This is not a novel idea and can for instance be found in Francis H. Bradley's *Apperance and Reality* from 1893.

find the thing in itself; the mind-independent, objective world. It is hidden away from our senses; it lies behind a veil of appearance; it is a world that transcends experience. The only restriction that we impose on this reality is that the world of phenomena must arise out of this reality. The whole world of phenomena – and consequently every appearance – is an appearance of this underlying reality. Based on this distinction, we can interpret our question about the heap as a question of how matters are in the thing in itself. Evidently, when someone experience something that they call a heap, they always find that is are something that is arranged heapwise. However, with the present interpretation the metaphysical question transcends such experiences and the way we talk about them. Rather, the question concerns whether it is really true that that there is a heap, when there are particles or hay arranged heapwise in the thing in itself beyond all appearances. According to this view, it is a necessary condition for something to be a successful attempts at metaphysics that the result are assertions about the general and fundamental entities and structures of this mind-independent, objective, experience-transcending reality behind all appearances of the world of phenomena. Such a metaphysics is what Stathis Psillos calls "the metaphysics of things-in-themselves" (Psillos 2011, 304), and this associated condition for metaphysics will be referred to as the ambitious condition for metaphysics.

### 2.1.4 The quest for a modest metaphysics

One might question whether we have to invoke this ambitious condition for metaphysics when metaphysics is explicated as concerned with the general features of ultimate reality. Perhaps there is a modest conception of reality available that does not appeal to a thing in itself. This would perhaps allow for more modest conditions for metaphysics, which would in turn be easier to meet and therefore less prone to be problematic. Below I will investigate the option that there is an ultimate reality that metaphysical assertions might be about that is not the thing in itself. The investigation will fall in three parts, the first part will develop a coherent modest conception of reality without the appeal to the thing in itself and the next part will then investigate whether this modest reality can be the reality that contemporary analytic metaphysicists attempts to assert something about. That part will conclude that this reality cannot accommodate such metaphysical discussion and the third part will then investigate whether it is possible to build a more extensive modest reality.

The idea is to follow van Inwagen's suggestion that reality is something that is found behind appearances or when appearances are seen through and his conception of ultimate reality as a reality that is not itself an appearance. 'Ultimate reality' is introduced by van Inwagen just subsequent to his example of how tables appear to be solid, while physics tells us that they are really mostly empty space. While this example might be helpful, van Inwagen does not provide any detailed account of this example and whether it might serve to establish a more modest notion of ultimate reality. Instead, such work has recently been carried out by

Nicholas Rescher in his book *Reality and it Appearances* (2010). Rescher wants to defend the view that "the idea of reality pivots on the contrast between what actually is so and what is merely— and perhaps mistakenly— thought to be so. But this is certainly not an ontological distinction; on its basis there is no distinct realm of 'authentically real things' hidden behind a 'veil of appearance.'" (Rescher 2010, 4). It is thus an attempt to establish a conception of reality that can serve as the subject matter for what Psillos calls "the metaphysics of the given" (Psillos 2011, 304). It proposes a conception of reality that would allow attempts at metaphysics to remain at our side of the veil of appearance.

Rescher begins his account with some remarks about the different unhelpful ways in which reality is contrasted with appearance. He writes:

> Reality [...] contrasts with such alternatives as:
> fiction: contrived or imaginary accounts
> fakery: imitations, spurious pretenses, illusions, "magic"/ slight of hand
> delusion: mirages, "voices"
> pretence: deceit, make-believe, seeming, merely apparent
> ersatz: synthetic, substitute
> simulacra: look-alikes (stuffed owls) (Rescher 2010, 4–5)

All of these are examples of a relation between appearance and reality. These are things or events that attempts to appear or look like another thing or event. Rescher qualifies that these are examples of how "[t]he characterization of something as real often serves simply to distinguish what is actual and authentic from that which is merely purported to be so" (Rescher 2010, 4). This, Rescher argues, does not lead us to a philosophically interesting notion of reality. Ultimate reality based on this distinction would simply be a world shed of magicians, stuffed animals, and fake leather. In Rescher's words, this is a world without that which is merely purported to be actual and authentic, and such a world is certainly a real world in a valuable sense. It would be an essential part of the upbringing of any child to teach them not to conflate these items from their real counterparts, but we can hardly regard this as a lesson in metaphysics. These are items that try to appear to be something other than what they really are. However, according to Rescher, we want our notion of reality to include everything, both that which purports to be something else, and the genuine things themselves.

Rather, to quote Rescher's positive proposal:

> In distinguishing reality from mere appearance, what is fundamentally at issue is [...] an epistemological distinction between a correct and an incorrect view of things. Properly understood, the operative contrast is thus [...] between reality (veridical and authentic phenomena included) and what is misleading or incorrect. For reality can make its appearance in different guises— sometimes correctly and sometimes not. Appearance is not something different in kind and

> nature from reality, it is how reality presents itself. And reality is not by nature something different from appearance: it sometimes— and one would hope often— actuality is what it appears to be (Rescher 2010, 6).

Rescher gives the example of a clock that might be deceptive in this epistemological manner. He writes: "Our clock looses five minutes a day. Nevertheless on two occasions of the day it will be right on time. But if this circumstance somehow blinds us to this clock's flaws, we will be much deceived" (Rescher 2010, 6). This example is very similar to van Inwagen's example of the earth only being apparently stationary while really rotating. It is "circumstances that blinds us" to reality. If we were living on the moon, it would have been quite evident that the earth is rotating. We would not even form the belief that it is stationary in the first place. In both examples reality under certain circumstances manifests[3] itself in a deceiving way, a way that make us jump to the wrong conclusion. Luckily more thorough investigation discloses these conclusions as mere appearances and reveal reality. Returning to the fiction, fakery, delusion, pretence, ersatz, and simulacra from above, getting behind the misleading appearances is exactly what we must be able to do to uncover for instance a fakery; not as a fakery of something else, but rather as what it really is as opposed to what it appears to be. Think of your simpleton friend who during a magician's show whispers: "Look, the marble came out of his ear". In response you might reply: "The marble only *appeared* to come out of his ear, it was *really* in his hand all along." Supposedly, with this you state that it is false the marble came out of his ear and true that it was in his hand all along. You might as well have replied: "No, it did not come out of his ear, it was in his hand all along." You have looked more thoroughly, and this allows you to reveal the trick. The former formulation merely serves to recognize that the appearances were deceptive. Again in the words of Rescher, the guise in which reality made its appearance was misleading. The difference between the appearance of the magician's trick and the apparent stationary earth merely seems to be that the former case has somebody in a privileged epistemic position, the magician, that allows knowledge of the deception. Even with the entire world convinced, the magician can finally reveal the trick; reality was different from how it appeared. We might give the similar metaphorical suggestion that the stationary earth is just a trick played by the big magician, who has the privileged epistemic point of view. Even when the entire world is convinced by the trick it remains a trick, because reality is not like that; the earth rotates, it is not stationary. In both circumstances reality merely manifests itself in a deceptive way such that we jump to an incorrect conclusion. Under the right circumstances reality will appear just as it is. The difference seems to be that the magician consciously manipulates the appearances of reality in such a way that they will appear deceptive, whereas it is coincidental that the earth appears stationary.

[3] 'Manifest' in this context must not be viewed as related to Wilfred Sellars' 'manifest image', though the latter also relates to discussions about different conceptions of reality.

In these stipulations we must tread carefully. A reality as that which gives rise to appearances sounds like the unwanted reality that lies behind the veil of appearances according with the proposal of an ambitious metaphysicist. This is the sort of reality that was to be avoided by a modest notion of reality: It could not appeal to the thing in itself. Rescher continuously emphasizes that the reality of his concern is not the experience-transcendent, mind-independent reality of Kant. Rescher writes:

> Reality is not a distinct realm of being standing apart and separate from the manifold of what we know in the realm of appearance. Those "appearances" will— insofar as correct— be appearances of reality that represent features thereof. And, accordingly, the contrast between Reality and Appearance is not one carried out in the ontological order of different sorts of things. The realm of appearance is homogeneous with that of reality insofar as those appearances are correct (Rescher 2010, 15).

Reality and appearances are the same sort of thing, they are not distinct ontological realms. To Rescher "the crux is not the contrast between what is and what is thought to be, but rather between what is thought correctly and what is thought incorrectly and imperfectly" (Rescher 2010, 5). To the best of our knowledge it is reality that the earth is rotating and appearance that it is stationary. These are the same thing; they belong to the same ontological real. The difference is that the former is correct and the latter is incorrect. Rescher provides a further qualification by noting how the difference between mere appearance and reality is manifest in assertions. He writes:

> That claim one makes is not a claim about appearance but a claim about reality. After all, the claim 'it appears to me that the cat is on the mat' is something quite different from— and far weaker than— the flat-out assertion that the cat is on the mat. For while factual claims may manifest how things appear to us, but they are claims about reality and not just claims about appearance (Rescher 2010, 12).

What Rescher seems to suggest here is that these factual claims *are* formed by appearances, but that they are not claims about appearances. They are claims about reality. This is only changed by the introduction of the careful qualification that there *appears* to be a cat on the mat. This careful qualification serves to convey that we are uncertain whether reality is as asserted. The assertion is "weaker", as Rescher puts it, than the assertion that the cat is on the mat. But in what sense is it weaker? Rescher explicitly proposes that the "flat-out assertion" is about reality, and one might speculate whether the former assertion is then about appearances. This would establish a distinction between appearances as the way reality manifest itself to us and reality as the origin of appearances. This interpretation finds some support in Rescher, as he writes for instance: "Why are the appearances as is? Simply because that's how reality has matters work out. We explain the appearances in

terms of reality. If reality were (sufficiently) different, then appearances would not be as they are" (Rescher 2010, 14). This suggests a picture where beliefs are formed based on appearances, but in such a way that the formed beliefs are about reality and not appearances, unless it is explicitly stated. This, however, seems to withdraw the homogeneity between appearances and reality and reintroduce the veil of appearances in front of reality. Reality becomes the mind-independent world that transcends experience. This is the reality that our assertions are about, but not the reality that forms these assertion, since this reality only manifests itself through appearances. Again this seems to be the conception of reality that Rescher wants to avoid. He writes: "There is no insuperable gap between the real and the knowable, no Kantian Ding an sich, everlastingly hidden away behind an impenetrable veil between appearance and reality" (Rescher 2010, 16). This is in tone with the previous quoted proclamation that there is no distinction between the realm of reality and appearances.

Consequently, it looks as if there is a tension in Rescher's conception of reality. On the one hand, reality is the same as appearances or at least in the same ontological realm, while on the other hand appearances are explained by reality. This tension is manifest in Rescher's previously quoted remark that "'appearances' will— insofar as correct— be appearances of reality that represent features thereof" (Rescher 2010, 15). Immediately, this again suggests that reality is behind the appearances and the origin of appearances, however, following this remark Rescher writes: "accordingly, the contrast between Reality and Appearance is not one carried out in the ontological order of different sorts of things" (Rescher 2010, 15). It must remain speculation, how the latter follows from the former. Particularly it is a mystery what the incorrect appearances are, if they are not representations of reality, but maybe this should be taken as an indication that the verb 'represent' misleads us. Representation is found between for instance designator and designated which most certainly belong to different ontological realms. I think the only way for Rescher to avoid the Kantian thing in itself is to abandon the conception of reality as something that is represented, unless representation and represented can be one and the same. As soon as the appearances are placed in front of reality, the veil of appearances follows. Thus, the appearances must be reality. Rescher seems to consent to this when he writes: "Appearance [...] can/will encompass that sector of reality which presents itself to us as it indeed is— albeit only in point since reals will, and invariably must, have features that experience does not make manifest" (Rescher 2010, 11). Every appearance is a part of reality as required. When Rescher proposes that appearances "represent" reality, this is in the same way as the near side of the moon represents the whole moon. The near side of the moon is part of the moon, but there is more to the moon. According to this reading of Rescher, appearances stand in such a relation to reality. However, Rescher clearly states that it is only the correct appearances that represent features of reality and that these appearances will only "encompass" a sector of reality. Parts of reality are identical to parts of the appearances, the subset of appearances that are correct appearances. However, what are then the incorrect appearances and the parts of reality that are not in this encompassed sector? What are these if not distinct ontological realms?

Rescher is particularly insistent on the unavailability of parts of reality. There are parts of reality that cannot be an appearance because the "reals" will "have features that experience does not make manifest". Rescher qualifies this remark: "The nature of things reaches beyond experience because the things that experience leads us to accept as real are invariably seen as having features that experience does not reveal" (Rescher 2010, 10–11). How can features of reality that are "beyond experience" avoid the status as a transcendent reality, as features that cannot belong anywhere but in the thing in itself? And how can incorrect appearances be part of reality if they do not represent reality or alternatively, if they are not part of reality, how can they be in the same ontological realm as reality?

Both questions suggest that Rescher once again brings himself on shaky grounds. If we consider van Inwagen's example with the stationary earth, the first question is what the stationary earth is if not reality? Certainly, the earth is not stationary. We have throughout recognized that the earth only appears to be stationary, but that it is really rotating. It is incorrect to believe that the earth is stationary. The appearance of the stationary earth is just the rotating earth. It is a very essential aspect of changing ones belief that the new belief can make sense of all the appearances. In this way, the appearance of a star might be the international space station, because revelations from further investigations render the belief that it is a star incorrect and rather suggest the belief that it is the international space station. The appearance of a star is simply a particular manifestation of the international space station. When we alter our belief that the earth is stationary and believe instead that the earth is rotating, we change our belief about the reality that includes all appearances. Now, Rescher's other remark suggests that there must be more to the rotating earth than what can appear. This is not a claim about the past. Rescher does not argue that the rotating earth also includes potential appearances that have not yet manifested themselves to anyone, rather, reals are "having features that experience does not reveal". His motivation for the introduction of this experience-transcending aspect to reality is apparently to accommodate what he calls "the salient idea of realism [...] that the existence and nature of the world are matters distinct from anyone's thinking about it" (Rescher 2010, 10). Once again this seems to threaten his insistence that the appearances and reality belong to the same ontological realm.

This "salient idea of realism" is easily accommodated by a robust conception of reality as the thing in itself, and Rescher's move to suggest that reality is more than what experience can reveal seems to introduce a substance or essence to reality that is not found in any of its appearances. They are found in a distinct ontological realm, perhaps the thing in itself. The only way to avoid this conclusion is to emphasize that it is us who conceive of reality and in such a way that the "real [things] are invariably *seen* as having features that experience does not reveal" (Rescher 2010, 10–11, my emphasis). These features that reality does not reveal is our invariable abstraction. There is always more to reality than its appearances, however, this does not require that there are features of reality that are beyond experience as such.

We just expect there to be more reality no matter the degree to which we have investigated. Further investigation will always reveal new appearances and thereby more reality. These further appearances might be consistent with our beliefs about reality and this is supposedly what we mean when we say that it is correct that the earth is rotating. There is more to the rotating earth than our previous experiences with it, but when we say that the earth is rotating this is not supposed to be correct of the earth as it is beyond all experiences. It is merely supposed to be consistent with all the earth's possible appearances; possibilities that we, supposedly. invariably regard as never exhausted. When we say that the earth is rotating we are asserting something about all actual and possible appearances. This accommodates the salient idea of realism in so far as our change of belief regarding the earth's rotation is not induced by a change in reality. Reality was such all along because reality is both the actual and the possible appearances. What this modest conception of reality cannot allow is a conception of reality as something out there transcending our possible experience: this would be a reality like the thing in itself. In comparison, modest reality can merely be the reality of that which is believed correctly. It is the reality of all actual and possible appearances; even the misleading appearances are aspects of this reality though we might form incorrect beliefs about reality from them.

In summary, when Rescher proposes that correct appearances represent reality, this is perhaps in contrast to the incorrect appearances, which are misleading. All appearances are reality, but some of the appearances mislead us into forming incorrect beliefs about reality, that is, about the appearances themselves. In this sense, it is incorrect to say that such a reality manifests itself. Reality *is* the manifestations, however, these can be misleading, something that more thorough investigation will uncover. The difference between the assertion 'The cat is on the mat' and the assertion 'The cat appears to be on the mat' is not due to them being about reality and appearances, respectively. In order for this modest conception of reality to be coherent, they must assert the same and 'appears' can merely serve to emphasize how certain we are that the assertion is correct. They are both about reality and both about appearances because these are the same, they are not ontologically distinct.

This raises the question of how we can possibly be wrong about reality. How is it possible to form incorrect beliefs about reality if reality is the appearances based on which a belief is formed? If we merely assert how things appear to us, then we cannot possibly we wrong. Again it is fruitful to return to van Inwagen's example of the earth. It is incorrect to believe that the earth is stationary also under circumstances in which it appears to be stationary. With an ambitious conception of reality, it is easy to explain why this incorrect. It is simply because the earth is really rotating and not stationary out there in the thing in itself beyond the veil of appearance. Proponents of the modest conception of reality must provide another explanation, and the sketch of this emerges when it is recognized that it is further investigation which reveals that the earth is really rotating. The appearances that are revealed by these further investigations are incompatible with a stationary earth, while they

are accommodated by a rotating earth. One might worry that this implies that the earth went from stationary to rotating once these further investigations were conducted: this of course would be worrisome. However, this problem dissipates once we recognize that it is not our beliefs that constitute reality. It is the appearances. We come to alter our belief because a new explanation is provided that can make sense of all the appearances, both the old and the new. Reality turns out to be different from how we believed it to be. Our previous belief was founded on misleading appearances in the sense that the available appearances underdetermined the belief that the earth is stationary and the belief that the earth is rotating. Our beliefs must be evaluated with respect to all actual and possible appearances. This is what our beliefs can be correct about and consequently, this is reality. This nicely eliminates the subjective aspect, which is threatening if reality is constituted by our respective beliefs. In so far as we believe other people's reports, their reports have to fit into our beliefs about reality. Particularly, we have good reason to believe reports from carefully conducted, reproducible experiments and consequently these must be accommodated by our beliefs about reality. These are exemplars of our most thorough investigation. This in turn ensures that even this modest reality at least acquires intersubjective validity.

This reality is not the Kantian thing in itself. It is the reality of actual and possible appearances that is continuously uncovered by ever more thorough investigation. Every appearance is a part of this reality and consequently, every appearance must be accounted for by our beliefs about reality. This reality could as well be called 'ultimate reality'. It is the reality we ultimately come to believe in when we have conducted our investigation thoroughly enough. This belief has reality right and will remain unaltered even when we attempt to look more thoroughly. In this sense it is the reality behind all the appearances even though it is also just these appearances. It is the reality we come to believe in when we have replaced all the beliefs that we formed from misleading appearances. When we say that the earth appears stationary, but that it is really rotating, Rescher continuously emphasizes, correctly I think, that we are not asserting how matters are in the appearances as compared to how they really are in the thing in itself. Rather, we simply say that we are incorrect to believe that the earth is stationary and correct to believe that the earth is rotating. We are correct to believe this because more thorough investigation reveal that a rotating earth is consistent with all appearances. The problem for Rescher is that he cannot regard this as an inference from appearances to the reality of things, if the latter is a different ontological realm. Rather, he must regard the appearances as the reality and therefore, an adequate paraphrase of 'the earth appears stationary, but is really rotating' is perhaps: 'circumstances mislead us to form the belief that the earth is rotating, but more thorough investigation revealed that it is stationary'. This seems to better capture what Rescher has called the crux of his distinction between 'appearance' and 'reality', namely, what is thought correctly and what is thought incorrectly, rather than the distinction between what there really is in contrast to what we think there is (Rescher 2010, 5). Indeed, avoiding terms related to 'appearance' and 'reality' *averts* the confusion of the two conceptions of reality. As argued, this confusion easily

arises, and even Rescher seems to shift from the distinction between misleading appearances and straightforward appearances into the more philosophically familiar distinction between appearances in a world of phenomena and reality as the thing in itself. I suspect this is a general tendency; our daily discourse rarely and unproblematically speaks of anything else than modest reality, but our philosophical discussions have such a character that they easily invoke a notion of reality that is at least very difficult to accommodate as a modest reality, and which is very similar to the thing in itself.

Importantly, this modest conception of reality does not imply that there is a tension between science and everyday experience. Indeed, it is well known how Quine (1969b) among others has argued that scientific investigations are continuous with those of our everyday life. Rescher seems to agree with this point when he writes: "science and common life [...] neither deal with different realms of being, nor yet is one of them reality-oriented and the other mere illusion. In ordinary life and science we emphatically do not address different realities or different modes of being" (Rescher 2010, 86). Supposedly, science is exactly the sort of closer investigation that helps us form the correct and avoid the incorrect beliefs. Science is the most rigorous and detailed example of investigation that reveals appearances and consequently, it is largely science that fuels the continued revelation of novel appearances, i.e. it is that which uncovers new features of reality. Viewed in this way there cannot be a conflict between the reality of everyday life and science because the appearances of everyday life and science belong to the same reality. There can be a conflict between science and the beliefs formed from everyday appearances, since these appearances might be misleading in such a way that we form an incorrect conclusion.

In summary, this reading of Rescher proposes a modest conception of reality that will be called 'empirical reality'. It is the reality of actual and possible appearances whose aspects are particularly exposed by our state of the art scientific experiments. It is supposedly the reality that we speak of when we say 'the cat is on the mat'. Saying this, we assert that more thorough investigation – moving closer, walking around the mat – will continue to reveal that the cat is indeed on the mat. I consider empirical reality to be a perfectly coherent conception of reality, but the question of interest here is whether it can accommodate a metaphysics, such that one might propose that the discussions taking place in contemporary analytic metaphysics are attempts at asserting something about this empirical reality.

### 2.1.5 Can empirical reality accommodate metaphysics?

With the proposed conception of a modest reality as empirical reality, the question is whether this reality can accommodate metaphysics. Is it sensible to propose that contemporary analytic metaphysicists attempts to make assertions about this reality? Can there be a metaphysics of the actual and possible appearances? A metaphysics of the given.

Rescher is optimistic that his conception of reality will accommodate a range of straight-

forwardly existing entities. These are "things in space and time in the manner of trees, dogs, and automobiles" (Rescher 2010, 8). It is not clear what sort of work space and time does here. Perhaps the reference to space and time is a reminiscence of a Kantian idealism, manifested in the presupposition that all appearances must be in space and time, or it might just serve to facilitate our recognition of the sort of entities whose existence is unproblematic according to Rescher.

Conceiving of reality as empirical reality, there is certainly a sense in which the existence of trees, dogs, and automobiles is straightforward, at least if sentences such as 'There is an $x$' can serve as a proxy for whether $x$ is actually existing. In so far as unqualified assertions in general are about empirical reality as already argued, then it is very difficult to provide an interpretation of 'There is an $x$' that does not imply the existence of $x$ and thereby commit us to include $x$ in our ontology. We must not, however, be misled by the terminology here. Returning to the heap example, when we say 'There is a heap', this is a claim about empirical reality in the sense that such claims commit us to the expectation that further investigations will be consistent with this claim. When it is correct to say 'There is a heap', this means that we will continue to retain this belief even when more thorough investigation is undertaken. If we were unsure about whether this would be the case, it would be more appropriate to say 'There appears to be a heap'. As Rescher has emphasized, these are not statements about different ontological realms. Their difference is merely epistemological. Consequently, to say that the heap actually exists in such a reality, is to say that all actual and possible appearances support it such that we would evaluate the claim 'There is a heap' as correct about these appearances. The heap is not an illusion. We are not misled by circumstances to believe that there is a heap. The heap is really there, it actually exists as opposed to apparently exists. Again this cannot be an ontological difference, instead it must be an epistemological difference. The entities whose existence is straightforward are the entities found in assertions of the type 'There is an $x$', whose correctness withstands further investigation of the entity. This is what differentiates that which actually exists from only apparently existing entities. They are apparently existing in the sense that further investigation will expose that it is incorrect to believe in the existence of these entities. This is not meant in the sense that they exist in the appearances but not in reality. Appearances are reality; it is just that certain aspects of an entity can make us infer an incorrect conclusion due to underdetermination of reality by the available appearances even though these are themselves part of reality. Consequently, the ontology of straightforwardly existing entities is the ontology of thorough investigation. This is the most there can be to the ontology of modest reality.

I doubt that it is the straightforwardly existing entities that are the interest of contemporary analytical metaphysics. Indeed, the mode of questioning found in this tradition implies that they exactly want to move beyond this first order ontology. Let us consider a friend who says 'There is a heap' while pointing at something heap-like. This assertion is about empirical

reality if we understand the claim to be that closer investigation will also confirm that there is a heap. Now, we indeed find that more thorough investigation, for instance walking around the heap, reveals that she seems to be correct; there is a heap. Moving closer to the heap we notice that it is made of hay: this raises our suspicion. Returning to our friend we ask her: 'Are you saying that there really is a heap or just that there is hay arranged heapwise?' Our friend will probably be baffled by the question. There is certainly a very straightforward way in which the heap is constituted by the hay. Without the hay this particular heap would not be there. This can all be revealed by close investigation. Removing the hay one straw at a time until all of it is gone will make the heap disappear. Indeed, there are good reasons to suspect that this is a general feature of heaps made of hay. Removing the hay will remove the heap. As a metaphysically inclined interrogator we will agree to all of this. Indeed, this is the origin of the problem. We might even argue that it is exactly because heaps of hay disappear if the hay is removed that one could suspect that the heap is not really there and that it instead is only hay arranged heapwise. Our friend will maybe reply something like, 'I would say that there is a heap'. This, however, will not satisfy a metaphysical interrogator. The metaphysical question 'Is there really a heap when there is hay arranged heapwise?' is not a question about the way we speak. Lowe very directly address the proposal that such questions might be concerned only with our manners of speaking when he emphasises that he has very little regard for a conception of metaphysics as "our currently accepted ways of talking about what we unreflectively take to be certain general features of the world we live in" (Lowe 1998, 2). He writes: "let us not pretend that in doing so we would be doing anything worth dignifying by the name 'metaphysics'" (Lowe 1998, 2). Instead, van Inwagen, Blackburn, and Lowe propose that such questions are about the general features of ultimate reality. Is ultimate reality such that there generally is a heap under such circumstances where hay is arranged heapwise?

If ultimate reality is empirical reality, then the interrogator supposedly asks whether closer investigation will indeed continue to find a heap there or whether it is the circumstances that mislead us to form the belief that there is a heap, and that closer investigation will reveal reality to be otherwise analogous to the earth appearing to be stationary while really rotating. In the latter case, deceiving appearances due to certain circumstances made us jump to the conclusion that the earth is stationary even though the appearances and therefore reality were underdetermined with respect to whether the earth is stationary or rotating. When we find that there is a heap, is it similarly because hay appears in a deceiving way such that we jump to the conclusion that there is a heap? Certainly, it is underdetermined when we look at the heap at a distance whether there is a heap or whether there is just hay arranged heapwise. However, even closer inspection does not decide between these two alternatives. In fact, it will be very surprising if any sort of closer investigation of the heap will reveal whether there really is a heap or just hay arranged heapwise.

The same problem seems to arise when it comes to other questions found in contemporary

analytic metaphysics. It is difficult to see how discussions about abstract entities, for instance numbers, can be regarded as attempts to discuss whether closer investigation of them will reveal them to exist or not. This is not to say that closer investigation cannot reveal whether there are 8 planets orbiting the sun. Closer investigation might reveal appearances that are inconsistent with the belief that there are 8 planets orbiting the sun. The existence of the abstract entities, *numbers*, is another matter. There are no possible appearances of these. No closer investigation of any phenomena will reveal whether it is correct to believe that there are numbers, at least straightforwardly. Indeed, in empirical reality where entities are their appearances, entities that are unobservable are very difficult to conceive of; this must be the case for all unobservables presumably including the so called theoretical entities of science. Any discussion about the existence of such entities is not only unresolvable in empirical reality. If reality is all actual and possible appearances then it is difficult to conceive how one might even make sense of the question of whether abstract or unobservable entities exist. The question is not only underdetermined, it is meaningless.

In general, there seems to be no way in which one can make sense of such questions as questions about empirical reality. When we ask whether there really is a heap or just hay arranged heapwise the question is asked in another mode than when we ask whether the earth is stationary or rotating. The latter is a question about what will prove to be the case when we investigate the matter closer and under different circumstances. The former appears to be an attempt at a question that transcends empirical reality. Where 'really' in 'It is really rotating' serves to emphasize that 'It is rotating' is correct even though it might appear to be otherwise, 'really' in 'Is there really a heap?' signifies another mode of speech. The question is not similar to 'Is there really a cat on the mat?' when such a question is asked in everyday discourse. Whether there really is a cat on the mat is perfectly sensible as a question about empirical reality. Will further investigation reveal that there is a cat on the mat, or will it reveal that it was only something that looked like a cat? On the other hand, the metaphysicists are not asking whether it is a heap or only something that looks like a heap, at least not in any ordinary sense. The alternative – that it is hay arranged heapwise – is not something that can or is expected to be revealed by more thorough investigation. The use of 'really' in metaphysical discussions serves to change what reality the question is asked about, away from empirical reality.

### 2.1.6 A modest realist's reality

Consequently, to avoid that the reality of metaphysical discussions should be the world in itself and thereby to avoid ambitious conditions for metaphysics, an alternative and richer conception of modest reality must be developed. Again we can follow Rescher's proposal for such a conception of reality.

Rescher is optimistic that his modest conception of reality can be expanded with a quite

rich ontology. He writes:

> So— what is it to be real, actually to exist? In addressing this question it seems sensible to begin with the straightforward existence of things in space and time in the manner of trees, dogs, and automobiles. And we then thus proceed reiteratively somewhat as follows, specifying that something exists if
>
> 1. it exists unproblematically in the just-specified manner of playing an active causal role in this real world of ours in which our life and our experience unfolds, or else
>
> 2. if it is something whose actual existence must be invoked in providing a satisfactory explanatory account of the features of something that exists. (And here it does not matter if the explanatory account at issue is efficiently causal, or functionally finalistic, or conceptually explicative.) (Rescher 2010, 8).

Following this scheme, our ontology consists of two types of entities. First, there are those entities whose existence is inferred from their active causal role in our life world. According to Rescher, it is in this sense that that trees, dogs, automobiles, and supposedly also heaps are straightforwardly existing. The ontology can then be expanded iteratively with a second category of entities that gives a satisfactorily explanatory account for entities that are already part of our ontology. Supposedly, the second category might include unobservable entities and even abstract entities as long as they are satisfactorily explanatory. Thus, our ontology will consist of the straightforwardly existing entities, and then a hierarchy of inferred entities, which are not themselves straightforwardly existing. This seems very similar to what Stathis Psillos (2011) calls "the realist framework". He writes:

> The realist framework, as I would put the matter, is the framework that posits entities as constituents of the commonsensical entities and relies on them and their properties for the explanation and prediction of the laws and the properties of commonsensical entities. Accordingly, the realist framework is an explanatory framework, viz., a framework of explanatory posits (Psillos 2011, 303).

Though the details might be different, Rescher's second category of entities is similar to the entities of Psillos' realist framework. Both posit entities if they play a satisfactorily explanatory role in the explanation of what Psillos calls commonsensical entities, supposedly the same entities as Rescher's straightforwardly existing entities. The difference lies in what they take to be satisfactorily explanatory. Here Rescher seems to be more open-minded than Psillos' realist, as Rescher writes in the quote above: "it does not matter if the explanatory account at issue is efficiently causal, or functionally finalistic, or conceptually explicative" (Rescher 2010, 8).

Psillos argues that the realists posit the new entities using a Quine-Putnam style indispensability argument. In the case of Putnam and Quine, the argument is that we should be ontologically committed to entities, in Putnam's case mathematical objects, that are

indispensable to our best sciences.[4] The argument, as Psillos analyses it (Psillos 2011, 309), takes the form of a universal modus ponens. The first premise is an implication that gives the conditions that an entity must meet to be real or existing. The second premise asserts that some entity or type of entity satisfies those conditions. From this it is concluded that the entity or type of entity is real. Psillos suggests a variant of the argument for microscopic constituents of macroscopic objects which he attributes to Herbert Feigl (1950) and which involves no direct reference to our sciences. Psillos writes:

> Positing microscopic constituents of gross objects is indispensable for having a causally-nomologically coherent image of the world (viz., a simple and unified system of causal laws).
> To be an indispensable element of the causally-nomologically coherent image of the world is to be real.
> Therefore, the microscopic constituents of gross objects are real (Psillos 2011, 309).

In so far as the real objects are the entities that exist, this argument proposes a scheme to infer what entities exist based on their indispensability in "the causally-nomologically coherent image of the world". This particular argument is designed to infer the existence of microscopic constituents of gross objects, however, the second premise states that any element that is causally-nomologically indispensable in a coherent image of the world is real; the microscopic constituents are just examples of such entities. As suggested, Rescher is more open-minded when it comes to which explanatory roles allow an inference to the existence of an entity. Also, Rescher does not explicitly require that these entities are indispensable in explanations, but just that they are satisfactorily explanatory in one of the ways mentioned above. Indispensability is supposedly the strongest sense of satisfactory and Rescher might indeed accept something less than indispensability. However, Rescher's overall argumentative scheme must be the same as in the indispensability argument. An assumption is made regarding what conditions must be adhered to if an entity is to be real or existing, and then the existence of entities is inferred from their adherence to those conditions. Psillos' formulation of the indispensability argument only differs from Rescher's scheme by being more conservative. It requires indispensability and only accepts causal-nomological explanations, which must be similar to what Rescher calls efficiently causal explanations.

The duality between Rescher's scheme and Psillos' account of the indispensability argument is interesting because Psillos worries what this argument can establish. Particularly, he is interested in the content and support of the second premise, that indispensable entities are real, he writes: "How and why is indispensability a criterion of reality?" (Psillos 2011, 309). Similarly, we can ask how and why "a satisfactory explanation of something existing" is a criterion for reality or existence. If a satisfactory answer cannot be provided for the

[4] I will return to Quine's variant of the argument in section 2.2.

former question, and if this view can be seen as the more conservative, then we should have good reasons to suspect that a satisfactory answer will be similarly unavailable for Rescher's scheme. The second premise in Psillos' indispensability argument displays the conviction that real or existing entities are all those that are indispensable in the relevant sense. It is the crux of (scientific) realism; certain theoretical entities are real, exactly because they meet this condition. Scientific realism is often supported by the well known 'no miracles argument' originally due to Putnam (and following him Boyd, and Psillos himself) (Psillos 2011, 311). This argument infers realism as the best explanation for the success of science. Psillos writes: "the overarching common thought was that realism (as a theory) gets supported by the relevant evidence (the success of science) in the very same way in which first-order scientific theories get supported by the relevant evidence" (Psillos 2011, 311). Psillos, however, remarks that he has changed his opinion with regard to the no miracles argument. He points out that the argument presupposes that the success of science can be evidence that realism is a correct theory. Realism is indispensable for the explanation of this success and therefore we should be committed to realism, Psillos writes: "For the no-miracles argument to work at all it is presupposed that explanation – and in particular explanation by postulation – matters and that scientific theories should be assessed and evaluated on explanatory ground" (Psillos 2011, 312) and he concludes: " [The no miracles argument] presupposes rather than establishes the realist frame" (Psillos 2011, 312). For the no miracles argument to work realism must be presupposed. Indeed, according to Psillos realism must be in place before we can evaluate any theory by its indispensability. Therefore, realism cannot be a theory and particularly we cannot regard it as a true theory about reality; no argument can establish realism since the evaluation of realism in the no miracles argument requires realism to be in place already. Instead, realism must be a framework, and Psillos emphasize "that the realist framework is not forced on us either by a priori reasoning or by any empirical facts" (Psillos 2011, 311). This implies that "[o]ne can, of course, deny the framework and adopt a different one, viz., a fictionalist one" (Psillos 2011, 312), adopting a framework is a matter of choice that must be settled on pragmatic grounds. Psillos emphasizes that relative to aims such as causally-nomologically coherence there is no framework that rivals realism, however, realism remains a framework whose adoption is not forced upon us. Realism is simply the best framework in which to achieve certain aims.

The choice of a framework settles what Psillos calls "the ontic question" about what sort of entities are candidates for membership of our ontology. About the adoption of the realist framework, he writes that: "there is no ultimate argument for the adoption of the realist framework. [...] [O]ntic questions are framework-questions and are not dealt with in the same way in which questions about the reality of ordinary entities (be they stones or electrons) are dealt with – the ontic framework must already be in place before questions about the reality of specific entities are raised" (Psillos 2011, 303). Once the ontic framework is in place, i.e. once it is settled by a criterion of reality what possibly exists, then there are substantial questions regarding what entities exist and such question must supposedly

be settled empirically. But what ontic framework to prefer is a pragmatic question, and an unforced choice. A change in framework will in general imply a change in ontology, since the possible members of the ontology change with the framework due the change of the criterion of reality. Ontology is not robust, it is conventional. There is no correct ontology prior to the adoption of a framework.

Returning to Rescher, he attempts to build a reality with a richer ontology by an iterative scheme that shares many similarities with an indispensability argument. Crucially, both his scheme and the indispensability argument relies on a criterion of reality. It is this criterion that is conventional, according to Psillos: the adoption of a particular criterion involves the unforced adoption of a particular framework. One is free to adopt another framework which would result in a different ontology. The ontology depends on what we consider to be real and this is a convention; it cannot be a theory. Once again, this gives us a metaphysics or in this case more precisely an ontology that is about our chosen ways of talking rather that about general features of ultimate reality. As proclaimed by Lowe, investigations into "our currently accepted ways of talking" (Lowe 1998, 2) is not something "worth dignifying by the name 'metaphysics'" (Lowe 1998, 2).

There is an objection to Psillos' account that could suggest a way out of this framework relativism. When he states what aims make the realist framework preferable, he writes that:

> the adoption of the scientific realist framework is based on the indispensability of theoretical entities for the explanation of observable phenomena and for achieving maximum causal and nomological coherence in our image of the world [...]. Relative to these aims, there is simply no framework that can do a better job at achieving them than the realist one (Psillos 2011, 313).

It is more practical to assume the realist framework in "the explanation of observable phenomena" and to make a causally-nomologically coherent image of the world. Interestingly, "the world" and "the observable phenomena" are already there when Psillos adopts the realist framework. When Psillos adopts the realist framework it has already been settled that there are observable phenomena and a world (perhaps consisting of these observable phenomena). This problem is already implicit in Psillos formulation of the realist framework as a "framework that posits entities as constituents of the commonsensical entities" (Psillos 2011, 303). Again, the commonsensical entities are already there. These are what realism makes sense of by positing constituents. These observable phenomena, this world, and these commonsensical entities are real prior to the adoption of the realist framework. Perhaps this reality can serve as a modest conception of reality.

It must remain speculation how Psillos conceives of this apparently framework-independent reality, however, Psillos stipulations that it is the observable phenomena that are prior to

the adoption of the realist framework seems to indicate that the obvious candidate for this reality preceding the adoption of the realist framework is the developed empirical reality; the reality of all actual and possible appearances. This is the reality that serves as evidence once a framework is adopted, and which determines the ontology based on the operative criterion of reality. The primitiveness of appearances is an idea that we find among British empiricists such as Locke and Hume, and the same idea seems to be driving the different variants of the verificationalist principle of meaning. However, nothing is achieved for the modest conception of reality if empirical reality is reinstated as a privileged reality, i.e. as something in place prior to the adoption of any framework. As I have argued, empirical reality cannot accommodate any substantive metaphysics.

Instead, granting a privileged position to empirical reality merely serves to emphasize that any framework-dependent ontology is merely a conceptual convention. Within this picture, frameworks are simply different ways to say the same or to talk about the same thing. They are different conceptual systems. Frameworks do not constitute reality, rather, they are introduced to expand reality. Psillos attributes the following view to Herbert Feigl (1950): "the adoption of the realist frame is, ultimately, a matter of convention: it is based on a decision to expand the conceptual framework through which we theorise about the world" (Psillos 2011, 308). This is very different from the adoption being a convention simpliciter. Different frameworks are different ways to carry out this expansion, and which of them to adopt is a convention. The expanded part of the ontology is conventional and added to the ontology already in place when a framework is adopted. With this conception of frameworks words such as 'real' and 'existing' must have two distinct meanings. One for those commonsensical entities whose existence is presumed in the introduction of frameworks, and then another for the framework-dependent meaning that should be used about the expanded parts of the ontology. These two parts of ontology share nothing but these signifiers. If this is indeed the correct conception of frameworks it would perhaps be instructive to propose that frameworks introduce conceptual schemes, to reserve the term 'reality' to the realm of the commonsensical entities, and to restrict 'existing' and 'real' to refer to those entities. This conceptual scheme is exactly an expansion of the conceptual framework and though these different expansions will refer to entities, the ontological commitment to these entities differs from the commitment that we should have to the commonsensical entities. In this sense, the conceptual expansion cannot serve as an ontological expansion.

This poses a dilemma to those who might entertain the idea that the attempts at metaphysics in contemporary analytic metaphysics might be attempts at assertions about a reality that is not identified with the Kantian thing in itself. Both horns of this dilemma are unattractive. In the first horn, one ends up in framework relativism with the consequence that metaphysics depends on the unforced choice of framework. Any true assertions about the general features of such a reality would mirror this choice of framework and not the way things really are. Referring to a framework-independent way things could be would either appeal to the

unavailable thing in itself or the second horn of the dilemma: Empirical reality. This is the reality of all actual and possible appearances. It appears to be a coherent conception of reality that does not introduce any veil of appearances between distinct ontological realms, however, as argued this reality is not rich enough to accommodate the discussions found in contemporary analytical metaphysics. When it is argued that metaphysicists' attempts at metaphysics are attempts at assertions about the general features of ultimate reality, then this reality must be the Kantian thing in itself: there is no other reality available.

Rescher is probably right that in our everyday discourse 'There appears to be a cat on the mat' and 'There is a cat on the mat' are not assertion about different ontological realm. The same is the case when we say 'The earth appears to be stationary, but it is really rotating'. The difference in both cases is epistemological. However, when we enter what van Inwagen calls 'the ontology room' we change the mode in which assertions are made. When a nominalist asks 'Is there really a heap or are there just hay (particles) arranged heapwise', she knows very well that most people will say that there is a heap when there are hay arranged heapwise. In this question 'really' indicates that we have changed the ontological realm of the discourse from the empirical reality to the world in itself. This is the world that contemporary analytic metaphysics attempts to assert something about. It is a necessary condition for metaphysics as we will understand it that its assertions are about the thing in itself. This condition is adopted because there are no other conceptions of reality available that are rich enough, and I will argue in section 2.3 that there are indications that the proponents of naturalized metaphysics share this view of the aim of metaphysics. There are probably more conditions that must be met for something to be an answer to how metaphysics can be possible, however, as we will see it is this particular condition that proves to be equally difficult to meet for metaphysics and naturalized metaphysics in the light of Carnap's challenge, and thereby showing that naturalized metaphysics is not an answer to how metaphysics can be possible.

## 2.2 Naturalized metaphysics

The previous section explicates what naturalized metaphysics is an answer to, when it is proposed that naturalized metaphysics answers how metaphysics is possible. As an answer, naturalized metaphysics should at least instruct how to succeed at attempts to make assertions about the thing in itself.

The present section will then seek to investigate this answer. The main task will therefore be to settle what naturalized metaphysics is. With this explication, it will be clear what instruction naturalized metaphysics suggests for the attempts to succeed at metaphysics i.e. what instruction the present projects concludes is unhelpful with respect to Carnap's challenge for anyone attempting to assert something about the thing in itself.

### 2.2.1 Naturalism

In the introduction to their anthology *Naturalism in Question* (2004), Mario De Caro and David Macarthur declare that, "[a]n overwhelming majority of contemporary Anglo-American philosophers claim to be 'naturalists' or to be offering a 'naturalistic' theory of key concepts (say, knowledge) or domain (for example, ethical discourse)" (De Caro and Macarthur 2004, 2). This view is supported by Hilary Putnam (2004), who writes: "philosophers – perhaps even the majority of all the philosophers writing about issues in metaphysics, epistemology, philosophy of mind, and philosophy of language – announce in one or another conspicuous place in their essays and books that they are 'naturalists' that the view or account being defended is a 'naturalist' one" (Putnam 2004, 59). While it would be an immense task to verify this claim, it can at least be confirmed from paper titles alone that almost any part of philosophy has in recent years been subject to a naturalization: Phenomenology (Pachoud 1999), intentionality (Millikan 2000), action (Nanay 2014), the mind (Dretske 1995), aesthetics (McMahon 2007), semantics (Loewer 1997), ethics (Slote 1992), meta-ethics (Zimmerman 1980), reasons (Dennett 2013), skepticism (Higginbotham 1992), natural kinds (Ali Khalidi 2013), and most notably perhaps epistemology (Quine 1969a) (for an overview see for instance Kornblith (1994)). This should make it an easy task to investigate what a naturalism is, and what a naturalization amounts to, however, Macarthur and De Caro remarks in continuation of the above that "[n]aturalism has become a slogan in the name of which the vast majority of analytic philosophy is pursued, and its pre-eminent status can perhaps be appreciated in how little energy is spend in explicitly defining what is meant by scientific naturalism" (De Caro and Macarthur 2004, 2). This indicates a tale of naturalism, as a position that has been overwhelmed by its own success; this to a degree such that most philosophers no longer address, and explicate the content of their naturalism. Polemically, about these invocations of naturalism Putnam writes the following,

> this announcement, in its placing and emphasis, resembles the placing of the announcement in articles written in Stalin's Soviet Union that the view was in agreement with Comrade Stalin's; as in the case of the latter announcement, it is supposed to be clear that any view that is not 'naturalist' (not in agreement with Comrade Stalin's) is anathema, and could not possible be correct. A further very common feature is that, as a rule, 'naturalism' is not *defined* (Putnam 2004, 59, emphasis in original).

This raises the suspicion that naturalism is perhaps nothing but a slogan. Perhaps there is no singular position behind the name.

To some degree this suspicion appears to be entitled. In the entry "Naturalism" in *The Internet Encyclopedia of Philosophy*, Jan Jacobs writes: "'Naturalism' is a term that is applied to many doctrines and positions in philosophy, and in fact, just how it is to be defined is itself a matter of philosophical debate" (Jacobs 2015). A similar remark is made

by David Papineau in entry "Naturalism" in *Stanford Encyclopedia of Philosophy*, he writes: "The term 'naturalism' has no very precise meaning in contemporary philosophy" (Papineau 2015). This suspicion will indeed be confirmed below, a range of attitudes can all rightfully claim to be naturalistic. Thus, it will be the task below to settle which of these attitudes that are shared between the works claimed to belong to naturalized metaphysics.

### 2.2.2 Non-supernaturalism

A very often-cited explication of naturalism is what can be called 'non-supernaturalim'. According to Barry Stroud (2004) this is the most intuitive conception of naturalism. Stroud, suggests that "the first thing to do with naturalism, as with any philosophical doctrine or 'ism,' is to ask what it is *against*" (Stroud 1996, 44, emphasis in original). Just considering the term 'naturalism', the obvious suggestion would be that naturalism is against unnaturalism. Naturalism is simply the doctrine that everything is natural. Stroud puts this suggestion in the following way: "naturalism says that there is nothing, or that nothing is so, except what holds in nature, in the natural world" (Stroud 1996, 44). Stroud recognizes that this formulation is not very informative, but argues that even such a vague account of naturalism exposes that naturalism excludes certain entities that people have believed in. Stroud writes: "Naturalism on any reading is opposed to supernaturalism" (Stroud 1996, 44). Similarly, Phillip Pettit (1992) writes: "Naturalism imposes a constraint on what there can be, stipulating that there are no nonnatural or unnatural, praeternatural or supernatural, entities" (Pettit 1992, 245). Naturalism on this conception is a doctrine specifying allowable ontologies. Non-supernaturalism proclaims that there are certain entities, supernatural or non-natural entities, which cannot be included in any ontology.

Finn Collin (2011) gives a similar account of naturalism: "Naturalism, in the broadest sense of the word, is the view that the sum total of reality is coextensive with nature and that, as a consequence, human knowledge has no object beyond the natural realm" (Collin 2011, 1). According to Collin, it follows from this view that "[t]here is no higher, transcendent sphere; in particular, the human mind (or "soul") does not itself inhabit any such higher realm, nor does any aspect of man's activities or thoughts bring him in contact with such higher spheres" (Collin 2011, 1). There are no supernatural entities. The human mind must like everything else, belong to the natural realm.

Also, Jan Faye (2012) proposes similar conception of naturalism, however, Faye's explication is interestingly given in terms of restrictions to acceptable explanations, he proposes "that everything that happens in nature is a result of nature's own causal powers, and that everything should and could be explained according to these powers" (Faye 2012, 73). On Faye's view, naturalism is closed on itself. We should not introduce non-natural entities and powers to explain that which happens in nature, and in this sense the closure is an explanatory closure.

The difference between Faye's and Collin's explications mirrors a distinction that is often drawn between metaphysical naturalism and methodological naturalism. Metaphysical naturalism[5]is explicated as the claim that there are no supernatural entities (Draper 2005; Rea 2002; Ruse 2013). In so far as supernatural entities are non-natural entities, metaphysical naturalism can equivalently be explicated as the claim that all that exists is natural. Geert Keil (2008) suggests a similar explication, when he writes: "Metaphysical naturalism can be described by the sayings 'Nature includes everything,' 'everything is natural,' and 'Everything is part of the natural world' (Keil 2008, 264). Metaphysical naturalism is identical to the naturalism explicated by Stroud, Petit and Collin. Methodological naturalism is explicated as the claim that we should not refer to supernatural entities when we explain natural phenomena (Draper 2005; Ruse 2013). Again, taking supernatural entities to be non-natural entities, methodological naturalism can equivalently be explicated as the claim that only natural entities can be referred to when we explain natural phenomena. With this explication methodological naturalism is very similar to the conception of naturalism presented by Faye. Unfortunately, not only the term 'naturalism' but also 'metaphysical naturalism' and 'methodological naturalism' has been used in the literature of naturalism to denote different positions. Due to this ambiguity, it is worth emphasizing that the two positions: metaphysical and methodological (non-super)naturalism are different from the ontological and methodological naturalism that will be introduced below. In fact the ambiguity is quite immediate, even though De Caro (2010), Draper (2005), Papineau (2015), Rea (2002), and Ruse (2013) all share the same conception of metaphysical naturalism, they give two very different explications of methodological naturalism. While Draper and Ruse propose the explication above, De Caro, Papineau, and Rea propose an explication of methodological naturalism as the requirement that philosophy should employ the same methods as science. This is the conception of methodological naturalism that will be introduced subsequently.

Obviously, non-supernaturalism is not a novel position. In the first half of the 20$^{\text{th}}$century, Roy Wood Sellars advances a view echoing the already given explications of non-supernaturalism when he writes of naturalism that "its opposite is supernaturalism" (Sellars 1927, 217), and he continues: "I mean that naturalism takes nature in a definite way as identical with reality, as self-sufficient and as the whole reality" (Sellars 1927, 217). Both metaphysical and methodological non-supernaturalism are emphasized here. All that is real is natural, and taking reality to be all there is, it must be the case that all that exists is natural according to Sellars. This is metaphysical non-supernaturalism. Further, Sellars emphasizes that nature is "self-sufficient". There is no need for anything outside of nature, implying that explanations should not refer to non-natural entities. Nothing happens which does not have a natural explanation. This is methodological naturalism. Qualifying his view of naturalism, he writes: "it stands in opposition to those movements which are called absolute idealism,

[5]Metaphysical naturalism is also known as ontological naturalism (see for instance Moser and Yandell (2000), De Caro (2010), and Papineau (2015)).

transcendentalism, theism, in short, for supernaturalism in the large sense" (Sellars 1927, 217).

Sellars openly acknowledge that his view of naturalism is not one of his own development. In his article "The Requirements of an adequate Naturalism" (1921), he cites an explication of naturalism found in the English translation of the German theologian and philosopher of religion Rudolf Otte's D.phil. dissertation from 1905 (Otto 1907). Sellers introduces the citation with the words: "The following characterization of naturalism is true to its spirit" (Sellars 1921, 254), after which Otto's explication follows:

> At first tentative, but becoming ever more distinctly conscious of its real motive, naturalism has always arisen in opposition to what we may call 'supernatural' propositions, whether these be the naive mythological explanations of world-phenomena found in primitive religions, or the supernatural popular metaphysics which usually accompanies the higher forms. It is actuated at the same time by one of the most admirable impulses in human nature the impulse to explain and understand, and to explain, if possible, through simple, familiar and ordinary causes (Otto 1907, 18; Sellars 1921, 254).

Otto's explication also emphasizes both metaphysical and methodological non-supernaturalism; naturalism, according to Otto, is opposed to both propositions that are mythological explanations and propositions that are supernatural metaphysics.

Otto proclaims that not even in 1905 such a conception of naturalism is a novelty. Rather, Otto argues that it can be found already in antiquity with Democritus and Leucippus and further identifies naturalism

> in the more modern systems of materialism and positivism, in the *Système de la nature* and in the theory of *l'homme machine*, in the materialistic reactions from the idealistic nature-speculations of Schelling and Hegel, in the discussions of materialism in the past century, in the naturalistic writings of Moleschott, Czolbe, Vogt, Büchner, and Haeckel, and in the still dominant naturalistic tendency and mood which acquired new form and deep-rooted individuality through Darwinism,—in all these we find naturalism, not indeed originating as something new, but simply blossoming afresh with increased strength (Otto 1907, 17–18, emphasis in original).

These examples provided by Otto attest to the claim that non-supernaturalism in neither of its forms are a novelty. A similar point is made when Michael Eldridge remarks that tendencies towards a non-supernaturalism is found both in Hume in the 18$^{\text{th}}$century and in Nietzsche in the 19$^{\text{th}}$century (Eldridge 2004, 52). Both metaphysical and methodological non-supernaturalism has been around for a long time.

While non-supernaturalism might arguably be counted as a naturalized metaphysics, con-

temporary discussions about non-supernaturalism are only rarely found outside the domain of philosophy of religion and then overview articles of naturalism. Of course exceptions can be found, perhaps most notable is Michael Rea's *World Without Design*, (2002). In that he argues that non-supernaturalism cannot be a philosophical position but must rather be regarded as a research program, a notion that shares some similarity with van Fraassen's (2002) stances. That non-supernaturalism is largely ignored outside the philosophy of religion may be because the unqualified non-supernaturalism is opposed to different forms of theism rather than philosophical doctrines. Geert Keil (2008) writes: "As long as naturalists confine themselves to selling their position as a bulwark against irrationality, obscurantism, and superstition, they insinuate that any kind of philosophy not committed to naturalism must be obscurantist" (Keil 2008, 255). This must in consequence imply that any philosophical position that are not obscurantist is naturalistic in this sense, whereby it is explained why non-supernaturalism remains debatable in philosophy of religion along with why it is largely uncontroversial in the rest of philosophy. The problem is not the non-supernaturalist doctrine, all that exists is natural, in itself. Rather, that the position remains philosophically uninteresting as long as 'natural' is merely explicated as opposed to the non-natural or supernatural. If non-supernaturalism rediscovered is all that there is to recent trend going under the name 'naturalized metaphysics', what then is all the fuss is about?

### 2.2.3 Scientific naturalism

Indeed, non-supernaturalism is not the main theme in the naturalized metaphysics that has received such extensive treatment in recent years. Most proponents of this movement are subscribing to what can be called scientific naturalism. Scientific naturalism is the sort of naturalism following the spirit behind Alexander Rosenberg's (2013) suggestion that "[n]aturalism is the label for the thesis that the tools we should use answering philosophical problems are the methods and findings of the mature sciences – from physics across biology and increasingly neuroscience" (Rosenberg 2013, 17).[6] Scientific naturalism is not explicated by the canonical antonyms of the constitutive morpheme 'natural': supernatural, religious, mind, freedom, culture, and society. Rather, scientific naturalism has a stronger association with the 'natural' of 'natural science' (Keil 2008, 263). Actually, Rosenberg identifies two distinct aspects of scientific naturalism. The aforementioned methodological naturalism, which involves the suggestion that philosophical problems should be answered using the methods of the mature sciences and then ontological naturalism with the suggestion that philosophical problems should be answered using the findings of these sciences.

These two naturalisms – methodological and ontological naturalism – can be defended

[6]Scientific naturalism is often associated with reductionist physicalism (Dupré 2004; De Caro 2010). As stated in the introduction, I do not regard naturalized metaphysics to endorse physicalism. It is hopefully clear from this account of scientific naturalism that it is a position distinct from reductionist physicalism.

independently. Adopting the method or methods of our mature sciences does not require that the findings of science have any role to play in philosophy. These methods might be applied to a distinct field of subject and thereby give results that are not findings of science. However, if the methods are employed to the same field of subject as these sciences, then methodological naturalism must reproduce ontological naturalism, since the findings of such an investigations will be the findings of science. This suggests a relation between methodological and ontological naturalism; they can be conflated into the same position under certain assumption, but they are in general distinct.

The proponents of scientific naturalism, both methodological and ontological, often point back to Quine as the origin of the position. This is emphasized by De Caro and Macarthur when they write: "Often scientific naturalists give the impression of thinking that philosophy began with the Quine" (De Caro and Macarthur 2004, 17). It might be considered curious that both methodological and ontological naturalists refer back to Quine, when these two positions are claimed to be distinct. Quine is certainly a naturalist. He is famous for his article "Epistemology naturalized" (1969a) and the slogan that philosophy is continuous with science (Quine 1969b, 129). The latter in particular suggests that Quine is a methodological naturalist. At least, De Caro and Macarthur use this exact formulation in their explication for methodological naturalism, they write that it is "a reconception of the traditional relation between philosophy and science according to which philosophical inquiry is conceived as continuous with science" (De Caro and Macarthur 2004, 3). In comparison, Quine writes: "my position is a naturalistic one; I see philosophy not as an a priori propaedeutic or groundwork for science, but as continuous with science" (Quine 1969b, 129). However, to identify Quine's slogan with methodological naturalism is unfortunate, at least following Jeffrey Roland, who interprets Quine's slogan as signifying "that philosophy and science are under the same kinds of pressure vis-á-vis experience and confirmation" (Roland 2014, 48). Both must conform to experience. This is hardly a methodological continuity, but a similarity shared among the products of science and philosophy. In so far as science is the authority on conformity to experience, this requirement reproduces the ontological naturalism rather than a variant of the methodological naturalism. However, according to Roland, Quine also supports a distinctly methodological naturalism in that he favours a principle of deference to scientific methodology. In Roland's formulation of the principle: "Philosophy should defer to science, in that the methods it employs should be or be analogous to those of the sciences" (Roland 2014, 51). This principle explicitly specifies that the methodological continuity with science should consist in the employment of the scientific method in philosophy in so far as there is such a method. Roland qualifies that this particular principle is the cornerstone of Quine's attempts to naturalize epistemology, where the methods of psychology in particular are imposed on any appropriate epistemology (Quine 1969a; Roland 2014, footnote 22). Roland also suggests a principle attributed to Quinian naturalism, which explicates the proposed ontological naturalism, he writes: "Philosophy should defer to science, in that the theories it advances should be consonant with those of the sciences. In case of conflict between

philosophical and scientific theories, the latter prima facie trumps the former" (Roland 2014, 51). Thus, on Roland's interpretation Quine can be read as a proponent of both ontological and methodological naturalism. While these two positions are intertwined in Quine's view, nothing forces the adoption this particular aspect of Quine's thinking.

Again, Quine's methodological naturalism has its particular application in his naturalized epistemology. On the other hand, it is the ontological naturalism that guides what can arguably be called Quine's naturalized metaphysics. This naturalized metaphysics or perhaps more appropriately, a naturalized ontology is in particular developed in his article "On What There Is" (1948). Here Quine proposes that we should find our ontological commitments in our best scientific theories, i.e. in the findings of our best sciences. The ontological commitments of a theory are those entities that that are indispensable for the theory to be true, Quine writes: "we now have a more explicit standard whereby to decide what ontology a given theory or form of discourse is committed to; a theory is committed to those and only those entities to which the bound variables of the theory must be capable of referring in order that the affirmations made in the theory be true" (Quine 1948, 33). As noted by Phillip Bricker (2014), it would perhaps be more appropriate to talk about existential implications, or ontological presuppositions rather than ontological commitments. Both terms more directly emphasize how the ontological commitments are determined and thereby dependent on the theory or generally on the conceptual scheme (form of discourse) from which the commitments are inferred. The ontology follows from the adoption of such a conceptual scheme. Obviously, this mirrors the Psillos' remarks about conceptual frameworks discussed in section 2.1, however, compared to Psillos there are places where Quine seems more confident that there is a preferred conceptual scheme, for instance he writes: "Our ontology is determined once we have fixed upon the over-all conceptual scheme which is to accommodate science in the broadest sense" (Quine 1948, 36). The conceptual scheme that best accommodates science is the preferred scheme. Thus, with ontology determined by the conceptual scheme and the conceptual scheme determined by the findings of science, Quine here seems to introduce an ontological naturalism – that philosophy should defer to the findings of science – in the construction of an ontology, a naturalized ontology.

Guided by Quine, naturalized metaphysics will in the following be a metaphysics that adheres to an ontological naturalism, which requires that philosophy as well as metaphysics in particular should defer to the findings of science. As will be argued below, proponents of naturalized metaphysics all exhibits a commitment to variants of ontological naturalism. However, before this investigation, it is worth remarking that Quine is not the origin of scientific naturalism, despite the quoted observation made by De Caro and Macarthur that many philosophers inclined towards scientific naturalism writes as though Quine is the origin of philosophy and that these naturalists are of the opinion "that to read earlier texts is to leave philosophy behind for the study of the history of ideas" (De Caro and Macarthur 2004, 17). Contrary to this conception, Hillary Kornblith remarks: "The idea

that philosophy must somehow be grounded in the sciences is not new, and indeed, has given rise to an extraordinarily diverse set of philosophical ideas. Descartes, Locke, Leibniz, Kant, Marx, Reichenbach, and numerous others sought to show that their ideas comported well with the best available science at their times" (Kornblith 1994, 49). Further it is often argued that Quine is greatly indebted to the American pragmatists and naturalists from the early 20$^{th}$ century. Among them perhaps most notably John Dewey, who belongs to both to the pragmatists and the naturalists and whom Quine reports as an important inspiration: "Philosophically I am bound to Dewey by the naturalism that dominated his last three decades" (Quine 1969a, 27). Peter Godfrey-Smith (2013) is less certain about this inheritance. He notices that Quine's quoted courtesy to Dewey is found in one of Quine's John Dewey lectures and speculates that the remark is made out of politeness. Godfrey Smith argues "Quine does not appear to have been greatly influenced by the work of the 'classical' pragmatists, Peirce, James, and Dewey" (Godfrey-Smith 2014, 54). Historical exegesis is not the purpose of this project, and I will leave this topic of Quine's inheritance. See Godfrey-Smith (2014) and Eldrige (2004) for more on the relation between Quine and the American pragmatists and naturalists.

### 2.2.4 Naturalized metaphysics

Instead I will turn to the present day naturalized metaphysics. I have proposed that the sort of naturalized metaphysics considered in the present project is weakly Quinian in the sense that it introduces an ontological naturalism with the restriction that metaphysics should defer to the findings of science. Again, as I will ultimately argue that naturalized metaphysics is not an answer to how metaphysics is possible, it is worth considering whether there are any proponents of such an ontological naturalism with respect to metaphysics. If there are none, then it would be arguing against a straw man to defend that naturalized metaphysics is not an answer, as it would be the case if these naturalists has no ambition of answering how metaphysics is possible or if their conception of metaphysics is significantly different from the one proposed in section 2.1. I will return to these questions in section 2.3.

Generally, I will argue that those works described in 1.2 as part of naturalized metaphysics endorses variants of ontological naturalism, the most explicitly stated perhaps by Chakravartty: "Naturalized metaphysics is metaphysics that is inspired by and constrained by the output of our best science. Non-naturalized metaphysics is metaphysics that is not so inspired or constrained" (Chakravartty 2013, 33). Naturalized metaphysics is a metaphysics that results from the requirement that metaphysics should defer to the findings of science. Chakravartty qualifies that "in the characterization of naturalized metaphysics just given, it is science that plays the role of constrainer, not empirical data as such" (Chakravartty 2013, 33). Thus, naturalized metaphysics takes the results of science, not empirical data themselves as the evidence on which to build metaphysics. Along the same lines Ladyman and Ross writes:

"we think that contemporary science provides evidence for some positive metaphysical claims and theses" (Ladyman and Ross 2007, 27). Others, more specifically requires deference to the findings of physics. Maudlin writes:

> The basic idea is simple: metaphysics, insofar as it is concerned with the natural world, can do no better than to reflect on physics. Physical theories provide us with the best handle we have on what there is, and the philosopher's proper task is the interpretation and elucidation of those theories. In particular, when choosing the fundamental posits of one's ontology, one must look to scientific practice rather than to philosophical prejudice (Maudlin 2007, 1).

Maudlin's remark emphasizes the theme investigated later that naturalized metaphysics is preferable to traditional metaphysics who looks at "philosophical prejudice". It is the physical theories that "provide us with the best handle we have on what there is". In this way physics has the authority over metaphysics; metaphysics should defer to the findings of science and physics in particular. Bird makes a similar point when he writes: "If there is a contradiction between the physics and the metaphysics, then the metaphysics must give way" (Bird 2007, 8). Also, Monton seems to regard ontological naturalism as the important outset for naturalized metaphysics, when he frames the overall question for his article "Prolegomena to any future physics-based metaphysics" (2011) with the question: "To what extent can questions in metaphysics be answered by appealing to results in physics?" (Monton 2011, 142). Kincaid as well shares the view that metaphysics should defer to the findings of science, but he also includes methodological naturalism as part of what he calls 'scientific naturalism': "As an ontological claim, scientific naturalism says that we know what exists through the application of scientific methods and results" (Kincaid 2013, 5). As I shall argue later, also Ney (2012) endorses ontological naturalism.

While these examples are not conclusive, I take them to make it very plausible that naturalized metaphysics has ontological naturalism as a guiding doctrine. Most proponents of naturalized metaphysics endorse the view that metaphysics should defer to the findings of science. In the following, naturalized metaphysics will refer to metaphysics restricted by ontological naturalism.

### 2.2.5 Further remarks on naturalism

While I have argued that the particular trend in recent analytic metaphysics that I have called 'naturalized metaphysics' is generally inclined towards ontological naturalism, there are also work done that is proclaimed to be inclined towards methodological naturalism. For instance, in his book *Putting Metaphysics First* (2009), Michael Devitt's writes: "The metaphysics I want to put first is a naturalized one" (Devitt 2009, 2). This would seem to situate Devitt in the middle of naturalized metaphysics, however, Devitt's naturalized metaphysics is inspired by methodological naturalism, which is evident from remarks such as the following: "From

the naturalistic perspective the intuitions that so dominate the methodology of 'armchair philosophy' cannot be a priori" (Devitt 2009, 1). This suggests that Devitt belongs to another tradition in analytic metaphysics and philosophy in general that particularly engages in the methodological discussion evident from the titled of Matthew Haug's anthology *Philosophical Methodology: The Armchair or the Laboratory* (2014b). The apparent question asked here is whether to adopt methodological naturalism; whether philosophy should adopt the method or methods of science. However, neither Devitt nor the contributions on metaphysics found in this anthology (Lowe 2014; Papineau 2014; Thomasson 2014; J. M. Wilson 2013) engages seriously in this methodological question. None of them propose that metaphysicists should start doing experiments on their own. Rather, their interest is in the content of metaphysical assertions and the role played by conceptual analysis and intuitions in establishing such assertions. While the former is completely orthogonal to scientific naturalism, the latter can just as appropriately be conceived of as a discussion regarding the scope of ontological naturalism. Does metaphysics defer properly to the findings of science if it also relies on conceptual analysis and intuitions as evidence besides these findings of science?

If no one wants to propose that metaphysics should employ the methods of science to a field of subject distinct to metaphysics, then the divide between ontological and methodological naturalism is only manifest as a procedural difference. Both will require metaphysics to defer to the findings of science, and the difference is whether to take an assertion and investigate if it adheres to the criterion – ontological naturalism – or simply to have the criterion in mind when the assertion is established in the first place – methodological naturalism. This procedural difference cannot warrant as a distinction between two types of scientific naturalism. A successful metaphysical assertion resulting from an adherence to ontological or methodological naturalism is the same. The only difference remaining is a difference observed by Jeffrey King:

> One cannot determine whether a philosopher is a naturalist in this sense [methodological naturalist] by looking a his positions on specific philosophical issues. One needs to consider the methods the philosopher employed in reaching those positions. Because [...] I am interested in accounts of naturalism which directly apply to philosophical positions or theories rather than to philosophers, I shall set methodological naturalism aside (King 1994, 54).

The difference is merely that methodological naturalism concerns the activity whereas ontological naturalism applies directly to the product.

It is therefore interesting, that none of the aforementioned works including Haug's preface to the anthology refer to any of the literature that I have claimed belong to naturalized metaphysics, besides a single reference to Maudlin (2007). This is despite a very comprehensive discussion in the first chapter of *Every Thing Must Go* (2007), on the role of conceptual analysis and intuitions in metaphysics. It must remain speculation, but apparently the mere

belief in this distinction seems to sustain a division between naturalized metaphysics and the work done in the methodology of metaphysics.

Besides methodological and ontological naturalism, Huw Price (2004) identifies what he calls subject naturalism. Subject naturalism is the view that "philosophy needs to begin with what science tells us *about ourselves*" (Price 2004, 73). This seems to follow trivially from the general explication of ontological naturalism, since all philosophy should defer to the findings of science so should any philosophy concerned with humans. However, Price emphasize that following a subject naturalism "[s]cience tells us that we humans are natural creatures, and if the claims and ambitions of philosophy conflict with this view, then philosophy needs to give way" (Price 2004, 73). Thus, in the ambitions we set for philosophy we should take subject naturalism into account. It is futile to have ambitions for philosophy that cannot be fulfilled since we, as interrogators are limited beings. In this sense, subject naturalism constitutes a preliminary naturalism, which treats our epistemological (and supposedly semantic) capacities in order to settle the possible scope of any ambition for philosophy including the ambition to naturalize philosophy following ontological naturalism. When science tells us that humans are the consequence of evolution by natural selection, we must adjust our philosophical ambitions accordingly to the consequences of this matter of fact. The consequences of this evolutionary origin are particularly treated by Faye (2016) under the description 'evolutionary naturalism'. Here Faye points to Roy Wood Sellars (e.g. 1922) as the originator of this variant of naturalism.

## 2.3 Metaphysics as naturalized metaphysics

With the characterization of naturalized metaphysics and explication of metaphysics from the two previous sections, the sense in which naturalised metaphysics is regarded as an answer to how metaphysics is possible can finally be demonstrated. It was argued that a necessary condition for an answer is that it instructs how to succeed in attempts to assert something about the thing in itself. By proposing that naturalized metaphysics is an answer and that the characterising feature of naturalized metaphysics is the restriction that metaphysics should defer to the findings of science, this restriction is identified as the sought for instruction. Following the discussion in section 1.1, the instruction should be a necessary condition for a successful metaphysical assertion. Therefore, to propose that naturalized metaphysics is an answer implies the proposal that metaphysical assertions are successful only if the these assertions defer to the findings of science. When I want to argue that metaphysics is not possible as naturalized metaphysics because of Carnap's challenge, this then requires a demonstration how this challenge is equally problematic for naturalized metaphysics and non-naturalized alike, i.e. that it makes no difference whether a metaphysical assertion defers to the findings of science in the light of Carnap's challenge.

Again, the significance of this conclusion relies on naturalized metaphysics being an attempt at an answer to how metaphysics is possible. If ontological naturalism is invoked in naturalized metaphysics for other reasons then it would be quite irrelevant that it turned out not to constitute an answer to how metaphysics is possible. Thus, this remains to be shown. Further, the significance of the conclusion still depends on the conception of metaphysics among the proponents of naturalized metaphysics. Even if naturalized metaphysics is considered an answer to how metaphysics is possible, this might be with respect to more modest metaphysics that does not involce the necessary conditions for metaphysics than the requirement that metaphysical assertions are about the thing in itself. Below, I will argue that both are fulfilled such that the conclusion of the present project is indeed significant.

### 2.3.1 Naturalization of metaphysics

The claim that naturalized metaphysics is an attempt at an answer to how metaphysics is possible can find support in an argument already developed from some considerations concerning the name 'naturalized metaphysics'.

Unqualified, 'naturalized metaphysics' appears to be a descriptive term that supposedly identifies a particular part of metaphysics. Naturalized metaphysics is metaphysics that is selected by some further requirement, for instance, that this metaphysics defers to the findings of science. It is superficially concealed that this part of metaphysics has its origins in a naturalization of metaphysics. However, this origin can hardly be controversial. It is merely claimed that naturalized metaphysics is the part of metaphysics which is naturalized. Though this seems evident, this exposition serves a purpose with respect to the origin and status of naturalized metaphysics. When one consider the term 'naturalized metaphysics', the immediate question is what this term denotes. As already established this reference is some part of metaphysics. When it is exposed that naturalized metaphysics is the product of a naturalization, one is instead tempted to ask another question: 'Why naturalize metaphysics?'

Asking this question, the suspicion is implicitly aired that metaphysics is not naturalized simply because it can be naturalized, but rather that there is another motive behind naturalization. Perhaps the naturalization is a consequence of suspected defects in parts of metaphysics which one wants to avoid. 'Naturalized metaphysics' would then be more than a descriptive term. The term then includes a normative aspect as well, which emphasizes that naturalized metaphysics is the part of metaphysics which avoids these defects. Of course, it might be objected that there is no such project of naturalization. For instance a term like 'ontology' is solely descriptive terms in metaphysics. This just identifies the part of metaphysics which is about the existence of entities. There is no such thing as the "ontologization" of metaphysics. However, I will argue that 'naturalized metaphysics' has both the descriptive and the normative dimension. There are probably those who will insist that this term is merely a way to denote a particular scientifically inclined part of metaphysics

and that it bears no judgement about the rest of metaphysics. For most, however, I suspect that the term denotes the only allowable sort of metaphysics, and thereby the term carries a strong normative aspect. 'Naturalized metaphysics' it was proposed denotes a particular new trend in analytic metaphysics. If naturalized metaphysics is merely a descriptive term in metaphysics similar to 'ontology', then what is all the fuss about? If naturalized metaphysics does not contain this normative aspect, at least among its followers, then there is no reason that this should constitute a particular new trend in metaphysics. There is no ontological trend because 'ontology' is merely a descriptive term. Naturalized metaphysics is a trend, because 'naturalized metaphysics' is more than a descriptive term.

Naturalized metaphysics is a part of a revisionary tradition in metaphysics which has very a proud history, ranging from Aristotle to Kant to the logical positivists which is still carried out today.[7] All are motivated by the suspicion that something is defective in all or parts of metaphysics, so a revision is required. All of these philosophers are engaged in the question 'how is metaphysics possible?'. Many different answers are suggested with very different ambitions; however, they all share the interest in the question regarding the possibility of metaphysics. By applying the name 'naturalized metaphysics' to one's metaphysical program this must signify that the program engages in this revisionary tradition. The name 'naturalized metaphysics' alone suggests that naturalized metaphysics is a proposal for an answer to the question 'how is metaphysics possible'.

This view is supported by the entry on "Naturalism" in *TheInternet Encyclopedia of Philosophy*. Here, Jon Jacobs exactly suggests such a revisionary motivation for naturalism in general. About naturalism he writes: "Naturalism often assigns a key role to the methods and results of the empirical sciences", and continues "Whether in epistemology, ethics, philosophy of mind, philosophy of language, or other areas, naturalism seeks to show that philosophical problems as traditionally conceived are ill-formulated and can be solved or displaced by appropriately naturalistic methods" (Jacobs 2015).

### 2.3.2 Naturalized metaphysics as an answer

Looking at naturalized metaphysics literature, it is further supported that naturalized metaphysics is a proposal for an answer to how metaphysics is possible. Chakravartty is very explicit in his views on naturalized metaphysics, quoting him at length:

> Having understood metaphysics in these general and innocuous terms, it should be clear immediately that there is nothing here to distinguish metaphysics *simpliciter* from metaphysics pursued in the context of the sciences, since clearly the latter is typified by attempts to theorize about the ontology and causal workings of the various systems and phenomena it investigates, no less than

[7] See for instance Dummett (1991), Chalmers et al. (2009), Tahko (2012) and Haug (2014b).

> metaphysics *simpliciter*. This of course is what one should expect if naturalized metaphysics is to be a *form* of metaphysics (*simpliciter*), offering an important clue, I believe, in aid of the formulation of a plausible conception of naturalized metaphysics. The distinction between putatively acceptable naturalistic metaphysics and putatively excessive metaphysical inquiry does *not* concern *what* these forms of inquiry aim to do, where the relevant aims are conceived in the general and innocuous terms of shedding light on ontological and causal features of the world (Chakravartty 2013, 32, emphasis in original).

In relation to the question of interest, Chakravartty makes two important qualifications. First, he regards non-naturalized metaphysics to be no different from naturalized metaphysics in aim, i.e. in what they attempt to achieve. Both attempt to shed "light on ontological and causal features of the world". Naturalized metaphysics is also just a "form of metaphysics". Second, he regards naturalized metaphysics to be "acceptable" with the implication that non-naturalized metaphysics is not acceptable or at least "excessive". A similar remark is made when he writes the following: "The idea here is that grappling with the metaphysical underpinnings of our best current science need not amount to metaphysics in the style of analytic metaphysics as it is problematically practiced in other domains" (Chakravartty 2013, 30). Here, he explicitly states the worry that "analytical metaphysics" is problematic, not because of its subject matter, but because it is non-naturalized metaphysics. It is not adequately "inspired or constrained by the output of our best science" (Chakravartty 2013, 33). Thus, Chakravartty seems to subscribe to the view that naturalized metaphysics is an answer to how metaphysics is possible. Naturalized metaphysics is just a form of metaphysics and shares the aims of metaphysics while avoiding the problems facing non-naturalized metaphysics. While he has no direct reference to a Kantian thing in itself, he does write that ontology is "considerations of the most general nature of existence and the natures of things that exist" (Chakravartty 2013, 31). He also gives the following characterization of scientific realists: that "advocate beliefs concerning things that philosophers today would still regard as metaphysical, including beliefs about properties, causation, laws of nature, de re modality, and so on" (Chakravartty 2013, 28). This is not conclusive evidence that Chakravartty endorses the necessary condition that an attempt at metaphysics is successful only if it results in an assertion about the thing in itself, however, his formulation suggests that he adopts such a view.

The view that metaphysics is problematic is shared by Melnyk; he writes:

> I do not approach these questions, however, with the assumption that metaphysics is bound to turn out to be a viable branch of inquiry, and hence that the only live question is how it works. On the contrary, 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, 81).

He airs the worry that metaphysics is in fact impossible and whether or not it is an "empirical or non-empirical" inquiry. Presumably, these two alternatives are equivalent to naturalized and non-naturalized metaphysics respectively. This is also suggested by his remark which immediately follows: "I am therefore prepared to find that the right answer to the question, 'Can metaphysics be naturalized?' is 'No, it can't.'" (Melnyk 2013, 81). Even as a naturalized metaphysics, Melnyk worries that metaphysics is impossible. However, as a remark about metaphysics, he writes: "On the face of it, the only possible approach to such a question requires scrutinizing our best current physical theories and working from there" (Melnyk 2013, 94). Melnyk shares the view that naturalized metaphysics is the only way that metaphysics might be possible. Furthermore, this quote demonstrates how he also endorses ontological naturalism as characterizing for this naturalized metaphysics that might prove metaphysics to be possible. Interestingly, Melnyk directly considers how much of traditional metaphysics that remain when metaphysics is naturalized. He asks: "But can metaphysics be naturalized? And if it can, [...] [h]ow many traditional metaphysical problems will it still be reasonable to investigate?" (Melnyk 2013, 81).

Kincaid suggests that the views displayed by Chakravartty and Melnyk are general for the contributions to the anthology *Scientific Metaphysics* (2013). He summarizes:

> This volume is about the prospects for a naturalized metaphysics and its relation to traditional metaphysics. One overarching theme is that traditional metaphysics, especially in its current incarnation as analytic metaphysics, is a questionable enterprise because of its lack of scientific standing. The thesis is that any legitimate metaphysics and conceptual analysis must be tied into the results and practices of the sciences (Kincaid 2013, 1).

Naturalized metaphysics is exactly an answer to how metaphysics is possible and developed because traditional metaphysics is "a questionable enterprise". Chakravartty observed that naturalized metaphysics and traditional metaphysics has the same aim – shedding light on features of the world. Melnyk recognised that parts of traditional metaphysics might remain problematic even with naturalization. In terms of the present project, he express the view that we might indeed be entitled to have suspicions towards much of traditional metaphysics. Perhaps only very little of this metaphysics under suspicion turns out to be possible as naturalized metaphysics.

Additionally, Ladyman and Ross share the view that traditional metaphysics is problematic and that naturalized metaphysics is the solution to these problems. After a compliment to the scientific orientation of the logical positivists, Quine, and Kuhn, they write: "there are now, once again, esoteric debates about substance, universals, identity, time, properties, and so on, which make little or no reference to science, and worse, which seem to presuppose that science must be irrelevant to their resolution" (Ladyman and Ross 2007, 9). Their worry here concerns the sort of analytic metaphysics that has been conducted in the last sixty years or

so. This sort of metaphysics is problematic from their point of view. They write: "This book is an exercise in metaphysics done as naturalistic philosophy of science because we think that no other sort of metaphysics counts as inquiry into the objective nature of the world" (Ladyman and Ross 2007, 9). This further emphasizes how they share Chakravartty's view that metaphysics and naturalized metaphysics has the same aim, but that only naturalized metaphysics can succeed in this aim, which they propose to be "inquiry into the objective nature of the world". Elsewhere, they further describe this aim of metaphysics as "the attempt to discover general truths about the objective world" (Ladyman and Ross 2007, 14).

In summary, the above demonstrates that naturalized metaphysics is a proposed answer to the question 'how metaphysics is possible'. Traditional metaphysics, particularly the analytic metaphysics of the last sixty years, is problematic according to the naturalists. Only by obeying to ontological naturalism – the requirements to a naturalized metaphysics – can one succeed in attempts at metaphysics. Further, proponents of naturalized metaphysics share the view that such attempts are successful only if they produce assertions about the thing in itself – assertions that are true in an objective and absolute sense. Metaphysics is possible only if it defers to the findings of science.

This appears to conclude the preliminary investigation into naturalized metaphysics and the question 'how is metaphysics possible', however, taking the naturalized metaphysics as an answer to this question into closer investigation will reveal further questions in need of clarification. These revolve around the term 'science' and this deference relation that is required between metaphysics and the findings of science. What is it that ontological naturalism requires? This will be the topic of the following chapter and will further clarify what naturalized metaphysics is and thereby, how proponents of naturalized metaphysics think metaphysics is possible.

# Chapter 3

## A deference to science

What is ontological naturalism? What is required of metaphysics, when it should defer to the findings of science? The present chapter will find that there is a range of answers to this question that differ due to differences in the conception of (the findings of) science and due to different interpretations of the entailments of this deference relation. Naturalized metaphysics is not a single position but a range of positions that all result from these differences. The present chapter will attempt to systematize these differences.

Such systematization is important since the overall conclusion of the present project applies to all of these different naturalizations of metaphysics. Within reasonable limits, no matter how metaphysics defers to the findings of science, this requirement will prove not to ensure that metaphysics is possible. This argument will not be undertaken in this chapter but in the next. The present chapter will once again take on a preliminary task; to systematize the variants of naturalized metaphysics.

This chapter will therefore investigate the possible variations that might be found among naturalizations of metaphysics due to the deviances in the conception of science, and the differences in the interpretation of deference-relation. Also, this chapter serves to show how these differences result in deviations in the answers to what metaphysics amounts to after the naturalization and what the task for the metaphysicist might consequently be.

The first section will investigate the different conceptions of science that are available to a naturalist. First, I establish a conception of science that is proposed to be shared among all naturalists, and then the differences will be developed with an outset in this core conception. The second section will then turn to the ontological naturalism and investigate which different restriction that might be imposed as a result of this. Finally, the third section will then bring together the different conceptions of science and the different restrictions in order to develop the differences among naturalized metaphysics that result from these various interpretations of ontological naturalism. A general criticism of naturalized metaphysics due to Sophie Allen (2012) will also be considered in the service of a better understanding of naturalized metaphysics as I understand it.

## 3.1 What is science?

When metaphysics is required to defer to the findings of science, this presupposes that it is known what metaphysics and science are, and further, it requires a knowledge of what such a deference should amount to. The latter will be the topic of the next section, while the former will be the topic of this section. The section will investigate what science is in relation to metaphysics and ontological naturalism. It is generally no easy task to define what science is. This, after all, is viewed as *the* problem in philosophy of science. When only a single section is devoted to the question here, it is obviously impossible to include all the nuances of the illuminating literature on the matter. Consequently, many aspects of science must remain unqualified.

It is worth remembering that the origin of this interest in science is the role that science plays in ontological naturalism. Thus, the science discussed here is the naturalists' science. It is a science that can warrant the introduction of ontological naturalism as an instructive restriction that can guide attempts at metaphysics. Consequently, an answer to what science is in this context should be confined to conceptions of science that explains this proposed role for ontological naturalism. A bold metaphysicist might attempt to embrace ontological naturalism by declaring that her metaphysics certainly defers to science and then simply define science in such a way that no restriction is imposed and she can continue her work in metaphysics as always. Such a move cannot be allowed, since her metaphysics would still face the same problems as before. Such a conception of science will make ontological naturalism obsolete since no restriction is de facto introduced by requiring a deference to the findings of science. Instead, the ontological naturalist must insist that there are some merits to the findings of science that any naturalist acknowledges, and that these merits ensure that ontological naturalism indeed is an instructive restriction to metaphysics. Consequently, this section begins with some indications of these merits of the findings of science that the naturalists take to ensure this. It is in the context of this shared naturalist conception of science that possible differences in the conception of science will then be considered.

Assuming a naturalist conception of science, it will in turn be considered whether science is true, how science relates to the thing in itself, whether science is consistent, what science implies, and how science relates to these implications.

### 3.1.1 Why science?

What is it about science that makes naturalist require that philosophy should defer to the findings of science? Why science, and not the content of fairy tales, the proposals of old wisdom, the hunches of intuitions, the teachings of religion or the results of thorough thinking under date trees? Supposedly, naturalists will give different answers to this question, but I will try to establish that there is common ground on which the naturalists' varying answers

stand. This will in turn imply how naturalists in general conceive of science; this is the baseline science as it is understood when naturalists require that metaphysics should defer to science.

Surprisingly, scientific naturalists do not discuss this to any great length. The aspects of science that make it worthy of the deference of philosophy in general and metaphysics in particular are largely only implicit. Mostly, it is simply assumed that science is a prestigious enterprise and that it is obvious that metaphysics and anything else must yield to it. Mockingly, Blackburn (2002) proposes that scientific naturalism is popular in metaphysics because "it allows the philosopher some of the prestige and glory of the scientist" and continues with the following speculation:

> [p]erhaps philosophy is always something of a free-loader when it comes to continuity with the most prestigious activities. When theology ruled the universities, philosophy and theology were continuous; in the first part of this century, and after the spectacular successes of modern logic, philosophy was deemed continuous with logic; then a little later with linguistics, and now philosophy marches into the future handinhand with science (Blackburn 2002, 76).

Blackburn's story seems to suggests that the naturalists are opportunists who yield to science for no other reason than that "[i]t is reassuring to ally philosophical reflection with the most secure and intellectually privileged elements of the contemporary culture" (Blackburn 2002, 76). The secure and intellectually privileged elements of contemporary culture was once theology. It has largely gone out of fashion and has been replaced by science, which opportunistic philosophers now swear their allegiance to, supposedly until it is replaced by a new trend.

I think Blackburn's mocking remark has some truth to it. It is exactly because science is regarded as a prestigious enterprise that the naturalist argue that it is science that metaphysics should defer to. However, they will maintain that this prestige is well earned. They will argue that the history of science has proven science to be a successful enterprise. The success is taken to justify our regard of science as prestigious. Science is not a consequence of dogmatism, the naturalists maintain, rather, naturalism is rationally entitled due to the incredible success of science. James Ladyman (2012) displays this attitude when he writes: "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" (Ladyman 2012, 32, my emphasis) and a similar view about physics in particular is suggested by Alyssa Ney (2012): "The point is that physics has a proven track record of *success* making it a good place to begin metaphysical inquiry (Ney 2012, 62, my emphasis). Both accounts display this naturalists spirit, and emphasize explicitly that they regard science (physics) as successful. It seems plausible that it is exactly these successes that entitles naturalism and supports the

requirement that metaphysics should defer to science and not to something else.

This is important. The naturalist do not regard the epistemic priority of science over metaphysics to be a thesis, which can be given foundation in a priori reasoning. It is the success of science, "the track record of science", that grants this epistemic priority. This point of view is emphasized for instance by Hilary Kornblith (1994), who writes:

> 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, 49).

The successes according to Kornblith consist in the empirical adequacy of science, the predictive power of science and the technological applications of science. Particularly the predictive power of science is highly regarded by Ladyman and Ross (2007). They write: "the real miracle about the success of science is not empirical success in general, but how it is that scientific theories can tell us about phenomena we never would have expected without them" (Ladyman and Ross 2007, 75). The real miracle, according to Ladyman and Ross, is that science can make novel prediction and particularly, that these prediction concern very unexpected phenomena. They give the example of "the empirical success of General Relativity in predicting the deflection of light as it passes near large masses, and the empirical success of Fresnel's wave optics in accounting for the celebrated phenomenon of the white spot in the shadow of an opaque disc" (Ladyman and Ross 2007, 76). These success stories relate how science reliably describes how the world around us behaves. In observation of our surroundings and as well as when we manipulate them, science has proven to be a potent tool for predictions of the future and resulting phenomena for several centuries. This impresses the naturalists, however, they seem just as impressed with the continued improvement and replacement of good scientific theories with even better ones. In other words, it is not only the empirical adequacy of our current best sciences that is impressive, it is equally the continued improvement of science that is manifest throughout its history. Particularly, the naturalists seem to have a significant regard for the systematic, self-regulatory error correction found in science, which they consider as the reason for its continued improvement. The current success of science originates in this continued improvement due to this self-regulation – the success of science is not accidental, but due to the way it is institutionalized in a scientific practice.

I propose that this self-regulation and the immense success of our current best science are the reasons that naturalists take to justify naturalism and the introduction of ontological naturalism. Science displays an ever increasing success in the description of our surroundings and this success is not accidental, rather, it is the result of self-regulation of the scientific

practice. According to the naturalist, this story warrants not only the conclusion that the current findings of science have a particular epistemic authority and priority, but also that this authority will only increase with future science. The successes of science are so impressive that naturalists find themselves entitled to deny anything challenging science in its sphere of authority. Metaphysics as well as any other discipline should defer to science; not only to our current best science, but to any future science as well. Ney at least supports this view when it comes to physics. She writes: "physics has a good claim to superior epistemic standing due to its use of mathematical precision, sophisticated experimental techniques, high standards for confirmation, and a discipline engaging in good practices like peer reviews of publications" (Ney 2012, 71). These are examples exactly of the self-regulatory practice, which ensures the success of science and supports its consequent epistemic authority. Ladyman and Ross also support this conception, when they write: "The epistemic supremacy of science rests on repeated iteration of institutional error filters" (Ladyman and Ross 2007, 29). The institutional filters they have such regard for include "requirements for rigorous peer review before claims may be deposited in 'serious' registers of scientific belief, requirements governing representational rigour with respect to both theoretical claims and accounts of observations and experiments, and so on" (Ladyman and Ross 2007, 27). Together, these supports the story of naturalism as a position which finds its support in the continued successful improvement of science as a potent tool for the description and prediction of phenomena. Naturalists feel confident that science consists of our currently best justified assertions, and that it will remain so in the future. This, I propose, is why it is the findings of science that naturalists maintain that metaphysics should defer to.

As mentioned in the beginning, our immediate interest is what science is according to the naturalists. Now, with this exposition why naturalists maintain that metaphysics should defer to science and not something else, some features of science are indiacted that are obligatory to the naturalists conception of science. Consequently, these features might for practical purposes function as a demarcation criterion for science, that is, a criterion that allows us to recognize those theories and assertions that are members of science. In their account it is central that these theories and assertions are empirically adequate, and that the theories must display some predictive power. Thus, the naturalists invoke a variant of a Popperian demarcation between science and non-science. However, further features of science are viewed as central by the naturalists to ensure that the success of science is not accidental. These are institutional error filters like peer review and representational rigour, which manifest a self-regulation in science. Scientists constantly evaluate each other through these institutional error filters and the naturalists view this feature of science as the guarantee that the successes of science are not accidental. The naturalists' science is something that adheres to a variant of Popperianism, but which also adheres to further institutional requirements that are imposed by the established scientific community. In so far as the scientist themselves impose Popperianism as a part of the institutional error filters,

the naturalists' science is whatever the scientific community accepts as science.

Some important aspects of science remain unaddressed by this account. While the assertions of science are proposed to the best justified assertions, it is not settled whether we are justified in believing that they are true, and further, it remains an open question exactly what these assert something are about. The naturalists will agree that science is empirically adequate, but naturalism itself does not settle what this implies with respect to the relation between science and different conceptions of reality. This question will be considered subsequently. Prior to this, a preliminary question is whether scientific assertions can be regarded as true. This will be the subject below.

### 3.1.2 Is science true?

The above account of science suggests a history of science where theories have continuously been improved and replaced. Though Newtonian mechanics proved to be empirically adequate, further investigation proved that quantum mechanics and general relativity in their respective fields are even more empirically accurate. Following the naturalists line of argument, Newtonian mechanics was *the* epistemic authority which anything should defer to up until the time it was replaced by even better science. This suggests that the epistemic authority which the naturalists associate with science does not imply truth. Even though a scientific theory displays impressive empirical adequacy this is not a guarantee that it is true, rather, the history of science suggests that theories are constantly improved upon and replaced by better theories. This must imply that when the naturalists suggest that current science always has been and always will be composed of our best justified assertions, this is not immediately a justification of the belief that these assertions are true. Rather, when the naturalists infer that the success of science justifies science, this is a justification in the belief that science is the best we have. In their field of subject the assertions of science are authoritative, because they are the assertions available that are most likely to be true. A naturalist will perhaps argue that the story of science makes naturalists confident that the probability that a scientific assertions is true is always higher than the probability that a competing philosophical assertions is true. It might be objected that it is not well defined how to understand such unqualified probabilities, however, the general conception is suitably clear: It is always the case that the current best sciences are the most trustworthy assertions and theories available.

This of course raises the question of how good our current science is. How close is it to be true? This question is not immediately answerable by the naturalists. Though they portray the history of science as a story of continued improvement, the history of science does not suggest just how good science has become. Sure, current best science is empirically adequate, but the history of science suggests that also replaced theories have been considered as empirically adequate in their time. Naturalists might argue that these theories were

evidently not empirically adequate after all, thus as long as our current best science is empirically adequate naturalists could maintain that it is at least a possibility that our current best science is true. Though it may be possible, a pessimistic induction from the history of science suggests that it is at least unlikely. All previous best sciences have been replaced, which by induction implies that the same will be the case for our current best science.[1] Further, as many authors have advanced, the incompatibility of quantum mechanics with the general theory of relativity seems to provide non-empirical reasons to believe that our current best science is not true. For example, Bradley Monton (2011) writes:

> the actual physical theories that are utilized in doing metaphysics of this sort [naturalized metaphysics] are almost certainly *false*. Our two best theories of physics, quantum theory and relativity theory, are incompatible. The evidence in favor of quantum theory suggests that relativity theory is false, and the evidence in favor of relativity theory suggests that quantum theory is false (Monton 2011, 143, emphasis in original).

With this qualified suspicion that our current best science is not true, the naturalist can still maintain that metaphysics should defer to science because science remains the epistemic authority even though it is probable that science is not true. This does not undermine the naturalists reasons for defending naturalism.

However, as Monton points out, if this is an adequate picture of science, naturalism requires that metaphysics defers to a collection of assertions and theories of which many "are most certainly false." While it is supposedly an inspiration for continued work in science that the current best sciences can be improved upon, it has the opposite effect on naturalized metaphysics. What is our interest in a metaphysics that is founded on a science that is most probably not true? Monton summarizes the problem in the following way: "when physics-based metaphysics is done, it's relying on false theories of physics; this is why physics-based metaphysics rests on shaky foundations" (Monton 2011, 143). If science is fallible and perhaps even probably false, so is a metaphysics founded on science. The critically minded will suggest that such a state of science should refrain us from engaging in naturalized metaphysics. If the naturalists insist that there is no other way to do metaphysics, some might respond that we should then refrain from doing metaphysics altogether until science is in a state where it can serve as a proper foundation for naturalized metaphysics. There are two reactions available to this line of argument. One approach is to assent, but to emphasize that a metaphysics deferring to science, i.e. naturalized metaphysics, at time $t$ is the best metaphysics we can have at $t$, and in so far as we need metaphysics at $t$, naturalized metaphysics is the best available metaphysics at $t$.[2] We must simply live with the fallibility

[1] Obviously we disregard Hume's problem of induction when it is argued that this inductive inference implies anything. Even, when it is just inferred that the conclusion of an induction is only likely to be true.

[2] Ladyman and Ross (2007, 42) suggests this line of argument.

of naturalized metaphysics. This attitude can further be defended by questioning whether we would be able to recognize completed science. If we are unable to recognize completed science, we would not know when science will be in a state where it would serve as an appropriate foundation of metaphysics. In that case, we would never know when science would be in a state such that it could serve as a foundation of metaphysics and consequently, we might as well continue to do naturalized metaphysics, but with the knowledge that the foundation of the metaphysics developed might suddenly change due to improvements of our best science, since naturalized metaphysics would never get out of this indeterminate state. The view presents metaphysics as currently possible and supposedly valuable, so long as it is a naturalized metaphysics, however, it is also acknowledged that being a naturalized metaphysics it is fallible and will probably be subject to change as science develops. Monton is not very happy with this solution, and he writes that: "metaphysics isn't meant to be an elucidation of our best current scientific theories; metaphysics is meant to get at truth. In order to rely on our current best scientific theories in doing metaphysics, one would need to argue that these theories are true" (Monton 2011, 156). What Monton seems to argue is that such a fallible naturalism cannot be an answer to how metaphysics is possible.

What Monton proposes is a necessary condition for a successful attempt at metaphysics. Such an attempt is only successful if it results in a true theory. In 2.1, I defended the condition that such assertions and theories should be about the thing in itself, and Monton's condition therefore further strengthens the requirements to successful metaphysics. However, the two conditions are essentially orthogonal. While Monton requires true theories without specifying what these theories should be true about, I require that that the theories and assertions of metaphysics are to be about the thing in itself, without any requirements regarding the truth of these assertions other than they are assertions and therefore either true or false. As I will argue that this requirement alone is insurmountable for naturalized metaphysics, the criticism of naturalized metaphysics in the present project and Monton's criticism are distinct problems for naturalized metaphysics. In so far as Monton also acknowledge the requirement that successful metaphysics is about the thing in itself, I regard my criticism to be more fundamental than Monton's.

### 3.1.3 Science and the thing in itself

Above, it has been discussed whether we are justified to consider science as true, however, it has not yet been discussed what science might be true of, that is, what the assertions of science are about. In relation to naturalism, our primary interest is how the assertions of science are related to the thing it itself, since it is required of successful attempts at metaphysics that they result in assertions about the thing in itself. Consequently, when the naturalists require metaphysics to defer to the findings of science, it is important how science relates to the thing in itself.

This question is addressed in the discussion about realism in relation to science – scientific realism. This question was already touched upon in the discussion of the possibility of a modest conception of reality, however, it is worth expressing again what form this discussion takes in relation to science. Psillos (1999) lists a number of controversies relating to scientific realism, among them a qualification of this debate. He asks: "how exactly scientific theories should be understood" (Psillos 1999, xviii), the question being whether they should "be taken as attempts to reveal truths about the unobservable entities that populate the world, or should they be taken to be no more than sophisticated instruments for the systematisation and classification of observable phenomena" (Psillos 1999, xviii). Psillos here conflates two related questions into one, which I propose to keep distinct for the current purposes. The first regards the existence of those unobservable entities that occur in scientific theories. In Psillos (2011) this debate takes the form of a pragmatic question regarding how best to expand the ontology constituted by the commonsensical entities. This problem is related to but not identical with another problem also hinted at in Psillos' question. This problem concerns whether scientific theories are indeed about the thing in itself or whether science is merely about a modest reality.

These two question are related. In order to regard realism about theoretical entities to be more than a pragmatic choice of a particular way of speaking, then one needs to be a realist about the content of scientific assertions and theories. For the posited entities to be more than a conceptual sleight of hand, they must be held to refer to entities out there in the thing in itself. On the other hand, a weaker realism about theoretical entities which acknowledges that any talk of them is merely the result of an unforced adoption of the realism framework, must consent to an expressivism and therefore accept that there is a way in which these entities are merely a means to systematize and classify the appearances that science is really about. In this way, it can be proposed, the two discussions mirror each other. The concern here will be with what science is about, but as can be seen, the conclusions will have consequences for the discussion regarding the existence of theoretical entities.

The thing in itself is the reality behind all appearances. This is the experience-transcending, mind-independent, objective world. So, the question of interest here is whether the aim of science is to investigate empirical reality or whether the aim of science is to disclose the thing in itself behind the phenomena. The central concern here is whether science and metaphysics are in the same game, so to say: Whether both science and metaphysics aim to assert something about the thing in itself or whether scientific assertions are merely about ampirical reality.

In this debate it is taken to be indisputable that science has proven to be very successful in the systematization and classification of appearances and even the prediction of these. The assertions inferred from science have displayed an empirical adequacy which is second to none. This is a view that is arguably shared by all naturalists. Now, this success calls for

an explanation. Here, the scientific realists provide the most obvious one; the phenomena originate in the thing in itself and consequently, the empirical adequacy of science can be easily explained if it is assumed that science is a good account of the thing in itself. This is a variant of the previously introduced no miracles argument, however, this time it appeals to the thing in itself. It argues that the best explanation for the empirical adequacy of science is that science is a good description of mind-independent reality, the objective world, that is the cause of appearances.

The scientific realists are in opposition to the scientific anti-realists. The anti-realists recognize the predictive power of science and its empirical adequacy, but they express a skepticism with regard to the no miracles argument. According to the anti-realists, the thing in itself remains largely underdetermined even though science displays significant empirical success. Thus, realists and anti-realists agree that science provides good descriptions and predictions of the appearances, what they disagree about is the implication of this. The realist argues that the empirical adequacy implies that science is a similarly good description of the thing in itself, whereas the anti-realist denies that this conclusion is warranted.

The debate is sometimes described as an opposition between those who regard science to be true about the thing in itself, the realists, and those who deny this, the anti-realists. However, as already argued, there are good reasons to believe that the current best sciences are not true. The naturalists seem to be aware of this, but nevertheless many of them are realists. As I will argue later, Ney (2012) is a realist, however, she simultaneously acknowledges that there is still much work remaining to be done is science. About physics she manifestly writes: "today no one thinks that completing physics is only going 'to require more and more precise measurement' as Lord Kelvin suggested in 1900"[3] (Ney 2012, 70). This must suggest that Ney insists that significant changes will follow in the continued development of physics, and thereby, following her realist position, current physics cannot generally be true about the thing in itself. Similarly Ladyman and Ross favour a variant of scientific realism (Ladyman and Ross 2007, chap. 2), while they also recognize that science is incomplete (Ladyman and Ross 2007, 2). Consequently, it is reasonable to account for realism and anti-realism as a sort of attitude to science. Both the realist and the anti-realist view science as engaged in discoveries about the phenomena, however, the realist further maintains that science is simultaneously engaged in an investigation of the thing in itself. This is how I will conceive of the difference between realists and anti-realists in the following. In terms of truth, according to the realist completed science will be true about the thing in itself, while the anti-realist will maintain that completed science is merely true in the sense that it will be completely empirically adequate.

Anti-realists have in general two reasons to defend their view: epistemological and semantic.

[3]It has been argued that there is no evidence that Lord Kelvin has said anything like that. Rather, it is suspected that the quotation is misattributed to Lord Kelvin, while it is in fact a paraphrase of a passage from a speech given by Albert Michelson in 1884 (Horgan 2015, 12).

The epistemological reasons are those presented above. The anti-realist simply do not find us entitled to conclude that science is an authority on the thing in itself, only on the phenomena. There might be assertions about the thing in itself, but the successful assertions of science are simply not among them. Following the condition from 2.1, this is contrary to the successful assertions of metaphysics, and consequently, the assertions on either side of the deference in ontological naturalism do not concern the same, following the anti-realist.

The semantic reasons for anti-realism will result in a very different naturalism. For terminological clarity, such semantic anti-realism will be called instrumentalist for historical reasons, and 'anti-realist' will in the following only refer to those who are anti-realists for the epistemological reasons. The question of interest for the instrumentalists is a question also noted by Psillos, who formulates it as "whether science can possibly describe a mind-independent world" (Psillos 1999, xvii). He further qualifies that "[t]he main question here is whether it makes sense to say that there is a mind-independent world which science aims to describe and explain" (Psillos 1999, xviii). The instrumentalists question whether there is anything meaningful added when it is claimed that science is not only about the world of phenomena, but also about the thing in itself. The instrumentalists express the worry that expressions referring to the term 'the thing in itself' is problematic. It is in this sense that the instrumentalists are anti-realist for semantic reasons.

The instrumentalist conception of science is opposed to both scientific realism and anti-realism. Where the dispute between realists and anti-realists concerns whether one is epistemologically entitled to take science to be about the thing in itself, the instrumentalists reject the intelligibility of such a discussion altogether. According to the instrumentalists, there is no epistemological question, because the expression 'Science is about the thing in itself' is semantically problematic. This, however, makes an ontological naturalist who favours scientific instrumentalism an apparent oxymoron. If scientific realism and anti-realism are equally defective due to semantic problems with the term 'the thing in itself', then it is difficult to see how the same instrumentalists can propose that metaphysics can succeed to assert something about this thing in itself if it defers to the findings of science. Consequently, scientific instrumentalism should more properly be regarded as a threat to naturalized metaphysics, rather than an available view of science.

Thus, in summary an ontological naturalist can either be a scientific realist or anti-realist. The realist will display the attitude that it is warranted to take scientific assertions to be about the thing in itself, whereas the anti-realist will reject this. Notably, both take the discussion to be meaningful and substantive.

### 3.1.4 Is science consistent?

A minimal restriction that results from ontological naturalism must be that metaphysics does not contradict science. Thus, the assertions in metaphysics cannot be allowed to directly

contradict the assertions of science. However, it is not clear how to impose this restriction in the circumstance that both an assertion and its contradiction are members of science. Such contradictions must generally be expected in science, as they could be a result of competing theories where one is not clearly preferable over the other. Following the naturalist conception of science, such contradicting theories might both be regarded as scientific if the scientific community regards both as scientific, which would probably mean that they are both empirically adequate and have an associated predictive power, that they meet the high scientific standards for confirmation, and that they have been subject to institutional error filtering such as peer review. If both theories meet these standards there seem to be nothing which prohibits that they are both scientific, though they contradict each other.

In the light of this, the naturalist must answer how metaphysics is supposed to defer to the findings of science if science contains contradictions. One answer available to the naturalists is simply to insist that science, as the term is meant in this requirement, cannot contain contradictions. Thus, they regard it as a problem that must be solved with a proper conception of science, i.e. that science is such that it is consistent. This will probably include a further condition of demarcation, which requires that science is some consistent intersection of those theories and assertions that meet the other criteria. This will ensure that science cannot include contradictions and consequently the problem does not occur. Alternatively, if it is maintained that science can include contradiction, the naturalist must supplement ontological naturalism with an instruction guiding the conduct of the metaphysicist when faced with a contradiction. Supposedly, this will either instruct the metaphysicist to suspend judgement about the matter or to choose among the alternatives. The former instruction will de facto reproduce an ontological naturalism that results from a deference to a science that is required to be consistent or in agreement. Consequently, they will be treated as one position, though they might result from different attitudes.

To allow that the metaphysicist can choose among the alternatives opens a potential problem for the naturalist, since the choice must be either arbitrary or settled using potentially problematic metaphysical reasoning – perhaps some theoretical virtues whose credentials can be questioned. On the other hand, it might significantly reduce the topics dealt with by science, if it is required that science must be consistent. This will in turn reduce the topics where ontological naturalism can instruct metaphysics.

The problem with the potential inconsistency in science becomes even more significant if the naturalist principle is interpreted in such a way that metaphysics must defer to both findings of science and any logical implications of these. In that case a contradiction will pose an immediate problem since any assertion can be inferred from a contradiction. A contradiction in science will then allow that any assertion adheres to ontological naturalism. In consequence, the naturalist principle cannot serve as an instructive restriction, unless science is consistent or ontological naturalism is supplemented with instructions guiding the

allowable conduct of the metaphysicist when faced with a contradiction.

### 3.1.5 The logical implications of science

The logical implications of science is in itself a topic that also requires a brief mention. Scientific theories make reference to all sort of abstract entities, for instance mathematical entities such as fields, functions and numbers, but also generally abstract entities such as categories or natural kinds. Now, in so far as any existential quantification is made over these entities, it can logically be inferred that these entities exist. It seems to be an open question whether asserting the existence of for instance numbers is regarded as scientific, just because the assertion is logically implied by a member of science. This opens two question: One is whether a logical implication of science is itself a member of science. This is a question concerning the closure of science under deductions. The second is the question also aforementioned question of whether ontological naturalism requires a deference to both the findings of science and the logical implications of these. Obviously, an affirmative answer to the first question implies an affirmative answer to the second question, since any logical implication of science will then be a member of science itself. If science is not closed under deduction, i.e. if for instance these existence claims are not members of science, then it is an open question for naturalists whether metaphysics should defer to these existence claims, and generally whether metaphysics should defer to the logical implications of science. For practical purposes only the second question will be dealt with in the following, since an affirmative answer to this question will be de facto identical with an affirmative answer to both questions.

With such ambiguity, it is relevant to introduce a notion that is neutral as regards these two alternatives. Alexander Paseau (2010) introduces such a notion: 'scientific sanction'. Paseau explicates that $p$ is sanctioned by science if and only if "scientists correctly endorse $p$ qua scientists" (Paseau 2010, 642). Evidently, assertions in science are sanctioned by science, but it remains an open question whether an assertion is scientifically sanctioned if it is logically implied by science but not a member of science. Paseau's explication might indicate that the scientists have to believe that $p$, however, Paseau emphasizes that "science could sanction $p$ even if scientists disbelieve $p$" (Paseau 2010, 642). Thus, even if some scientists disbelieve $p$ and supposedly also if the scientist has formed neither belief nor disbelief about $p$, it might be the case that $p$ is sanctioned by science, because it is the enterprise as a whole which sanctions the assertion. How exactly an assertion comes to be scientifically sanctioned is not of immediate importance, but one might speculate that the sanctioned assertions are those that have been subjected to the previously mentioned institutional error filters. The important aspect of the notion 'scientific sanctioning' is that it remains an open question to the naturalist whether the logical implications of science are sanctioned by science, or whether it is only the members of science that are scientifically sanctioned.

## 3.2 Minimal, trumping and biconditional naturalism

Ontological naturalism invokes the requirement that metaphysical assertions must defer to the findings of science. This section shall investigate which restrictions a naturalist might impose as a result of this requirement. Three particular restrictions will be introduced: the minimal, the trumping and the biconditional restrictions. These are in order stronger and stronger requirements, however, it will be investigated whether the prima facie weaker restrictions might be equivalent to the stronger biconditional restriction.

For convenience, 'science' will refer to the collection of findings of science, and 'metaphysics' will refer to the collection of metaphysical assertions.

### 3.2.1 Minimal naturalism

When it is claimed that metaphysics must defer to science, this should at least require that metaphysics must not directly contradict science. This is the minimal conception of the deference of metaphysics to science. Consequently, this will be called minimal naturalism and the resulting restriction will be called the minimal restriction: this restriction postulates that metaphysics must not have any member which is the negation of a member of science. Put formally, it holds for any assertion $p$ and the collections 'metaphysics', $M$, and 'science', $S$, that:

$$\forall p \left(\neg(p \in M \wedge \neg p \in S)\right) \tag{3.1}$$

Obviously, this is a very weak naturalism. It is only relevant, if metaphysics and science are such collections that the same assertion or its negation might be members of both. Therefore, this restriction will only restrict metaphysics, if science is about the thing in itself. If scientific anti-realism is assumed, then the minimal restriction will be completely irrelevant to metaphysics, in the sense that it will not be instructive with respect to which assertions are genuine members of metaphysics, since science and metaphysics are such that no assertion or its negation is possibly a member of both collections. Notably, it is not enough that science logically implies an assertion that is not a member of science itself, which then contradicts a potential member of metaphysics. Following the minimal restriction, metaphysics might contain the negation of an assertion implied by science, if this assertion is not a member of science. This is of course only possible if science is not closed under deductions.

However, it seems reasonable that any naturalist must require that metaphysics can contradict neither science nor the logical implications of science and as a result, naturalists must strengthen the minimal restriction in order to ensure this.

### 3.2.2 Trumping naturalism

A naturalism invoking this requirement will be called 'trumping naturalism' following the name Alexander Paseau (2010) gives to a naturalism following the imperative: "Accept $p$, if science sanctions $p$" (Paseau 2010, 642). If an assertion is sanctioned by science, it should be a member of metaphysics, if it is a possible member of metaphysics. Thus, on trumping naturalism there is no assertion, $p$, such that $p$ is logically implied by metaphysics and $\neg p$ is scientifically sanctioned. With the introduction of the one place predicate scientific sanction, SA, this can be put formally:

$$\forall p\,(\neg(M \vdash p \wedge \mathrm{SA}(\neg p))) \tag{3.2}$$

Due to the different conceptions of the scope of scientific sanctioning, this formulation is indeterminate between the restriction that no logical implication of metaphysics can contradict a logical implication of science, and the restriction that no logical implication of metaphysics can contradict a member of science. It should be noted that the latter is implied by the former, since any member of science is trivially, logically implied by science. However, the opposite is not the case.

The formulation so far leaves out an important aspect of the imperative. We *must* accept $p$ if it is sanctioned by science. Supposedly, this means that if $p$ is sanctioned by science and $p$ is possibly a member of metaphysics, then $p$ is a member of metaphysics. Again, put formally:

$$\forall p\,((\mathrm{SA}(p) \wedge \Diamond(p \in M)) \rightarrow p \in M) \tag{3.3}$$

This principle ensures that the metaphysicist cannot choose not to include an assertion in metaphysics, if it is sanctioned by science and it is a possible member of metaphysics. There are no metaphysical reasoning which can allow such an exclusion of an assertion, if science sanctions it. This restriction is superfluous if not adopting $p$ is equated with adopting $\neg p$ since this would result in a contradiction that would then be restricted by the trumping restriction. However, if not adopting $p$ does not imply the adoption of $\neg p$ then this restriction ensures that $p$ must be adopted if it is a possible member of metaphysics and sanctioned by science. Due to its origin, this restriction will be called 'the imperative restriction'.

Combining the trumping restriction and the imperative restriction results in a naturalism that arguably captures a relevant interpretation of ontological naturalism. With these two restrictions, metaphysics defers to science in the sense that science is the authority on matters that are the concern of science. Consequently, assertions implied by metaphysics cannot be allowed to contradict assertions sanctioned by science and further, metaphysics must adopt scientifically sanctioned assertions that are within the subject matter of metaphysics. In

cases where metaphysics and science overlap, metaphysics should defer to science.

Finally, we can notice that even though trumping naturalism might be prima facie stronger than minimal naturalism, if science and metaphysics are closed under deductions, i.e. if any assertion logically implied by metaphysics or science is itself a member of metaphysics or science, then minimal naturalism is equivalent to trumping naturalism.

### 3.2.3 Biconditional naturalism

Trumping naturalism is a weak restriction in a similar way to minimal naturalism. If the assertions of science and those of metaphysics are completely unrelated, the restriction might not affect metaphysics even when including also the implications of science and metaphysics. On both minimal and trumping naturalism, a metaphysicist can disregard both restrictions as long as she keeps an appropriate distance to any inquiry, which is directly addressed by science or might be in the scope of a logical implication of science. Some if not most naturalists regard such metaphysics distanced from science with suspicion. Such metaphysics do not exhibit an adequate deference to science and they want to restrict it. Consequently, they might impose what Paseau calls biconditional naturalism, which he gives the following imperative formulation: "Accept $p$ iff science sanctions $p$" (Paseau 2010, 642). As the name suggests, this biconditional naturalism adds a direction as compared to trumping naturalism. We should not only accept any assertion that is sanctioned by science, further, these are the only assertions that we should accept. In the context of a naturalization of metaphysics, this imposes the restriction that any logical implication of metaphysics must be sanctioned by science. The opposite is not immediately the case, since many assertions implied by science are not implied by metaphysics. Consequently, we can provide the following formalization:

$$\forall p\,(M \vdash p \rightarrow \mathrm{SA}(p)) \tag{3.4}$$

or the equivalent formulation, which shares the form of the former restrictions:

$$\forall p\,(\neg(M \vdash p \wedge \neg\mathrm{SA}(p) \tag{3.5}$$

Which reads that there are no assertions logically implied by metaphysics that are not sanctioned by science. This is indeed a very strong restriction.

With this biconditional naturalism, it is even more important exactly which assertions that are sanctioned by science, as these assertions are the only acceptable assertions. Following a conception of scientific sanctioning, where the logical implications of science as well as the members of science are scientifically sanctioned, biconditional naturalism introduces the restriction that all assertions logically implied by metaphysics are logically implied by science. This can be given the following formalization:

$$\forall p\,(M \vdash p \rightarrow S \vdash p) \tag{3.6}$$

We will call this open biconditional naturalism. On the other conception of scientific sanctioning, only assertions in science are sanctioned by science and consequently, it is required that any assertion logically implied by metaphysics is a member of science, put formally:

$$\forall p\,(M \vdash p \rightarrow p \in S) \tag{3.7}$$

We will call this closed, biconditional naturalism. Here metaphysics must be a part of science or more precisely, metaphysics must be a subset of science.[4] Put formally:

$$\forall p\,(p \in M \rightarrow p \in S) \tag{3.8}$$

This restriction is even stronger than open, biconditional naturalism. Metaphysics is simply a part of science.

Under the assumption that science is closed under deduction, open, biconditional naturalism is equivalent to closed biconditional naturalism, since closure under deduction entails:

$$\forall p\,(S \vdash p \leftrightarrow p \in S) \tag{3.9}$$

Even open, biconditional naturalism is probably too strong for some naturalists. However, settling on a restriction between trumping and biconditional naturalism is difficult since any such restriction must try to stipulate under what conditions metaphysics wanders too far from science without restricting metaphysics to the implication of science and thereby reproducing biconditional naturalism. See Chakravartty (2013) for an attempt at a middle ground between trumping naturalism and biconditional naturalism.

Like trumping naturalism, biconditional naturalism is introduced as an imperative. Again this must imply that the metaphysicist has no choice of whether to accept an assertion as metaphysical, if the assertion is a possible member of metaphysics and is sanctioned by science. Above, this was formalized in the imperative restriction: $\forall p\,((\mathrm{SA}(p) \wedge \Diamond(p \in M)) \rightarrow p \in M)$, which must be imposed alongside the biconditional restriction in order to reproduce biconditional naturalism.

These expositions emphasize that biconditional naturalism is prima facie stronger than trumping naturalism. However, making certain assumptions about science and using what

[4] Since $\forall p\,(p \in M \rightarrow M \vdash p)$ and $\forall p\,(M \vdash p \rightarrow p \in S)$ together implies $\forall p\,(p \in M \rightarrow p \in S)$.

Paseau calls the collapse argument, it can apparently be shown that these two naturalisms are equivalent under these assumptions. Following Paseau (2010, 644–645), the argument goes like this: According to trumping naturalism there are two possibilities, either science sanctions $p$ or it does not sanction $p$. If $p$ is sanctioned by science then we must accept $p$. If science does not sanction $p$ it either sanctions $\neg p$ or it neither sanctions $p$ nor $\neg p$. If science sanctions $\neg p$ we must reject $p$ and therefore not accept $p$. All this follows trivially. Now according to the argument, if science neither sanction $p$ or $\neg p$, it sanctions not sanctioning $p$. Science sanctions its own disbelief about $p$ and $\neg p$. Following trumping naturalism, if science sanctions not sanctioning $p$ we must accept that neither $p$ nor $\neg p$ is sanctioned. Following the argument, this is interpreted such that science sanctions the statement 'suspend belief about $p$' if science neither sanctions $p$ nor $\neg p$. So, according to trumping naturalism we should accept $p$ if science sanctions $p$, reject $p$ if science sanctions $\neg p$ and accept to suspend belief, if science neither sanctions p nor $\neg p$. Thereby, only the assertions sanctioned by science should be accepted. This is equivalent to biconditional naturalism.

This argument presumes that scientific sanction is reflexive such that if $p$ is not sanctioned then it is sanctioned that $p$ is not sanctioned. Again, if it is assumed that science sanctions those assertions that are logical implications of science, then this implies that not sanctioning $p$ is logically implied by science. This has the consequence that either assertions about scientific sanctioning are members of science, or that it can be shown within science itself what assertions science sanctions. This must at least be defended.

Paseau (2010, 646) gives several other objections to the collapse argument, among them the objection that the reflectivity thesis for scientific sanction is so strong that scientific sanctioning must be inconsistent due to Gödel's second incompleteness theorem. However, he himself answers this and the other objections, but one objection remains unanswered. In this objection, Paseau questions what he calls "the metaproposition" that disbelief about $p$ should implies the imperative 'suspend belief about $p$'. He argues that disbelief about $p$ amounts to not sanctioning anything about $p$, and to infer that it implies 'suspend belief about $p$' assumes biconditional naturalism, thereby assuming what is supposed to be shown. More precisely, Paseau (2010, 647) provides a formal deduction, which shows that science must sanction biconditional naturalism in order for trumping naturalism to be equivalent to biconditional naturalism. It can hardly be surprising that this follows from trumping naturalism since it states that if science sanctions biconditional naturalism, then we should accept biconditional naturalism. However, as Paseau points out, it is questionable whether science sanctions that every assertion which should be accepted is sanctioned by science. In consequence, he concludes: "The logical gap between TN [trumping naturalism] and BN [biconditional naturalism] is therefore real and not bridgeable by a valid scientific argument. An argument for BN must apparently come from outside of science" (Paseau 2010, 648). From the point of view of naturalism, is is difficult to see what this argument might appeal to if not science.

## 3.3 Variants of naturalized metaphysics

The previous chapter argued that attempts at metaphysics are successful only if metaphysics defers to science. Metaphysics restricted in this way is naturalized metaphysics. The two previous sections expose the differences that result among naturalized metaphysics from the available deviant views about science investigated in section 3.1 and varieties among the exact restrictions following the deference of metaphysics to science that was investigated in section 3.2. Thus, naturalized metaphysics is a range of positions that all invoke variants of ontological naturalism. Below, some of these varieties will be considered.

In principle, it is possible to discuss any combination of answers to the questions suggested in the two previous sections and their consequent positions. However, the interest in these positions is ultimately to know of their differences. Therefore, the scope here is limited to demonstrating how the details of a naturalization determine the sort of metaphysics that results from the naturalization and the task for metaphysicist, and how differences in these details result in differences for metaphysics and metaphysicists. These considerations will then later serve to ensure that there are no variants of naturalized metaphysics that can avoid the problems proposed in the next chapter.

Besides these preliminary qualifications of how a particular naturalization determines the scope of the resulting naturalized metaphysics and the related task for the metaphysicist, this section will also discuss some criticism which threatens to withdraw any content from naturalized metaphysics and some remarks will be made on how the investigations from the previous sections provide useful insight as analytic tools in the study of naturalized metaphysics.

### 3.3.1 Moderate naturalism

As it has been remarked already, it seems to be a contemporary doctrine in our culture that any investigation must accord to the findings of science. Further, only science itself has the authority to overturn scientific theories and replace them with new ones. Very few philosophers today will outright deny this doctrine. The pre-Socratic philosopher Parmenides has famously argued that everything is one, uniform, eternal, unmoveable and consequently, that there cannot be change. This obviously is contrary to how it appears to be in the world, however, Parmenides favoured the authority of his rationalistic method over that of his senses. Parmenides' argument inspired the famous paradoxes of Zeno, among them the paradox of the tortoise and Achilles, the purpose of which was exactly to demonstrate the necessity and truth of Parmenides' cosmology despite its apparent falsity. In this sense, Parmenides and Zeno can be viewed as rejecting ontological naturalism, i.e. that the findings of empirical science has an authority over the conclusions of philosophical theorizing, but it is questionable whether anyone will follow Parmenides and Zeno to this conclusion today.

Instead, a moderate naturalism has even influenced traditional analytic metaphysicists such as Lowe and Laurie A. Paul, who both in passing claim that they, too, commit to naturalism in the sense that they recognize the authority of science on empirical matters, and consequently that metaphysics should defer to science on these matters (Lowe 1998, 5–6; Paul 2012, 3). It simply seems unreasonable to deny science this authority in the light of the success of science.

In the context of metaphysics, this moderate naturalism is simply the introduced trumping naturalism: $\forall p\,(\neg(M \vdash p \wedge \mathrm{SA}(\neg p)))$, which requires that no logical implication of metaphysics may contradict an assertion sanctioned by science. As previously noted, for any work in metaphysics that is adequately detached from matters that are the concern of science, the commitment to trumping naturalism has no influence and consequently no instructive implications. This is so both when scientific realism and scientific anti-realism is assumed, even though the metaphysically interesting topics outside the influence of trumping naturalism are supposedly fewer under the assumption of realism, since science then might engage in the same questions as metaphysics, those about the thing in itself. The question of whether science is completed enters here in an interesting way under the assumption of scientific realism. Under this assumption, if science is incomplete in the sense that there are still matters that are ultimately the concern of science but about which science does not yet sanction any assertions, then nothing prohibits the metaphysicist from engaging in an investigation of these matters as long as it is recognized that any conclusion reached by the metaphysicist is trumped by science, if science reaches a state where it sanctions an assertion about the matter. This will again expand the range of matters which metaphysics can engage in; even when assuming scientific realism.

Naturalizations of metaphysics by trumping naturalism leaves much of metaphysics unaffected whether realism or anti-realism is assumed. However, this in turn makes it very difficult to see how such a naturalized metaphysics should answer how metaphysics is possible, at least if most of metaphysics is under the suspicion of being problematic. Trumping naturalism leaves so much of metaphysics unaffected that it is implausible that anyone should invoke trumping naturalism as a means to instruct how to avoid the problems of metaphysics, besides the potential problem that metaphysics contradicts science either knowingly like Parmenides or unknowingly. It is simply difficult to see how trumping naturalism can resolve any of the problems of metaphysics, when it invokes such a relatively weak restriction that allow metaphysics to be very detached from science. Thus, if the conclusion of the present project were merely that trumping naturalism is not an answer to how metaphysics is possible, this would again be somewhat futile. Supporters of trumping naturalism such as Lowe and Paul are confident that metaphysics is generally possible, but not as a result of a naturalization due to trumping naturalism.

### 3.3.2 Implications of biconditional naturalism

Most naturalists endorse the much stronger biconditional naturalism, precisely because many naturalists suspect that the problems of metaphysics occur exactly when metaphysics gets too detached from science. As proposed, biconditional naturalism can solve this since it requires that any assertions logically implied by metaphysics must be sanctioned by science: $\forall p\,(M \vdash p \rightarrow \mathrm{SA}(p))$. As it was also shown, this restriction conflates two restrictions that differ due to the varying conception of scientific sanctioning. One is open, biconditional naturalism with the restriction that all assertions logically implied by metaphysics are logically implied by science: $\forall p\,(M \vdash p \rightarrow S \vdash p)$ and the other is closed, biconditional naturalism with the restriction that all assertions logically implied by metaphysics are members of science: $\forall p\,(M \vdash p \rightarrow p \in S)$. Closed, biconditional naturalism is the most restrictive. Again, it implies that metaphysics is a subset of science: $\forall p\,(p \in M \rightarrow p \in S)$.

Closed, biconditional naturalism simply withdraws the autonomy of metaphysics and its status as an independent field of inquiry. According to closed, biconditional naturalism, whatever metaphysics contains it is science. Science is divided into individual scientific disciplines, so according to closed, biconditional naturalism, metaphysics must find its place among these. Three possibilities are available: I) Metaphysics is simply identified with parts of one or more of these disciplines, the task of the metaphysicist is simply to read off the metaphysics of science and thereby construct this special collection of scientific assertions. The analysis of Ney's naturalized metaphysics will reveal that she endorses this view. II) Metaphysics serves as an interdisciplinary investigation, perhaps in showing the consistency of science and scientific theories. Such a conception is proposed by Ladyman and Ross (2007, 27–45). III) Metaphysics is simply one of the scientific disciplines, and has a place among them and consequently, 'metaphysicist' is merely the name of a scientist engaged in this disciple. This third option is vague in this formulation. It seems to provide leeway for the metaphysicist to simply accept that metaphysics is part of science and then continue doing metaphysics as before. This, however, would be to disregard the settled-upon conception of science. As argued, science is a very particular collection of assertions, which are characterized by their empirical adequacy and successful passage through the institutional error filters. Even being an autonomous part of science, metaphysics must comply to this, and consequently, the metaphysicist must exhibit ingenuity in order to find parts of science that are not already dealt with by another scientific discipline. This is metaphysics *as* science, and such a conception is for instance proposed by Bunge (1972). For closed, biconditional naturalism, the supplementary imperative restriction entails that there is no task for the metaphysicist in arguing exactly which scientific assertion that should also be part of metaphysics, at least once it is defined what assertions that are possible members of metaphysics. Thus, once it is settled what metaphysics is about, it follows directly which subset of science is included in metaphysics. There is no special metaphysical reasoning which the metaphysicist can invoke to argue that certain scientific assertions are

not members of metaphysics, unless it can be argued that the assertions are not possible members of metaphysics.

In relation to closed, biconditional naturalism, the matter of realism and anti-realism has no direct influence on metaphysics. Metaphysics is simply a part of science and therefore, metaphysics must also be subject to the assumed realism or anti-realism. Thus, if scientific anti-realism is assumed, such a naturalized metaphysics cannot be an answer to how metaphysics is possible. Metaphysical assertions must be about the same as the rest of science, so under the assumption of anti-realism, metaphysical assertions are not about the thing in itself. On the other hand, if realism is assumed, a more positive prospects are available for naturalized metaphysics since the proposed condition for metaphysics would then be adhered to by all of science, including metaphysics. This does not imply that such a naturalized metaphysics is an answer to how metaphysics is possible, but just that this particular condition is adhered to by assumption.

Open, biconditional naturalism leaves slightly more room for metaphysics. It does not entitle us to infer that metaphysics is merely a part of science, but it still requires metaphysics to be either assertions of science or assertions logically implied by science, since the implied conception of scientific sanctioning suggests that also logical implications of science are scientifically sanctioned. This allows the metaphysicist to engage in a task of finding these logical implications of science and on the ground of these to establish the collection of metaphysics. We might suggest that this is the task often described as interpretation of science. Such a task is not available for the metaphysicist under the assumption of closed, biconditional naturalism, if metaphysical interpretation of science is beyond science. Open, biconditional naturalism, on the other hand, allows for such a work. Here, metaphysics can consist of assertions that are not members of science but which have inherited a scientific sanctioning from the theories that these metaphysical assertions are inferred from. This is a metaphysics *of* science. Under the assumption of realism, one might suspect that metaphysics and science have a significant intersection and this work might therefore be somewhat limited since the assertions of science in that case themselves are about the thing in itself. Consequently, we must expect that much of the metaphysics of science is merely science like it is the case with closed, biconditional naturalism, and the metaphysicist's task would primarily consist in finding these scientific assertions that are members of metaphysics. The imperative restriction ensures that this intersection is as large as it possibly can be. Since any possible members of metaphysics sanctioned by science must be a member of a metaphysics. Since science is about the thing in itself following realism, it follows that all possible members of metaphysics that are members of science are members of metaphysics. Supposedly, there remain assertions that can be inferred from the assertions of science that are metaphysical in nature, but which do no belong to science. Thereby metaphysics is not a subset of science. However, due to the imperative restriction, the members of metaphysics are still forced upon it, since any assertion sanctioned by science must be accepted.

If anti-realism is assumed, there seems to be more genuine interpretive work to do for the metaphysicist. Here science is merely considered to be an adequate description of the appearances and consequently, a substantial task would be involved in inferring conclusions about the thing in itself, which due to the underdeterminism of science to the thing in itself would probably take the form of modal statements of possibility. The intersection between metaphysics and science is necessarily empty when anti-realism is assumed since science and metaphysics have different subject matters, however, the imperative restriction still forces the anti-realist to adopt any assertion that is sanctioned by science. Since both members of science and logical implications of these are scientifically sanction acoordin to open, biconditional naturalism and the anti-realist's metaphysics necessarily is composed of such assertions due the biconditional restriction, it still follows from the imperative restriction that the anti-realist must adopt these logical implications as members of metaphysics, if they are possible members.

As mentioned, biconditional naturalism seems to be a more appropriate interpretation of ontological naturalism, if a naturalized metaphysics building on this should be an answer to how metaphysics is possible. However, open, biconditional naturalism might face problems if anti-realism is assumed, since it is not clear how metaphysics can inherit scientific sanctioning as assertions about the thing in itself from the scientific assertion, when it is exactly assumed due to anti-realism that the thing in itself is underdetermined by science. The extent of the difficulty will depend on the exact reasons behind the naturalist's anti-realism.

### 3.3.3 Allen's critique of naturalized metaphysics

The combination of the biconditional and the imperative restrictions confines the metaphysicist, such that she can only rely on the findings of science in the construction of metaphysics. According to biconditional naturalism science is the only authority. There are no other means to discover and justify members of metaphysics than through the investigation of scientific theories and their implications, and the imperative restriction entails that there is no metaphysical reasoning that is relevant for the adoption of these assertions into metaphysics. If science sanctions them, they must be accepted.

This effectively prohibits any other means of acquiring knowledge in metaphysics besides the means available in science. Apart from the findings of science, only logical deduction is available to the metaphysicist, however, this is in principle not a means to acquire anything but knowledge already implied by the premises. According to biconditional naturalism, metaphysics cannot tell us anything about the thing in itself on its own; it must rely on the findings of science. This de facto reproduces the sort of methodological naturalism which entails that only science and supposedly thereby the methods of science can produce the knowledge available for the construction of a metaphysics. If metaphysics itself becomes a science, it may be involved in the production of this knowledge, but only as a science. If

metaphysics remains distinct from science, the task for the metaphysicist is as a handmaiden to science, who helps scientists to read off those metaphysical commitments that are logically implied by science.

Sophie Allen (2012) worries about this confinement of metaphysics. Her critique is initially directed at what she describes as a methodological naturalism which implies a "continuity of metaphysics with empirical investigation" (Allen 2012, 212). A metaphysics that "shares its methodology with science (whatever the methodology of science may be). Naturalized metaphysical theories are only open to revision on logical grounds or upon those which are naturalistically or empirically acceptable" (Allen 2012, 212). While biconditional naturalism does not directly impose these methodological restrictions, such restrictions follow as a consequence of the restriction that metaphysics can solely rely on the findings of science as already argued. In so far as these findings are brought about by a scientific method, then biconditional naturalism is a methodological naturalism by association and consequently, Allen's critique applies to it.

According to Allen, such a naturalized metaphysics is incompatible with robust realism, the view that our metaphysical theories are about the thing in itself. Allen describes it as "the requirement [...] that we can know about the objectively-existing ontology of the mind-independent natural world" (Allen 2012, 221). This is an interesting criticism since it once again threatens to render the present project futile. If biconditional naturalism implicitly assumes that robust metaphysical realism is wrong, i.e. if biconditional naturalism implies that there are no theories and assertions that are true about the thing in itself, then the biconditional restriction could not serve as an instruction as to how metaphysics is possible. Nothing would then adhere to both the biconditional restriction and the proposed condition for metaphysics. Ney shares the view that metaphysics cannot be possible as biconditional naturalism, however, in her view this is due to a simple contradiction. As will be demonstrated below, there is no such contradiction.

Allen's outset is the following set of premises:

> [1] More than one ontological theory fulfils the same explanatory aims.
> [2] If robust realism is true, then one of these theories is the correct, or true one.
> [3] If one takes a naturalistic approach to metaphysics, then there is no method of choosing between theories which: (a) is naturalistically acceptable; (b) does not presuppose the existence of some of the very ontology postulated by the theory.
> [4] If there is no basis for choice, then any decision between theories would be arbitrary, which is not acceptable from the point of view of realism (nor, perhaps, in general). (Allen 2012, 214)

Allen notes that this set premises is contradictory, which according to her implies one of the following:

> Conclusion 1: Robust realism is false: realism should be relaxed or abandoned in

> favour of another way of regarding the relationship between our theories and the world.
> Conclusion 2: Naturalized metaphysics cannot be sustained in its current form.
> Conclusion 3: One of the above premises is false. (Allen 2012, 214)

Obviously, the biconditional naturalist who regards naturalized metaphysics as answering how metaphysics is possible cannot accept conclusion 1 and 2, thus they must prefer the third conclusion or argue that the four premises are not contradictory after all. The latter option does not seem to be viable and consequently, the naturalist must argue that one of the premises is false. However, Allen goes to great lengths to show that this third conclusion is at least very unlikely and this of course, is what drives Allen's criticism home as a significant problem for naturalized metaphysics. About the second premise, Allen writes: "Premise (2) is true by definition, since the robust form of realism with which I am concerned makes the ontological claim that there is a way the natural world is" (Allen 2012, 215). Our biconditional naturalist must agree to this. This is required in order for there to be assertions about the thing in itself. According to Allen, "[p]remise (3) is the hardest to establish" (Allen 2012, 215). This might very well be the case for methodological naturalism, but the biconditional naturalist has only logical methods and the findings of science available and consequently, if it is underdetermined by science what theory to prefer and none of them is contradictory, then indeed there cannot be any way for the naturalist to choose between them. This leaves only premise (1), but Allen writes: "This premise is not particularly contentious, but it may not be an obvious claim to all" (Allen 2012, 214). As a consequence, Allen provides three examples of metaphysical questions, where there are several distinct theories available. This seems to settle the matter unfavourably for the naturalist. However, there are two responses available to the naturalist. One is proposed by Allen almost as an afterthought at the end of her paper and concerns premise (4). The other is not mentioned by Allen, and presents a way to undermine Allen's support for premise (1).

Premise (4) really conflates two distinct premises as it contains two distinct claims. The first, Premise (4a), is that "If there is no basis for choice [between theories], then any decision between theories would be arbitrary" (Allen 2015, 214). If this were all there was to premise (4), then the set of premises would not be contradictory. Rather, these four premises would merely imply that there are competing metaphysical theories where any choice among them must be arbitrary if the choice is made by a robustly realistic naturalist. Now, the set of premises are only contradictory if the set includes premise (4b) that this arbitrariness "is not acceptable from the point of view of realism (nor, perhaps, in general)" (Allen 2015, 214). Premise (4a) is uncontentious and perhaps even true by definition. Premise (4b) on the other hand is less self-evident. Why is it not acceptable for the realist that we have no means with which to choose between certain competing ontological theories? Allen does not address this directly, but the following passage might shed some light on the matter: "The implication of not being able to explicate ontological priority in naturalized metaphysics

would result in the ontological alternatives discussed in Section 3 [the competing ontological theories] being only terminologically different" (Allen 2012, 232). If we take this "not being able to explicate ontological priority" to mean that there is no non-arbitrary way for us to choose between theories such that we cannot argue for the ontological priority one over the other, then Allen seems to suggest in this passage that this has the consequence that the difference between such competing theories is merely verbal. That the difference is merely verbal entails that the question is either completely deflated, i.e. that there is not fact of the matter ,or at least that all the competing theories describe the same matter of fact which implies some sort of structuralism. Indeed, Allen seems to regard such a structuralism to be the only position available for a robustly realistic naturalist. She writes:

> 'Strong' or 'Ontic Metaphysical Structuralism' would diagnose the failure to detect a difference between theories as being evidence for the fact that there is no objective difference between ontological theories, the structure is all that there is. This strong version of structuralism opens the door once more to robust realism in naturalized metaphysics, albeit in a new and intriguing way, since Premise (4) of the argument which asserts that the realist metaphysician must make a decision between competing ontological theories (which has hitherto been uncontested) no longer holds. One could be a realist about the shared ontological structure—whatever that is—of all the explanatorily equivalent ontological theories, maintaining that this structure is or represents the ontological structure of the objective natural world (Allen 2012, 232).

This strong or ontic metaphysical structuralism implies that premise (4) is false, and more precisely, following the distinction introduced, it implies that premise (4b) is false, whereby the structuralist can accept conclusion 3 and consequently avoid the problematic conclusions 1 and 2. It is worth noticing the emphasis when she writes: "This strong version of structuralism opens the door once more to robust realism in naturalized metaphysics" (Allen 2012, 232). It is this special sort of strong structuralism that opens the door.

Allen contrasts strong structuralism with a weak structuralism. About this position she writes: "'Weak' or 'Epistemic Metaphysical Structuralism' would treat the failure of naturalized metaphysics to distinguish between alternative ontological theories as an epistemic problem; one or another of the ontological theories we have might be true of the objective world, but we cannot tell which one that is" (Allen 2012, 232). According to weak structuralism, it is for epistemological reasons that we cannot choose between competing ontological theories. Whether this is adequately described as a structuralism is debatable but nevertheless, this line of reasoning might be the most compelling to the naturalists. It provides the qualification of premise (4a) that the choice is arbitrary for epistemological reasons, however, the naturalist will probably maintain that it does not follow that there is no fact of the matter. Rather, the epistemological problems entail that we must accept that we can only justify to assert that each of these competing theories is possible and that we have no means of settling which of

them is true of the actual world. This seems to allow the naturalist to remain a robust realist because premise (4b) is rejected. That there are no epistemological means to settle which of the theories is true in the actual world does not imply that robust naturalism is false.

Returning to Allen's formulation from above, she does not seem to agree to this. She specifically emphasizes that it is strong structuralism that opens a door to robust realism once more in naturalized metaphysics, whereas she says nothing of the sort about the weak structuralism. It is not clear why Allen rejects that weak structuralism can open this door, but we might speculate that she regards the mentioned epistemological problems as unavailable. If there are no such epistemological problems that can explain why we should be unable to choose between the competing theories, then this must imply that they are not ontologically distinct after all. This in turn leads us to the strong structuralism. Thus, the weak structuralist has to provide epistemological reasons why the choice cannot be made even though the theories are ontologically distinct. We can speculate that it is Allen's view that the weak structuralist cannot provide such reasons. Perhaps because there are no such reasons following the robustly realistic naturalism that Allen has in mind.

It must remain speculation, but perhaps Allen requires of a robustly scientific naturalist that she can reproduce the current debates in metaphysics or at least that this naturalist must be able to make some sense of the current debate. This is achieved with both deflationism and strong structuralism, the former explains the debate as concerned with a merely verbal dispute, whereas the latter endorses an underlying view of ontology which can explain why there is only a superficial difference between the competing ontological theories while in fact they are ontologically equivalent; it is only the structures on which they agree that actually exist. The weak structuralist on the other hand has no immediate explanation for the debate. Rather, the weak structuralist must simply acknowledge that there is no way to reproduce the debate in naturalized metaphysics even though the robust realism entails that there is a fact of the matter. Metaphysics becomes restricted if weak structuralism is assumed in order to prove one of the premises (1)-(4) wrong. However, at least for our biconditional naturalist this is not a problem. To the contrary, it is to be expected. The initial motivation for the naturalization was exactly that all of metaphysics was under suspicion as being defective. The naturalization is introduced to instruct us which parts of metaphysics remain successful. This is the condition in which metaphysics finds itself and the reason why a naturalization is imposed. It is proposed that biconditional naturalism can save the metaphysics which can be established from those assertions that are sanctioned by science. If science only sanctions the assertions regarding the possibilities of these competing ontologies and does not sanction one rather than the other as the ontology of the actual world, then there is no way to choose between these competing theories. However, the naturalist does not promise that. In fact, the motivation behind the naturalization should make us expect that much of current metaphysics will prove not to be genuine metaphysics after all.

This line of argument even suggests how a radical deflationism about the debate engaged in by

these competing theories might be an available solution even for a robustly realistic naturalist. Premise (1) states that there are more ontological theories which serve the same explanatory purposes and even though Allen regards this as uncontestable, the biconditional naturalist might indeed contest it due to the problems facing metaphysics that the naturalization is supposed to avoid. Now, the biconditional naturalist argues to solve the problems of metaphysics, however, only for those assertions that adhere to the appropriate restrictions. Thus, if the competing ontological theories in question do not adhere to these restrictions then naturalism does not save them from the problems facing metaphysics. It is exactly the conjecture of the naturalist that only the naturalized metaphysics avoid these problems and thereby, the naturalist can remain a robust realist with respect to the naturalized metaphysics and simultaneously regard non-naturalized metaphysics as misguided and perhaps defective. Thus, if the competing theories are not part of the naturalized metaphysics, then the naturalist might simply reject the first premise; there are no competing ontological theories because they cannot be ontological theories. Obviously, it still remains to be shown how naturalization of metaphysics ensures that these problems are avoided.

This concludes the investigation of Allen's critique of naturalized metaphysics. It has been shown how the biconditional naturalism is not contradictory to a robust metaphysical realism. As will be demonstrated in the next chapter, naturalized metaphysics is not an answer to how metaphysics is possible, but the problem is not a mere contradiction with the condition for metaphysics. Rather, the problem is a general problem faced in the attempt to obey to this condition.

# Chapter 4

## The possibility of naturalized metaphysics

This concludes the preliminary clarification required to investigate whether naturalized metaphysics answers how metaphysics is possible. In the chapter 2, it was argued that such an answer should instruct how to succeed in the attempts to assert something about the thing in itself, and it was established that proponents of naturalized metaphysics regarded naturalized metaphysics to provide such an instruction. Formally, this instruction should take the form of a restriction that is obeyed by all successful attempts at metaphysics. The restriction proposed by naturalized metaphysics is that metaphysics should defer to the findings of science. Consequently, for naturalized metaphysics it should be such that attempts at metaphysics are successful only if they defers to the findings of science. As was argued in chapter 3, this does not provide a single answer to how metaphysics is possible but a range an answers that differ due to different interpretations of ontological naturalism.

This chapter will argue that there is problem facing metaphysics that is not avoided if metaphysics defers to the findings of science. This problem arise from Carnap's challenge to metaphysics and I will argue that it is equally significant to naturalized and non-naturalized metaphysics alike – ontological naturalism cannot serve as an instruction to avoid this problem – and therefore metaphysics is neither possible as naturalized nor as a non-naturalized metaphysics until or unless this problem is solved. The solution is not provided by naturalized metaphysics

Because of the range of interpretations of ontological naturalism, this argument must demonstrate how a whole range of position cannot be such an instruction. Rather than considering one position at a time, the approach will be to make a thorough analysis of the naturalized metaphysics introduced in Alyssa Ney's "Neo-positivist metaphysics" as a solution to the particular problem facing traditional metaphysics. For this investigation, the systematic account will prove very valuable, since chapter 2 and 3 provide the analytic tools needed for a detailed study of any naturalization of metaphysics. So in this analysis one must inquire which sort of naturalism that are introduced and whether in is a revision motivated by the problems facing metaphysics. Further, attention must be paid to the naturalists conception of science and the exact nature of the deference of metaphysics to science in order to achieve a detailed view of the resulting naturalized metaphysics. One must inquire

whether a scientific realism, anti-realism or instrumentalism is presupposed, whether science is viewed as true and consistent, whether scientific sanctioning includes logical implications of science, and whether a truncating or bi-conditional naturalism is imposed. This will establish exactly the sort of naturalized metaphysics that Ney introduces. It will then be argued that Ney's naturalized metaphysics cannot serve an instruction how metaphysics is possible in the light of the problems facing metaphysics. It then remains to show that non of the remaining variants of naturalized metaphysics fares any better and this is achieved by systematically considering variations with an outset in Ney's naturalized metaphysics. Arguing that these variations fares no better will then serve to demonstrate than naturalized metaphysics in general is not an answer to how metaphysics is possible.

## 4.1 Problems for metaphysics

As previously established, the proponents of naturalized metaphysics regard traditional analytic metaphysics as problematic. Ladyman and Ross in particular strongly criticise this tradition and describe it as neo-scholastic metaphysics (Ladyman and Ross 2007, 7), thereby making a mocking identification between recent work in analytic metaphysics and the scholastic metaphysics of the late Middle Ages in the style of Thomas Aquinas. Ladyman and Ross thoroughly review a vast number of problems facing such metaphysics that, according to them, arise from to the lack of a proper naturalization of metaphysics. This includes both what they consider to be a complete disregard for the findings of science and what they call "[p]seudo-scientific metaphysics" (Ladyman and Ross 2007, 17).

These problems for metaphysics will not be considered in the present project. Instead, attention will be given to Carnap's challenge to metaphysics from "Empiricism, Semantics, and Ontology". This is the challenge that I propose is equally significant to both naturalized and non-naturalized metaphysics and thereby expose that naturalized metaphysics does not answer how metaphysics is possible.

### 4.1.1 Linguistic frameworks

As a member of the Vienna Circle and as a prominent logical positivist, Rodolf Carnap is well known for his suspicion towards metaphysics. Perhaps most famous is his criticism of metaphysics founded on the verifiability criterion of meaning that is very prominent is his writing from the early thirties (see Carnap (1932; 1935)). The sort of metaphysics under suspicion here is the traditional metaphysics ranging from pro-Socratic philosophers such as Thales, over Plato and up to more recent figures such as Spinoza, Shelling, Hegel and Bergson. Both monists, dualists, materialists, realists, idealists, and solipsists are attacked (Carnap 1935, 16), all because their doctrines do not adhere to Carnap's verifiability criterion of meaning.

The challenge considered here, however, is another one. It is a challenge from his later semantic period primarily developed in his article "Empiricism, Semantics, and Ontology" (1956a). The challenge to metaphysics found in this article has received extensive interest in recent years. This is manifested in the anthology *Metametaphysics* (2009) and in the forthcoming anthology *Ontology after Carnap*. Both deal extensively with what can appropriately be called Carnap's metaontology or metametaphysics. This metametaphysics, however, does not take the form of a criticism of traditional metaphysics. Carnap's opponents in "Empiricism, Semantics, and Ontology" are no longer Hegel, Bergson, and Heidegger, rather, the article is a reaction to the accusation that his semantics entail Platonism, an accusation that was made by some of his own logical empiricist friends, who were inclined towards nominalism (Carnap 1963a, 65). The debate concerns the existence of abstract entities. Carnap's semantics includes reference to such entities – classes, properties, numbers, etc. – and this is problematic, according to the nominalists, because abstract entities do not exist. Carnap's reply to this accusation is rather unusual. Rather than arguing in favour of Platonism, he argues that both Platonism and nominalism are pseudo-statements (Carnap 1956a, 218). Thus, rather than taking a side in the debate, Carnap rejects the debate altogether, at least in so far as it attempts to discuss whether abstract entities really exist, and he thereby rejects the presumption that this debate must be settled prior to the employment of semantics of terms referring to abstract entities. Carnap's motivation for this work was to answer the nominalists' criticism of his work in semantics, however, since his answer takes the form of an attack on the philosophical standpoint of his critics, the scope of his answer became more than a rejection this criticism. By rejecting the question about the existence of abstract entities as a pseudo-question, Carnap once again challenges a question that belongs to the field of metaphysics. Indeed, the scope of the challenge reaches beyond the discussion over abstract entities to all attempts at discussions about the thing in itself.

Though the initial aim is different, this result appears to mirror Carnap's earlier criticism of metaphysics, however, it is worth keeping his earlier work apart from this later challenge to metaphysics. It is debated whether the verifiability criterion of meaning plays any role in "Empiricism, Semantics, and Ontology", and regardless, the role is at most minor. Instead, this later challenge to metaphysics has its outset in his theories of semantics, which he had not begun to develop in the early thirties, when the verifiability criterion of meaning was central to his criticism of traditional metaphysics.[1]

Carnap founds his arguments on what he calls a linguistic framework. In a minimal interpretation these are merely language fragments (Haug 2014a, 357), however, they are probably more adequately regarded as systems that define the syntactical and semantic rules for linguistic expressions within the framework (Carnap 1956a, 214; 219). With such

[1] In his autobiography (Carnap 1963a, 60–62), Carnap describes how he regarded an adequate definition of semantic concepts impossible until conversations with Tarski in the thirties introduced him to the semantic conception of truth.

an interpretation, the linguistic frameworks appear similar to what Carnap calls 'semantic systems' in *Introduction to Semantics* (1942): these are systems of rules formulated in a metalanguage that determine the truth-conditions for every sentence in the object language (Carnap 1942, 22). Thus, when a sentence is stated within a linguistic framework, it is the framework that determines the necessary and sufficient conditions for its truth. This is of course essential for the evaluation of the truth of that sentence. As Carnap writes: "To know the truth-condition of a sentence is (in most cases) much less than to know its truth-value, but it is the necessary starting point for finding out its truth-value". This is the basic linchpin of Carnap's challenge to metaphysics.

It might appear to be a technical apparatus, but Carnap's notion of a linguistic framework is rather straightforward. Carnap gives the example of the question 'Is there a white piece of paper on my desk?' To answer this question we would usually just look at the desk. If we see a white piece of paper, we would answer the question in the affirmative, and if we cannot see a white piece of paper, we would answer in the negative. Similarly, we could ask 'Did King Arthur actually live?' This is a historical question, and while it may not be easily answerable, once again some investigation would have to be carried out. About such questions, Carnap writes: "These questions are to be answered by empirical investigations" (Carnap 1956a, 207). This can hardly be controversial. Regarding the evaluation of different answers, in this case either affirmative or negative, Carnap writes:

> Results of observations are evaluated according to certain rules as confirming or disconfirming evidence for possible answers. (This evaluation is usually carried out, of course, as a habit rather than a deliberate, rational procedure. But it is possible, in a rational reconstruction, to lay down explicit rules for the evaluation [...]) (Carnap 1956a, 207).

Essentially, what a linguistic framework does for a sentence is to specify what would count as possible evidence for or against that sentence. Carnap is well aware that we are usually not aware of which framework a sentence is uttered in. We evaluate the sentence as a habit, but consider, as Carnap proposes, someone who does not know who King Author was. She would not know how to answer the question 'Did King Arthur actually live?'. If we recognize that it would be possible to explain to her how to assess different possible answers, we recognize Carnap's proposal that a rational reconstruction is possible, though it is perhaps rarely carried out, since the given explanation is nothing but these required rules for evaluation. The rules of evaluation that are proposed for 'Did King Arthur actually live?' are supposedly very similar to the rules that one would present for 'Did King Solomon actually live?'. The similarity between these rules signifies that they belong to the same underlying linguistic framework. They have similar rules of evaluation because the same semantic rules determine them, aside from the fact that one name has been exchanged with another. It is this linguistic framework that determines the rules of evaluation. If changes are made to the semantic rules of the linguistic framework, then those changes are mirrored

in the rules of evaluation.

Carnap regards any sentence asserted within a linguistic framework to be perfectly comprehensible, that is, any sentence for which a rational reconstruction can lay down explicit rules of evaluation can be regarded as perfectly comprehensible. It is not required that the rules specify whether the sentence is true or false. For instance, the above questions require empirical investigations. They belong to frameworks that in Carnap's words are "factual in nature" (Carnap 1956a, 208). There are also frameworks that are logical rather than factual. This could be what Carnap calls "the system of natural numbers" (Carnap 1956a, 208). In this linguistic framework we could ask, for instance, 'Is there a prime greater than a hundred?'. Now, for this question, in the semantic rules of the system of natural numbers "the answers are found, not by empirical investigation based on observation, but on logical analysis based on the rules of the new expressions" (Carnap 1956a, 208). There is no need to consult empirical evidence to answer this question, the answer is determined by the semantic rules of the language in which it is asked. Indeed, 101 is greater than 100 and it is a prime number. This appears quite innocent, and must be completely uncontroversial, nevertheless, nominalists might begin to worry here. They will warn us that we should not be deceived by such talk to believe that there really are numbers, just because it is correct to say in this framework 'There is a prime number greater than a hundred'. There are no numbers or prime numbers, according to the nominalists, though the existential quantifier in these expressions seems to range over such entities.

The nominalists will propose that this could be allowed for as some sort of fictionalist talk, as long as it is remembered that 'number' and 'prime number' do not refer to tokens of any truly existing abstract entity. There are no such entities, according to the nominalists. Some nominalists will perhaps go even further and question whether such talk can be allowed unless it is demonstrated how it can be translated into a linguistic framework in which reference is not made to any abstract entities. Though there were other motivation as well, such a nominalism was a contributing inspiration for Hartry Field's (1980) attempt to formulate science without existential quantification over mathematical entities. There are no such entities and therefore, from a nominalist's point of view, existential quantification of such entities must be impossible. It could perhaps be allowed as a manner of speaking, but only if it can be translated into a linguistic framework with an acceptable ontology. Essentially, the nominalists' worry concerns the relation between linguistic frameworks or sentences in linguistic frameworks and the thing in itself. The problem with the system of numbers, according to the nominalists, is that it implies commitment to an ontology that does not correspond to the true ontology of the thing in itself.

### 4.1.2 Internal and external questions and claims

This worry is also the one Carnap was faced with by some of his own empiricist friends.

They were simply worried that Carnap appears to commit himself to a Platonist ontology that includes classes, properties, numbers, etc., none of which really exist, according to the nominalists. As already mentioned, Carnap's answer to the nominalists is not an attempt that is analogous to Hartry Field's, only applied to semantics. Carnap has no ambition to carry out semantics without abstract entities, because he finds the nominalists' criticism misguided. Their thesis is a pseudo-thesis. Carnap observes that the nominalists' question concerning the existence of numbers or abstract entities in general cannot be meant as a question that is asked within the system of numbers, or within the linguistic framework in which Carnap carries out his work on semantics. In both frameworks it is true to say that 'There are numbers', and probably trivially so. In both frameworks, nominalism is false. The nominalists will probably accept this, but insist that their question is not answered within the system of numbers. It is a question asked prior to the adoption of this framework, or at least outside it. The nominalists might stipulate that they are asking whether there really are numbers – of course with the suspicion that this question must be answered in the negative. They want to question whether the system of numbers is allowed, or at least whether this linguistic framework gets the ontology right. Again, since it is true to say that 'There are numbers' in this framework, the nominalists suspect that the ontology of this framework is not correct.

The nominalists' question appears to be an external question – a question asked outside of any linguistic framework – as opposed to an internal question – a question asked within a linguistic framework. Internal questions and claims are perfectly acceptable to Carnap. They are asked within a linguistic framework that determines their truth-conditions. These conditions ensure that it is determinate what would count as evidence for or against those claims. In the system of numbers, the linguistic framework even determined that 'There are numbers' is true, but generally the linguistic framework only provides truth-conditions, and empirical evidence must be consulted to determine whether the sentence is true or false in that framework. Carnap's suspicion concerns external questions and claims in general. Of course, in the light of the nominalists' accusation, his particular interest is those questions and claims that concern the existence of entities – i.e. ontology. Essentially, Carnap's question to the nominalists, and the Platonists for that matter, is what their debate is about.

In the system of numbers and in a Platonist linguistic framework, nominalism would be false due to the rules of these linguistic frameworks. On the other hand, if the same statement were internal to a nominalist linguistic framework it would be true, since this linguistic framework has other semantic rules. Carnap could suggest to the Platonist and the nominalist that they are both right, but that they are simply talking within two different linguistic frameworks. Of course, they will not accept that this settles their discussion. They will try to argue that their discussion concerns whether there really are numbers, and not whether 'There are numbers' is true to say in this or that linguistic framework. They want to discuss the

existence of numbers prior to the acceptance of any linguistic framework, and will maybe try to stipulate that they are interested in the ontological status of numbers (Carnap 1956a, 209).

This is what Carnap calls an external question, and such questions, he argues, are pseudo-questions. They contain no cognitive meaning, that is, any "meaning component which is relevant for the determination of truth" (Carnap 1956b, 237). His argument is quite simply to ask how this question could have any cognitive meaning. The Platonists and the nominalists attempt to take their debate outside any linguistic framework and thereby outside any language. For such an external question, there would be no rules guiding the evaluation of truth of one or the other statement and consequently, these statements could not have any cognitive meaning, as long as they are meant as external to any linguistic framework. To quote Carnap at length regarding this debate between a nominalist and Platonist:

> I cannot think of any possible evidence that would be regarded as relevant by both philosophers and therefore, if actually found, would decide the controversy or at least make one of the opposite these more probable than the other. [...] Therefore, 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 1956a, 219).

It is not entirely clear what Carnap means here. However, I take him to argue that until the two parties settle on some possible evidence which would be relevant for the debate, the questions remains an external question, and therefore a pseudo-question. In giving possible evidence, it would be necessary to agree on a way to evaluate the truth of the statements. This is not the principle of verification in disguise, rather, it is the simple observation that the question of whether there are numbers is a pseudo-question until common rules are settled for the evaluation of truth of its possible answers. Carnap's formulation could seem to indicate that if this could be achieved, such theoretical external question would be allowable anyway. However, I rather think that this is due to an inaccuracy in his formulation, because in order to settle the rules for the evaluation of truth, syntactic and semantic rules must be in place. This is exactly what he emphasizes in the earlier quote from *Introduction to Semantics*. Thus, if the Platonist and nominalist meet Carnap's requirement, their question will no longer be external but internal to the now common linguistic framework. As a consequence, if the debate is settled in this way, they will only arrive at the conclusion that 'There are numbers' is true (or false) in this common framework. It will once again be an internal question. Thus, until the adoption of a common linguistic framework, the question is necessarily a pseudo-question. There is simply no way to discuss the existence of numbers as a theoretical question outside a linguistic framework, according to Carnap.

Carnap's alternative suggestion is that the question is perhaps meant as a pragmatic question. According to this interpretation, when the nominalist asks if there are numbers, this question is meant to ask which linguistic framework is preferable with respect to certain aims: a framework where it is true to say 'There are numbers', or a framework where this assertion is false. This is what Psillos called an ontic question. It concerns which linguistic framework to adopt, and this must ultimately be an unforced choice, according to both Psillos and Carnap. Concerning the adoption of what he calls 'the thing language', that is, the linguistic framework in which we asked 'Is there a white piece of paper on my desk?' and 'Did King Arthur actually live?', he writes:

> In the case of this particular example, there is usually no deliberate choice because we all have accepted the thing language early in our lives as a matter of course. Nevertheless, we may regard it as a matter of decision in this sense: we are free to choose to continue using the thing language or not; in the latter case we could restrict ourselves to a language of sense-data and other 'phenomenal' entities, or construct an alternative to the customary thing language with another structure, or finally, we could refrain from speaking (Carnap 1956a, 207).

Apparently, what is manifest here is Carnap's principle of tolerance, which is explicitly formulated in *The Logical Syntax of Language* (1934). Carnap writes: "*Principle of Tolerance: It is not our business to set up prohibitions, but to arrive at conventions*" (Carnap 1934a/1937, 51, emphasis in original) and qualifies that: "Everyone is at liberty to build up his own logic, i.e. hos own form of language, as he wishes" (Carnap 1934a/1937, 52). The emphasis on logic stems from its origin in his syntactical works, however, the idea remains clear. We may construct and adopt any language that we want. Carnap is certainly aware that certain languages or linguistic frameworks are adopted for good reasons. He writes:

> The decision of accepting the thing language, although itself not of a cognitive nature, will nevertheless usually be influenced by theoretical knowledge, just like any other deliberate decision concerning the acceptance of linguistic or other rules. The purposes for which the language is intended to be used [...] will determine which factors that are relevant for the decision. The efficiency, fruitfulness, and simplicity of the use of the thing language might be among the decisive factors (Carnap 1956a, 208).

Pragmatic questions are not settled arbitrarily. Different aims calls for different means, and so it is also with languages. Carnap's point is that only such pragmatic virtues are involved in the decision. There can be no question such as the one asked by the nominalists of whether a linguistic framework is allowable. Every framework, according to Carnap, is allowable, though with respect to a particular purpose a framework might be more or less useful.

### 4.1.3 Carnap's challenge

In summary, Carnap makes two observations: First, theoretical questions, i.e. questions whose answers are true or false, are only possible as questions internal to a linguistic framework. And second, external questions are only possible as pragmatic questions that have no determinate answer. Thus Carnap's thesis involves two claims: That there are no theoretical external questions and that the adoption of a linguistic framework is unforced. As we will see, these two are closely related.

Carnap's defence of this view is perhaps best summarized by his own example, found in his replies (Carnap 1963b) to the articles on his work from the Carnap-volume of *The Library of Living Philosophers*. Carnap writes: "Let us suppose that two logicians, $X_1$ and $X_2$, discuss, in the non-formalized everyday language, the properties of two constructed object languages, $L_1$ and $L_2$" (Carnap 1963b, 872). The two languages differ in the domain which their variables range over. Both domains contain observable material objects as individuals, as well as classes of individuals. However, the domain of $L_1$ further includes classes of classes of individuals. About the logician $X_1$ Carnap writes: "He deliberates whether he should choose $L_2$ because of its greater simplicity and greater safety [less danger of inconsistency]; but then he comes to the decision to accept $L_1$ because of its greater wealth in means of expressions and means of deduction" (Carnap 1963b, 873). Such deliberations are perfectly acceptable from Carnap's point of view. It is a pragmatic choice that $X_1$ makes when he chooses to adopt $L_1$. $X_2$ on the other hand denies to have such a choice between two available languages. Through careful consideration, $X_2$ claims to have arrived at two ontological results: (6) 'There are classes of objects' and (7) 'There are no classes of classes of objects'. In this light, $X_2$ says to $X_1$: "What you regard as semantical rules for $L_1$ contains the phrase 'classes of classes of objects', which does not refer to anything. Therefore no semantic rules for $L_1$ have actually been stated" (Carnap 1963b, 873). $X_2$ supports this remark with the ontological results he has arrived at. According to $X_2$ there is no choice between two languages, because one of the languages is not acceptable due to its implied ontological commitments. Carnap, however, regards the two ontological statements as pseudo-statements. He writes: "I assume that (6) and (7) are meant absolutely and objectively, i.e. not relative to this or that language, or relative to this or that person; in other words, that they are meant as external statements" (Carnap 1963b, 873). $X_2$ regards the difference between himself and $X_1$ as a difference in theoretical beliefs about the existence of classes of classes of objects. In response to this attitude, Carnap writes: "If $X_2$ were to believe that he made an assertion by his utterance of (7), I would challenge him to specify a method by which he and $X_1$ together could ascertain whether the alleged assertion is or is not true" (Carnap 1963b, 873).

This, in essence, is Carnap's challenge. If one insists that an utterance is an assertion, then is must be possible to specify the truth-conditions for the assertion, to indicate what would count as evidence for or against that claim, or specify how to settle whether the assertion

is true or false. All of these I regard as indicating the linguistic framework in which that assertion is made. Thus, Carnap's challenge to any alleged assertion is to specify in what linguistic framework the assertion is made. If no such indications can be provided, Carnap insists that we are entitled to regard it as a pseudo-assertion, i.e. no assertion at all. In terms of questions, Carnap writes: "Unless or until they provide a clear cognitive interpretation, we are justified in our suspicion that their question is a pseudo-question, that is, one disguised in the form of a theoretical question while in fact it is non-theoretical" (Carnap 1956a, 209).

Formulated thus, there is no reference made directly to metaphysics in the challenge. The challenge is faced by any alleged assertion. However, Carnap proposes that our daily discourse already takes place inside linguistic frameworks, though they might be implicit. Therefore, the problem only occurs when one attempts an assertion that is "meant absolutely and objectively". The challenge is a challenge to metaphysics because it is metaphysicists, like the nominalist and $X_2$, who attempt to question how a linguistic framework and sentences within it relate to the thing in itself. Metaphysicists ask whether there really are numbers, whether there really are abstract entities, whether there really is a heap when there are particles or hay arranged heapwise, and so on. As previously argued, 'really' serves for the metaphysicists to signify a change in the mode of speech to the mode that is found inside the ontology room. If these utterances are meant as assertions, Carnap challenges them to indicate in what linguistic framework they are asserted, of course with the suspicion that they will be unwilling to provide such a specification. This is accompanied by the suspicion that if a linguistic framework is specified, most discussions in metaphysics will end up as the discussion between the two logicians, $X_1$ and $X_2$, which proved, according to Carnap, to be "merely a practical difference in preferences and decisions concerning the acceptance of languages" (Carnap 1963b, 873). What will necessarily follow from such a specification of a linguistic framework is a framework-dependence, where the ontological commitment of a framework mirrors the framework and therefore not the thing in itself, though to state the latter would be a pseudo-statement. Carnap's challenge is a challenge to metaphysics because it is metaphysics that attempts to transcend ordinary discourse and assert something objective and absolute about the thing in itself. It is such attempts that Carnap suspects result in mere pseudo-assertions.

It is important to emphasize that the problem is not with the word 'really' as such. As proposed in 2.1, 'really' is used for a range of purposes, where only one of them is to shift the mode of discourse to this transcendental metaphysical mode. Initially, it is not problematic to ask whether there really are ghosts or unicorns, or: 'Are ghosts and unicorns real?' This question is perfectly conceivable as a question within the system of things. Carnap writes: "The concept of reality occurring in these internal questions is an empirical, scientific, non-metaphysical concept" (Carnap 1956a, 207). Gererally, if semantic rules for 'really' or 'real' are provided that determine truth-conditions for a possible answer to the question, then the questions are cognitively meaningful within the linguistic framework where these semantic

rules are specified. One would immediately suppose that these are empirical question that concern whether empirical investigation into existing things will find among them ghosts and unicorns. According to current zoology, the question must be answered in the negative. However, a sufficiently insistent metaphysicists might try to ask 'Are ghosts and unicorns really real?'. This metaphysicist will accept that according to the available evidence and the rules of this linguistic framework it is true to say that ghosts and unicorns are not real, but the metaphysicist wants to ask whether it is so in the thing in itself and not relative to any linguistic framework and convention for what to consider as real. It is this question that is challenged by Carnap, not the perfectly acceptable empirical question regarding the existence of ghosts and unicorns as it might be formulated by a child or a slightly crazy zoologist.[2]

### 4.1.4 Responses to Carnap

Taking the challenge seriously, there seems to be two approaches to Carnap's challenge if one wants to maintain that an assertion is made objectively and absolutely and not relative to this or that framework. One approach is to demonstrate how such an assertion can be made outside a linguistic framework, and another is to demonstrate that only certain linguistic frameworks are acceptable, i.e. to demonstrate that the principle of tolerance is false. The former must include some elaborate semantic argument, while the latter in comparison seems to be a less insurmountable task. While this latter solution would immediately maintain the framework-dependence, this dependence would not tend to a framework conventionalism because only a single or a particular range of frameworks are shown to be acceptable. However, this line of argument quickly reduces to the former solution. The difference between the two is the difference between the nominalists' insistence that 'There are no numbers' is meant absolutely and objectively, and the proposal that the nominalist framework is the only allowable framework. The reasons that the nominalists present for both views would be that there are no numbers in the thing in itself. Only the nominalist framework is allowed because the ontological commitments of this framework correspond to the ontology of the thing in itself. This, if anything, is an external claim. It is exactly made about the relation between a particular linguistic framework and the thing in itself. Essentially, it claims that the sentences in the framework expressing the ontological commitments of the framework are true about the thing in itself. According to Carnap, also the assertion about this relation must be made inside a linguistic framework unless we are

[2]Of course, there are other proposed interpretations of Carnap's views in "Empiricism, Semantics, and Ontology", for instance, Matti Eklund (2013) defends that a less deflationary reading of Carnap is more historically correct. I have tried to provide textual evidence for this more deflationary reading that shares many similarities to to the interpretations of Carnap's views proposed by David Chalmers (2009) and Huw Price (2009). While Eklund might be correct, the proposed interpretation results in a stronger challenge to metaphysics. Whether the challenge is indeed Carnap's is of no essential importance for the conclusions of the present project.

to regard it as a pseudo-assertion. This leads to the same dilemma: Either to maintain that the assertion is made objectively and absolutely outside any linguistic framework with the resulting requirement for a semantic argument, or to propose that it is asserted within the only acceptable framework. Following the already given answer, the latter option would supposedly involve the stipulation that the assertions 'The nominalist is the only acceptable framework' and 'The ontological commitments of the nominalist framework correspond to the ontology if the thing in itself' are made within the nominalist framework. As it is well known, such self-reference might be vicious, however, it must further be remarked that it is hardly surprising for a framework to confirm itself. If we consider the realist framework, then it is supposedly true within this framework to say 'Reality is such as it is according to the realist framework'. However, nothing seems to be achieved with such self-confirmation. Consequently, there seems to be no way out of the hard question of how to make an assertion outside any linguistic framework.

One of the primary contentions against Carnap's challenge is attributed to Quine in his infamous article "Two Dogmas of Empiricism" (1951). Here he questions the distinction between analytic and synthetic truths. It is claimed that this has traditionally been seen as a conclusive refutation of Carnap's challenge, in favour of metaphysics (e.g. Alspector-Kelly (2001)). However, especially in recent years this proposed refutation has been re-investigated and most authors conclude that Carnap's challenge does not depend on this distinction and therefore remains a significant challenge to metaphysics (Alspector-Kelly 2001; Chalmers 2009; Price 2009; Soames 2009; Ney 2012).

Another attempted refutation of Carnap's challenge can find its inspiration in the general attitude displayed by Lowe. He writes that "[t]he attempt to undermine or eliminate the metaphysical dimension of our thinking is self-defeating, because the very attempt necessarily constitutes a piece of metaphysical thinking itself" (Lowe 2002, 4). This is what makes Lowe confident that metaphysics is possible. Among such self-defeating criticisms of metaphysics, we might find the verifiability criterion of meaning and Hume's famous dictum: "Commit it then to the flames: for it can contain nothing but sophistry and illusion (Hume 1748/2011, 706)". Similarly, we might suspect that Carnap's challenge is self-defeating. Carnap rejects that any assertion can be made outside a linguistic framework, however, critics would of course contend that this is in itself an assertion and that it therefore must be asserted within a framework. Carnap, however, seems to have an answer for this. He will deny that his rejection is a theoretical, external truth. Rather, he will argue that anyone is allowed to make and follow whatever linguistic framework they want to. Thus, there is probably a linguistic frameworks in which it is true to say that assertions can be made outside any linguistic framework. However, this is an internal statement just like Carnap's and will probably not satisfy the metaphysicist. She wants something objective and absolute and not just a linguistic framework where 'There are framework independent assertions' is true to say, but there is no such objective and absolute point of view. It is impossible, according to

Carnap, to assert anything outside of all linguistic frameworks. Critics will of course again question the status of this claim, and Carnap will present the same answer.

Whether Carnap can succeed with this line of defence is debatable and cannot be settled here. Of course, if this criticism of his challenge were to succeed it would undermine the present project. It would demonstrate that Carnap's challenge is not, after all, a significant challenge to metaphysics that threatens to render metaphysics impossible. I argue in the next to sections that naturalized and non-naturalized metaphysics is equally vulnerable to Carnap's challenge. If non of them are vulnerable to the challenge because it can be refuted by other means, Carnap's challenge would neither render naturalized nor non-naturalized metaphysics impossible. Other challenges to traditional metaphysics might then prove that metaphysics is only possible as naturalized metaphysics. Therefore, I will once again emphasize that I merely aim to demonstrate that naturalized metaphysics does not solve Carnap's challenge and that naturalized metaphysics therefore is impossible until or unless this challenge is refuted by other means. Based on the number of influential philosophers who regard the challenge as a significant challenge to metaphysics, no such conclusive refutation is available.[3]

For those proponents of naturalized metaphysics who claims that naturalized metaphysics can solve or at least avoid Carnap's challenge, my conclusion will of course be all the more relevant. Alyssa Ney, whose work will be the main topic in the next section, is exactly such a proponent.

## 4.2 Ney's naturalized metaphysics

In her article "Neo-positivist Metaphysics" Alyssa Ney (2012) proposes to introduce a metaphysics that takes seriously Carnap's challenge to metaphysics from "Empiricism, Semantics, and Ontology". As argued, this challenge poses a problem to any attempt at metaphysics, however, Ney holds the view that her neo-positivist metaphysics can avoid these problems. In the conclusion to her paper she writes: "I hope here to have outlined how a version of metaphysics may survive the genuine worries the positivists had about metaphysics" (Ney 2012, 76). It is exactly an ontological naturalism that Ney thinks can ensure the success of metaphysics. To the question "what distinguishes the neo-positivist metaphysical projects from their allegedly problematic rivals" (Ney 2012, 54), Ney answers that "[o]ne obvious feature characterizing many neo-positivist metaphysical projects is their serious engagement with the findings of science, particularly fundamental physics" (Ney 2012, 54). A deference to the findings of science in general and fundamental physics in particular will ensure that the problems for metaphysics that arose from Carnap's challenge to the notion of absolute truth will disappear.

[3] Defenders of Carnap's challenge as a significant challenge to metaphysics include Chalmers (2009), Eklund (2011), Hirsch (2007), Hofweber (2005), Ney (2012), Price (2014), Thomasson (2010), and Yablo (1998).

In the conclusion of her investigation, Ney writes that: "the sort of neo-positivist metaphysics I have outlined here starts from serious engagement with current physical theory. This 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). According to Ney, metaphysics is possible as neo-positivist metaphysics. This introduces a restriction in the form of a particular engagement with or deference to the current physical theories, which instructs us how to successfully assert something about the thing in itself and thereby how to avoid Carnap's challenge. Ney's neo-positivist metaphysics is a "metaphysics that is informed by and inherits the justification of science" (Ney 2012, 72). These matters will be considered more closely below.

It will be argued that Ney's neo-positivist metaphysics is a naturalized metaphysics and a proposed answer to how metaphysics is possible. Specifically, it is an answer that ensures that Carnap's challenge to metaphysics is avoided. However, as I will argue in the next section, Ney's neo-positivist metaphysics cannot avoid this challenge after all. It remains a significant challenge to both traditional metaphysics and neo-positivist metaphysics.

Before this investigation is undertaken, a terminological remark is called for. Ney primarily discuss the relation between metaphysics and fundamental physics, however, as is already evident from the above, she sometimes discusses the more general relation between metaphysics and science. Ney addresses this apparent inconsistency in a footnote. She writes that:

> [T]he method for neo-positivist metaphysics I am proposing really only explicitly concerns how one should settle one's fundamental metaphysical commitments, and this is why the science that this method takes to inform metaphysics is fundamental physics. This leaves open the question of whether or how one should choose a derivative, i.e. non-fundamental metaphysics (Ney 2012, 61 fn 7).

I take this remark to indicate that there is no important different in this text between the passages where Ney uses the terms 'physics' and those where she uses the term 'science'. However, in order to remain true to the project as described by Ney, I will primarily use the terms 'physics' and 'fundamental physics' below, unless I discuss a quote that uses 'science' rather than 'physics'.

### 4.2.1 Neo-positivist metaphysics

Ney's approach to metaphysics has its outset in an indispensability argument that is analogous to the classical Quine/Putnam indispensability argument for ontological commitment. Quine (1948) and Putnam (1975) propose that we have an ontological commitment to any entity that is indispensable to our best scientific theories. Ney extends this argument to include structures and principles as well, such that we should have metaphysical commitment to

any entity, structure and principle that is indispensable to our best scientific theories. Ney proposes the following argumentative structure:

> (P1) We ought to have metaphysical commitment to all and only the entities, structures, or principles that are indispensable to our best scientific theories.
> (P2) X is indispensable to our best scientific theories.
> Therefore,
> (C) We ought to have metaphysical commitment to X (Ney 2012, 61).

Apparently, this argument allows us to construct metaphysics from these indispensable elements of our best scientific theories, however, it presupposes that it is specified what it is to be indispensable and what to consider as our best scientific theories. Returning to Psillos, he proposes that indispensability is to be understood as explanatory and predictive indispensability. The indispensable elements are those that must be posited in order to explain and predict the behaviour of the commonsensical entities. Ney has a quite different conception of what it takes to be indispensable. She qualifies "that the sort of indispensability that is relevant here is what is indispensable to physical theory according to the physics community" (Ney 2012, 62). There is no criterion of indispensability. Rather, the indispensability depends on what the physics community takes to be indispensable. Ney writes:

> [Indispensability] is not something to be determined by us as philosophers. We might look at current physics from the outside and say that its explanations would be incomplete if it did not appeal to this or that of our preferred metaphysical elements [...], but if the physics community does not build such things into its theories and thinks that its explanations are satisfactory as they stand, then we must conclude that such things are not indispensable to current physical theory (Ney 2012, 62).

It is not the task of philosophers to determine what elements are indispensable to physics. Particularly, there is no distinctly metaphysical and non-scientific reasoning that is relevant in determining what elements are indispensable. If the physics community does not find an element indispensable there is no way that this element can be regarded as indispensable. In Ney's view, it is only a change of opinion in the physics community that can change what entities are indispensable. This raises the important question of how to deal with contradictions within science. What if the scientific community takes seriously two theories that contradict each other with regards to their metaphysical commitments?

This appears to be a threatening paradox. On the one hand, there is no metaphysical reasoning that is relevant in determining what entities are indispensable, only the opinion of the physics community matters. On the other hand, the physics community will take seriously more than one theory and these theories will in general have different and even contradicting metaphysical commitments. Consequently, our metaphysical commitments threatens to be inconsistent. Ney solution to this paradox is to construct what she calls

'core metaphysics'. This is the metaphysics that consists of all the elements that the physics community regards as indispensable to all the theories that they take seriously. The elements of core metaphysics are indispensable in a strong sense; the physics community finds them to be indispensable to all their best theories.

As an example of such a strongly indispensable element, Ney suggests that "physicists do tend to assume that a theory is only relativistic if it involves laws that operate in the same way in all inertial reference frames. Lorentz invariance does thus appear indispensable to any theory physicists will count as relativistic" (Ney 2012, 63). Thus, Lorentz invariance is indispensable because physicists agree that any relativistic theory must be Lorentz invariant. According to Ney, there might be different relativistic theories available, but since all the relativistic theories that are taken seriously by the physics community are Lorentz invariant, then Lorentz invariance is indispensable in this stronger sense. Exactly what counts as competing theories and therefore what theories must have a common representational element for that element to be regarded as strongly indispensable is also something that must be settled by the physics community. The alternatives that must agree are "what physicists count as alternative formulations of the same physical theory" (Ney 2012, 63). Again, it is not a task for the metaphysicist to determine whether something is strongly indispensable. This is determined by the physics community. The physics community takes Lorentz invariance to be a strongly indispensable representational elements and consequently, we should be metaphysically committed to Lorentz invariance. As will be demonstrated later, this strict reliance on the judgements of the physics community is what Ney considers to ensure that her neo-positivist metaphysics can avoid Carnap's challenge.

Ney provides another example of a strongly indispensable representational element. She writes:

> Similarly, any theory that is genuinely called a version of quantum mechanics must, say, support the Born rule, require a discrete set of (mutually orthogonal) energy states, and so on. These are thus indispensable elements of quantum mechanics. Determinism (or indeterminism) is not. Physicists take seriously both deterministic formulations of quantum mechanics (e.g. Everettian versions) as well as indeterministic formulations (versions positing an objective collapse of the wave function) (Ney 2012, 63).

We should be metaphysically committed to the Born rule because the physics community takes it to be indispensable to all formulations that the physics community takes to be alternative formulations of quantum mechanics.[4] The reliance on the judgements of the physics community is evident. In comparison, there are formulations of quantum mechanics

[4] Arguably, this is not entirely true since the Born rule is not included in the Everett interpretation, even though the Deutch-Wallace argument (see Vaidman (2015)) shows how we are rational to expect Born rule statistics under the assumption of the Everett interpretation.

both with and without indeterministic collapse of the wave function, and consequently, we should neither be committed to determinism nor indeterminism. Summarizing Ney's view, we should be metaphysically committed to those entities, structures, and principles that the scientific community takes to be indispensable to all the formulations of a theory that the physics community takes to be alternative formulations. This is what will be called 'strong indispensability' below.

In Ney's view, these "indispensable elements of our fundamental physics should be the starting point of a neo-positivist metaphysics" (Ney 2012, 66). However, Ney is aware that there are many metaphysical questions that are not part of core metaphysics, and metaphysics can therefore have a relevant task in "filling in the core" (Ney 2012, 66). There are representational elements of our physical theories that are not strongly indispensable in the sense that these elements are not taken to be indispensable among all the alternative physical theories. These elements are not part of our core metaphysics, because they are not strongly indispensable. Nevertheless, Ney argues that these can be used as a "way of filling in the core to produce a more complete metaphysical picture" (Ney 2012, 67). This, however, comes with a price. While those elements that are part of core metaphysics inherit the justification of physics, Ney argues that "when we move beyond the belief in what is indispensable to our fundamental physical theories, we cannot pretend that these beliefs earn justification to the degree that it is reasonable to take them to be true" (Ney 2012, 66). She continues: "Thus, it may 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, but instead express the attitude that such-and-such a metaphysics is preferred" (Ney 2012, 67). Thus, the filled-in metaphysics cannot be given the same status as core metaphysics. This matter will be discussed further below.

To exemplify how to fill in the core metaphysics, Ney uses the differences and similarities between the Everettian quantum mechanics (a many-world interpretation) and Bohmian mechanics (a kind of hidden variable interpretation). Both of these formulations of quantum mechanics are deterministic and include a wave function as a representational element, so, Ney writes, "if it turned out that these were the only two rival formulations of nonrelativistic quantum mechanics, then one should believe that a correct description of nonrelativistic systems should include an ontology of at least a wave function (whatever that is) and a set of laws that is deterministic" (Ney 2012, 67). Core metaphysics should commit to determinism and include a wave function in its ontology. However, this is not the end of metaphysics, Ney continues: "Everettian quantum mechanics and Bohmian mechanics have more to say about the world than merely what they have in common. And it is precisely in evaluating how one should choose between them that distinctly rationalist, armchair methods may come into play" (Ney 2012, 67). These armchair methods come into play because we have to make some choices about how we fill in the core metaphysics based on the competing suggestions from the physical theories. Thus, Ney recognizes the problem that even in

our current best physics there are competing theories that are taken equally seriously by the physics community. Choosing to prefer one or the other must rely on metaphysical considerations. However, this has the consequence, according to Ney, that the conclusions of such considerations must remain expressive rather than assertive, because these conclusions cannot inherit the justification from physics in the same way that core metaphysics does.

Again, Ney gives an example of a question requiring metaphysical considerations arising from the differences between Everettians and Bohmians. She asks:

> Is the wave function, as the Everettian wants to understand it,the right kind of object to be able to ground the existence of all other (derivative) elements of one's ontology? Or should we instead insist that the fundamental ontology be something more like the particles of the Bohmian, because fundamental ontologies should include localized bits of matter rather than highly abstract entities like wave functions? (Ney 2012, 68).

This question about fundamental ontology is not settled by strong indispensability, because alternative formulations disagree over the matter, and it is here, Ney suggests, that ordinary metaphysical armchair methods may enter into neo-positivist metaphysics. As an examples Ney proposes that we might consider which of these ontologies can best explain our macroscopic world, and this will include questions about mereology and composition. About such a discussion, Ney writes:

> Armchair methods enter here in two stages. First, work needs to be done investigating the nature of composition. Work here will not proceed entirely from the armchair. Philosophers will need to pay attention to particular cases of composition in the world. But there will also be a lot of conceptual work to be done involving consideration of whether we could make sense of composition occurring in such and such counterfactual scenarios (Ney 2012, 68).

These armchair methods, however, do not allow us to to infer that one or the other theory is true or false. Conclusions following these distinctly metaphysical methods must result in claims that are expressive rather than assertive. Ney finds a task for the metaphysicist in completing or filling in core metaphysics by rationally considering and choosing among the competing metaphysics of the competing theories. This metaphysical reasoning is relevant because there is no unequivocal judgement in the physics community about the indispensability of these representational elements. Still, these competing elements are the only candidates for the filled-in metaphysics. According to Ney, no metaphysical argument can revoke the judgement of the scientific community. It is the physics community that determines the indispensable elements of scientific theories. Thus, even for filled-in metaphysics, it is the physics community that provides the alternative representational elements that the metaphysicist might choose between.

Currently, filling in core metaphysics is necessary in order to complete metaphysics. Those assertions which follow from strong indispensability do not form a metaphysics that contains all entities, structures, and principles. However, the relevance of filling in this core metaphysics might dissipate when we get closer to a single recognized physical theory. Ney writes:

> What I want to suggest in conclusion is that it is precisely the fact that physics is not yet complete that metaphysicians right now have something to contribute. In expressing what they take to be the best ways of filling out current physics, of working through these theories' implications and trying to understand them, this can help the physicist better understand her own theories (Ney 2012, 77).

Thus, once physics is complete there will be no more work for the metaphysicist, because the core metaphysics will include everything worth saying about metaphysics. There will be no need to fill in this core metaphysics, because it will be completed along with physics itself. There might, however, remain the task of considering the implications of this completed physics and of understanding it. We will return to this question later.

### 4.2.2 Ney's naturalized metaphysics

In summary, Ney requires a strong deference to the findings of science. The only metaphysical assertions are those that concern the representational elements that the physics community takes to be strongly indispensable. Only these assertions are strictly scientifically sanctioned as assertions in Ney's view. In this, Ney displays the proposed naturalist conception of science. It is science itself that has ensured its success and therefore, it is the physics community that is the authority on scientific sanctioning. Consequently, this core metaphysics is restricted by a bi-conditional naturalism: $\forall p\,(M \vdash p \rightarrow \mathrm{SA}(p))$, where $p$ is an assertion, $M$ is the assertive part of metaphysics and SA is the one-place, scientific sanctioning predicate. Also, there is no metaphysical reasoning that can change the dictum resulting from strong indispensability. We are metaphysically committed to all those representational elements that are strongly indispensable and again, this strong indispensability it determined by the physics community. There is no metaphysical reasoning relevant for the adoption of assertions about these representational elements into core metaphysics. Thus, core metaphysics is also restricted by the imperative restriction: $\forall p\,(\neg(M \vdash p \wedge \mathrm{SA}(\neg p)))$. If an assertion is sanctioned by strong indispensability and it is a possible member of metaphysics, then it is a member of metaphysics.

So far, this demonstrates that Ney's neo-positivist metaphysics is founded on an ontological naturalism. In this respect it is a naturalized metaphysics, however, it remains to argue that Ney regards neo-positivist metaphysics to be an answer to how metaphysics is possible, i.e. that she regards neo-positivist metaphysics to instruct us how to succeed with assertions about the thing in itself. Below, a review will first be made of Ney's distinction between core

metaphysics and filled-in metaphysics to emphasize that she regards her metaphysics to be an answer and that it indeed produces assertions. Afterwards, it will be investigated what the assertions of core metaphysics are about. Finally, some remarks will be made about her conception of science/physics and scientific sanctioning that further qualifies the sort of naturalized metaphysics she defends.

Above it was demonstrated how Ney proposes that there is more to metaphysics than core metaphysics. The rest of metaphysics is filled-in based on physics as well, but these are the parts of physics that the physics community does not regard as strongly indispensable. Here Ney allows for metaphysical and theoretical virtues to decide between the representational elements of these competing theories, and thereby she allows the necessary abandonment of the imperative restriction in the light of contradictions in science. However, abandoning the imperative restriction comes with the price that this filled-in metaphysics cannot be assertive but must be regarded as merely expressive. These parts of metaphysics are not true or false, but rather they merely express an attitude, more precisely "the attitude that such-and-such a metaphysics is preferred" (Ney 2012, 67). This must signify that the filled-in metaphysics does not candidate as assertive. Exactly what we should make of such an attitude about metaphysical preferences is not entirely clear, however, she does give the following qualification in footnote 16:

> Price (2011) argues, for broadly positivist reasons, that we should adopt such an expressivism about all metaphysical claims. Unlike Price, I think that the justification physics gives us for some fundamental metaphysical claims does provide grounds for rejecting such a global expressivism, even if [it] does support a more local version (Ney 2012, 67 fn 16).

This might signify that she regards filled-in metaphysics to be expressive in the same way that Price regards all expressions to be expressive (a detailed account of Price's view can be found in (Price 2013)).[5] Filled-in metaphysics cannot be a candidate to how metaphysics is possible, since even successful filled-in metaphysics does not assert anything about the thing in itself. Apparently, it does not assert anything at all.

Our interest is then in the core metaphysics, which consists of assertions that adhere to the bi-conditional and imperative restrictions and where scientific sanctioning is gained through strong indispensability. Core metaphysics gets its justification from physics, which allow us to regard it as assertive rather than expressive in Ney's view. Ney rejects Price's global expressivism. She adopts a local expressivism for filled-in metaphysics, but maintains that core metaphysics consists of assertions. Interestingly, Price's reason for adopting this global expressivism is exactly Carnap's challenge (Price 2011, 13), so by rejecting Price's

[5] If this is the case, filled-in metaphysics cannot even be given in terms of possibly true assertions. Whether Ney adopts this view is unclear.

argument, Ney proposes that the justification that core metaphysics gets from physics ensures that this metaphysics avoids Carnap's challenge. She writes: "[t]his is a metaphysics that should meet the positivist's standards for comprehension and justification" (Ney 2012, 61–62). Ney's rejection of Carnap's challenge will be the main topic later, but for the current purposes it is worth noticing that her remarks on Price signify that Ney is worried about Carnap's challenge to metaphysics. It is Carnap's challenge that forces us to adopt expressivism for filled-in metaphysics. However, the remarks also signify that Ney regards her neo-positivist metaphysics as a means to accommodate the challenge. Core metaphysics consists of assertions, however the question remains what these assertions are about.

It seems to be immediately evident that Ney considers an ambitious metaphysics to be the goal for metaphysicists. She proposes that "one of the main tasks metaphysicians set for themselves [is] to establish conclusions about ultimate reality" (Ney 2012, 76). Metaphysics does not aim at conclusions about the way we speak. Also, in the already quoted discussion about the ontological implications of Everettian and Bohmian quantum mechanics, Ney discusses which of them best describes "fundamental ontology". With metaphysics concerned with ultimate reality, it would as previously argued be futile to insist that this is anything but the thing in itself. This reality has to be the mind-independent, experience-transcending, objective world. I think that we are therefore entitled to regard the members of core metaphysics as attempts at assertions about the thing in itself.

This receives further support from Ney's view of the aim of physics. It seems to be beyond doubt that Ney is a scientific realist. She directly writes: "As should be clear from this essay, I side with the realists" (Ney 2012, 64 fn 14). Ney finds support for her realism in the physics community. She writes: "physics as a whole makes it clear that what they are attempting to do is to construct an accurate theory about what the world is like" (Ney 2012, 64). Ney then emphasizes that this is exactly the reason why it is worthwhile to found a metaphysics on our best scientific theories. Ney puts it this way:

> Now, if the physics community as a whole were instrumentalists about their theories, then I grant there would be something seriously wrong with trying to using fundamental physical theories to inform metaphysical claims. [...] Our metaphysical project depends on the attitude in general of the physics community being realist (Ney 2012, 64).

It is because "physics claims to be aimed at giving us a general theory of fundamental reality" (Ney 2012, 71)that we find "[t]he motivation for using physics to inform metaphysics" (Ney 2012, 71). On Ney's view, both physicists and metaphysicists aim to establish truths about fundamental reality, and this is why, according to Ney, it may prove worthwhile to use physics to inform metaphysics. If instrumentalism were adopted in the physics community, then it would be wrong to attempt to inform metaphysics by physics. They would simply have deviating aims. In Ney's view it is a prerequisite to assume realism if it is to be

reasonable to inform metaphysics by physics. Such remarks are exactly what proves Ney's neo-positivist metaphysics to be vulnerable to Carnap's challenge.

To argue that physics and metaphysics are concerned with the same reality does not immediately settle who should inform the other. However, as is already evident, Ney defends that physics should inform metaphysics. This is explicitly stated, but it must also follow implicitly from her worry that most of metaphysics is problematic to such a degree that even the scientifically informed filling in of core metaphysics cannot be regarded as assertive, but that we must adopt an expressivism towards it. Physics on the other hand does not have the same problems. Ney writes:

> For epistemological reasons, the sort of neo-positivist metaphysics I have outlined here starts from serious engagement with current physical theory. This 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).

According to Ney, physics is exactly epistemologically superior to metaphysics, and this is why physics is the "only legitimate place to begin" metaphysics. This epistemic superiority is not accidental, as also quoted in 3.1 Ney writes: "physics has a good claim to superior epistemic standing due to its use of mathematical precision, sophisticated experimental techniques, high standards for confirmation, and a discipline engaging in good practices like peer reviews of publications" (Ney 2012, 71). She also emphasizes "that physics has a proven track record of success making it a good place to begin metaphysical inquiry" (Ney 2012, 62). Again this displays her naturalist conception of physics. Ney sets forth the good reasons we have for regarding physics to be epistemically privileged in comparison to metaphysics. Physics, contrary to metaphysics, has a track record of success and this track record of success is not an accident. It is institutional error filters, mathematical precision and the central place of experiments in physics that have secured this success. Ney is well aware that physics is not yet completed and that some of our current best physical theories will prove to be false, but it is her overall view that physics is the best we have got. This is why physics is the only legitimate place to begin metaphysics.

Accordingly, Ney's adoption of a biconditional naturalism implies that she takes physics to be even more than the best we have got. Physics, apparently, is the only starting point available for inquiries into the thing in itself, or "ultimate reality", as she calls it. Scientific sanctioning is the only way to sanction assertions about the thing in itself; such assertions can only get their legitimacy as assertions from physics. This signifies a biconditional naturalism and this also signifies that the assertions of core metaphysics are intended as metaphysical assertion that adhere to the proposed condition for metaphysics. Metaphysics is possible as core metaphysics according to Ney and therefore, core metaphysics must avoid Carnap's challenge.

### 4.2.3 The scope of scientific sanctioning

As is the case for all tokens of naturalized metaphysics and as is clear particularly from Ney's naturalized metaphysics, the status of science has very strong implications for the character of naturalized metaphysics. Ney is a declared scientific realist. According to Ney, physics in particular aims to disclose ultimate or fundamental reality, and only by founding metaphysics on physics is it possible for metaphysics to follow this aim as well. However, there remain some interesting and so far unmentioned aspects relating to Ney's view of scientific sanctioning.

Metaphysical commitment to an entity, structure, or principle is scientifically sanctioned if the representational elements are strongly indispensable. This must be clear evidence that Ney regards the scientific sanctioning to extend to assertions expressing the metaphysical commitment to these strongly indispensable entities, structures, and principles. The same is seen in Ney's conclusion, where she writes: "The best way to have science inform a project of metaphysics is for us to seek what sorts of representational devices are indispensable to physics" (Ney 2012, 76). In so far as the metaphysics in question here is core metaphysics and not filled-in metaphysics, then metaphysics is constructed from the representational elements that the physics community takes to be strongly indispensable. In doing metaphysics we should not study the thing in itself directly, instead Ney quotes Carnap's suggestion to take science itself as the object of study (Ney 2012, 76; Carnap 1984, 6).[6] Perhaps it would even be appropriate to qualify that metaphysics should take the physics community as the object of study. Ney takes this suggestion by Carnap to be that metaphysics will be successful only if it establishes its assertions about the thing in itself by looking at science, and particularly physics, which then in turn investigates the thing in itself. The legitimacy and consequently the scientific sanctioning of the assertions of the physics community is then closed under strong indispensability and thereby, core metaphysics can make legitimate and scientifically sanctioned assertions about the thing in itself, if these assertions are formed from those representational elements that are taken to be strongly indispensable by the physics community. The beliefs about indispensable elements in the physics community is in this sense the object of study for metaphysics. The task of the metaphysicist is then merely to take the beliefs already formed by the physics community – the metaphysicist cannot, as argued, suggest what might be a strongly indispensable representational element – and then elevate these assertions about representational elements to assertions about ontology.

However, Ney appears to be even more restrictive with her requirement for scientific sanc-

[6] The Carnap article cited by Ney here is originally published in 1934 under the same title. This is the same year as the original German edition of Carnap's *Logical Syntax of Language*. Following Carnap's intentions in these two works, he will insist that philosophy has science as its object. Ney takes this to imply that science is the preferred evidence for metaphysics, whereas Carnap's intention is that philosophy and within the little part of metaphysics that Carnap regards acceptable should have science as its subject matter. Philosophy primarily involved in developing languages for science (Carnap 1934a/1937, 277–284).

tioning. She makes the following immediately innocuous observation: "The indispensability arguments presuppose not only that we may draw metaphysical conclusions from our best physical theories, but that we may do so whenever we find indispensable representational elements" (Ney 2012, 64). As soon as the physics community regards a representational element to be strongly indispensable, we may, as it is, draw metaphysical conclusions from this. Two things are worth noting: First, Ney uses 'may' rather than 'must', which indicates that the imperative restriction might not be imposed here. The formulation indicates that the metaphysicist might have the choice of whether to draw these metaphysical conclusions. Second, one might worry that even though Ney presupposes a global scientific realism, the physics community might adopt local instrumentalism. Ney writes:

> For even if we grant that the physics community as a whole intends to be engaged in the project of describing fundamental reality, of producing justified, true claims about the world, we may ask if it also follows that the physics community intends every representational element of its best theories to correspond to something in reality (Ney 2012, 64).

The physics community might have opinions about whether it is all the representational elements in their theories that represent something in reality. Even though they embrace an overall realism, they could be fictionalists with respect to particular entities, structures or principles. Physics might include assertions about what parts of a theory has an appropriate metaphysical significance for metaphysical conclusions to be drawn from it. It could perhaps be argued that such assertions cannot be a part of physics, but such an argument is unavailable under a strictly naturalist conception of science where physical assertions and theories are conceived of as that which is endorsed by the physics community. Ney asks:

> If we grant that we want our metaphysics to be informed by current physical theory as it is endorsed by the physics community, then is the suggestion that we ought to seek out not merely those elements that are indispensable to current theories, but instead only those elements that are indispensable and taken to have metaphysical significance? (Ney 2012, 65).

If the physics community forms beliefs about what representational elements of their theories that are metaphysically significant, then metaphysics should adhere to these due to the biconditional naturalism. Assertions of the form '$x$ is (is not) metaphysically significant' can be endorsed by the physics community and therefore be scientifically sanctioned. Consequently, metaphysics must adhere to these assertions. This leads Ney to alter the premises of the indispensability argument. She suggests: "We ought to have metaphysical commitment to all and only the entities, structures, or principles that are indispensable to our best scientific theories, *and taken by the physics community to have metaphysical significance*" (Ney 2012, 65, emphasis in the original). We can only take representational elements as evidence to inform our metaphysics if it is sanctioned by science that these representational elements

indeed have metaphysical significance.

This might in turn suggests why Ney all of a sudden seems to abandon the imperative restriction by using 'may' rather than 'must' when we draw metaphysical conclusions from strongly indispensable representational elements, and the conclusion is that she does not abandon this restriction. Physics includes assertions about which representational elements are metaphysically significant. Metaphysics is already in place within the physics community. Indeed, the work to be done by metaphysicist is very limited indeed. Science sanctions metaphysical assertions about the thing in itself that are formed from representational elements that are strongly indispensable, and which the physics community takes to be of metaphysical significance. The work left for the metaphysicist is to ask the physics community what these metaphysically significant, strongly indispensable representational elements are, and then list them as core metaphysics. The metaphysics itself is already there among the beliefs of the scientific community.

As will we demonstrated below, these measures to ensure that metaphysics relies very strongly on the beliefs of the physics community are imposed such that the core metaphysics of neo-positivist metaphysics might avoid Carnap's challenge. By relying on nothing but physics and by leaving no room for metaphysical reasoning, Ney ensures that metaphysics inherits the legitimacy of physics.

## 4.3 Ney's response to Carnap's challenge

Indeed, Ney very directly addresses how her adoption of ontological naturalism with her biconditional naturalism is an attempt to answer how metaphysics is possible. She argues that "the goal is to get out a metaphysics that has established its semantic and justificatory credentials via physical theory itself" (Ney 2012, 64). Only adequately restricting metaphysics by a deference to physics ensures that metaphysics can inherit these credentials of physics. In Ney's view, it is exactly these credentials of physics that allow neo-positivist metaphysics to avoid the problems due to Carnap's challenge. Ney's idea is immediately simple, she writes: "As Carnap and the Vienna Circle took the claims of physicists, unlike those of metaphysicians, to be in good epistemological standing (if in need of clarification), neo-positivist metaphysicians seek only to make metaphysical claims that can inherit such justification" (Ney 2012, 54). While most traditional metaphysics is problematic as a result of Carnap's challenge, some metaphysics remains possible; that which can inherit its justification from the sciences.

### 4.3.1 The epistemological and the semantic Carnap

Ney is aware that merely accepting Carnap's challenge restrains us from making assertions

that are evaluated in any absolute or "objective" sense. Ney writes:

> 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).

Obviously, this poses a problem to the metaphysicist. Successful metaphysics are assertion about the thing in itself. The truth of these assertion cannot be dependent on the framework-dependent. They must be evaluated with respect to the thing in itself. Metaphysics is impossible if the metaphysical assertions are ultimately framework-dependent. This has already been established and Ney accepts this condition for metaphysics. Further, she recognizes that Carnap's challenge to metaphysics threatens exactly to establish that any claim is framework-dependent and therefore, that metaphysics is impossible. According to Ney, the problem is that all we have are "competing accounts of the truth and no objective way to choose between them".

Interestingly, this formulation might suggest a weaker conception of Carnap's challenge. Ney suggests that Carnap's challenge introduces an epistemological problem; that one of the accounts of the truth is the correct account, but that we have no way of *knowing*which of them it is: There is a fact of the matter, there is an ontology that is the correct ontology. There is a framework which gets the thing in itself right, whereas the other frameworks get it wrong. Though Ney will still regard this debate to be problematic, it is instructive to return to the Platonist and nominalist debate about abstract entities. Ney's remark above suggests that she regards the problem to be that there is no way in which to evaluate whether frameworks such as the Platonist or nominalist framework have the correct ontology. Minimally, these two frameworks differ with respect to the assertion 'there are abstract entities'. This assertion is true in the Platonist framework and false in the nominalist framework. By describing such frameworks as competing accounts of the truth, we might take Ney to endorse such assertions as 'There are abstract entities' is either objectively true or false, and therefore that one of the frameworks is right and the other wrong. According to this reading of Ney, Platonism and nominalism might be different rival frameworks that can be regarded as competing theories where no evidence available will settle the matter. Ultimately, this is why one cannot choose the correct one. This problem is essentially epistemological.

Interestingly, this is not the challenge that I have posed under the name of Carnap's challenge. I presented Carnap's challenge as a semantic problem. According to this reading of Carnap, no framework-independent point of view is available from which to make theoretical assertions. Any assertion is made within a framework, any assertion must be an internal assertion. An external question or claim regarding which of these linguistic frameworks to prefer is a pragmatic question or claim. They compete on pragmatic virtues and not on theoretical

correctness or even truth: There is no fact of the matter as to which of them is the true linguistic framework, and consequently, there cannot be a correct ontology. To ask which of these frameworks correctly represents the ontology of the thing in itself is not only unanswerable, the question itself is cognitively meaningless. It is a pseudo-question in so far as it is intended as a theoretical, external question. This is what signifies the problem as a semantic problem rather than an epistemological problem. The problem is not that we have no means to answer the question, the problem is that we cannot ask the question in the first place. Any question about which framework to adopt is a pragmatic question. The ontology of a framework merely mirrors the preference for a particular conceptual scheme. In comparison, the epistemological problem that Ney appears to be concerned with allows the ontology of a framework to represent the thing in itself.

It is important to keep this distinction in mind. As a semantic problemit is not even a proposal for a solution to Carnap's challenge to suggest that a particular framework is the true framework. This will presuppose that it has already been answered how the adoption of a framework can be a theoretical question in the first place. The problem is not that we do not "possess any way to verify which ontology is correct". Rather, the problem occurs already in the attempt to ask the question that we want metaphysics to answer. When one attempts to ask which framework accords with the thing in itself, which framework gets ontology right, these attempts are unsuccessful as attempts at cognitively meaningful questions. Indeed, it is not even appropriate to answer that there is no fact of the matter. Rather, Carnap's response is the suggestion that these questions ask which framework it is preferable to adopt for different purposes, and if this proposal is not accepted, then he insists that he does not understand what the questions ask. These external questions are pseudo-questions. There is no question to be asked about whether there are abstract entities, beside whether the assertion is true in this or that framework, and whether it is pragmatically preferable with respect to some aim to adopt a framework where this assertion is true.

### 4.3.2 Ney's approach to Carnap's challenge

Nevertheless, Ney's approach to Carnap's challenge is to defend that there is a preferred framework. Ney is confident that there is only one framework or family of frameworks that it is "rational" to prefer. Being a naturalist, her proposal for this framework is obvious, Ney suggests "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). According to Ney, the framework constituted by fundamental physics is preferable. If the positivist dilemma is the problem of choosing a framework, then Ney once again emphasizes that she

immediately regards this to be an epistemological problem. Fundamental physics has proven its epistemic superiority and consequently there are good reasons why our ontology should be determined by "the linguistic state of fundamental physics". Ney claims that this would "thereby make the choice between frameworks rational, as opposed to merely pragmatic" (Ney 2012, 59). Choosing the framework of fundamental physics is not a pragmatic choice because this framework has proven itself in such a way that it is rational to prefer this framework over others. Presumably, it is rational to choose this framework, because this framework has "met high standards for justification and acceptance". Being the preferred framework, the correct ontology is then the ontology implied by this framework. The ontology of this framework is not merely adopted as a linguistic convention, it is *the* ontology. This framework gets the ontology of the thing in itself right.

Granting for now that there might be reasons to prefer the framework of fundamental physics, there are still competing theories within theoretical physics. Ney is aware of this problem and the solution is the introduction of strong indispensability. To quote her at length:

> Even if we agree we should start with fundamental physical theories, because those are (a) the theories that aim to give a complete account of our world, and (b) those that deliver the best justified theoretical frameworks, there is no genuine question about which overall ontology is correct. Still, there may be certain elements of these rival ontologies that are repeated. Perhaps certain representational elements are found in every formulation of fundamental physics that meet criteria of theory choice accepted by the physics community. There might be some representational features that are as a matter of fact indispensable to our best physical theories as they are actually understood. If one could show that, to state our fundamental physics clearly, precisely, and accurately, one must use certain kinds of representing devices, then perhaps this would show something that had genuine significance and justification, something that went beyond merely expressing one's preferences for a particular kind of conceptual scheme or linguistic framework (Ney 2012, 60–61).

The different theories of fundamental physics generally entail different ontologies. More precisely, Ney regards these different theories to constitute different linguistic frameworks and generally, these frameworks will have different representational elements. However, there might be some representational elements that all these frameworks include and which therefore could be regarded in Ney's words as more than an expression of a preference for a certain linguistic framework. These are the strongly indispensable representational elements of core metaphysics, and Ney's suggessts that they might more than an expression of conceptual preference, they are representations of "genuine significance"; presumably, representations of the thing in itself. This is supported by her remark that these elements originate in theories that try to give "a complete account of our world". These strongly indispensable representational elements are part of the metaphysics of all the relevant

frameworks, i.e. those frameworks that can be adopted rationally rather than arbitrarily. No matter which of these linguistic frameworks and thereby which metaphysics we adopt, there are elements that are part of the metaphysics of all these frameworks and in this sense, they are strongly indispensable. There is no acceptable framework in which these elements are not posited. Because they are common to all frameworks they are not framework-dependent and therefore more than an expression of linguistic preferences. Rather, they are indispensable and therefore representational features of the thing in itself. Ney summaries the advantage of her method thus: "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). Being common to all systems these ontological claims are sensible as ontological claims, i.e. not as claims about conceptual preferences. If something in part of core metaphysics, if it is a feature common to all systems, then this feature is more than a linguistic convention adopted for pragmatic reasons. This convention then mirrors the ontology of the world.

This method does not involve answering any metaphysical question as external theoretical questions. All questions are asked within a framework, but when all frameworks give the same answer to a question, this is taken to signify that the answer is more than a linguistic convention. Ney tries to avoid Carnap's challenge simply by avoiding the problematic external questions. The questions are instead answered as internal questions to frameworks that are preferable and rationally chosen because they are the "best justified theoretical frameworks". Even with a number of frameworks that all are entitled to this priority, there turns out to be representational elements that are indispensable to all of them. These are the ontological commitments that are shared among all the frameworks that are justified in such a way that they are rational to adopt. Even though the ontological commitments of frameworks generally just express preferences for linguistic conventions, these shared commitments are regarded as more than that. They are features of the true ontology.

Formulated like this, Ney's solution is a solution to the epistemological problem introduced above. This is supported by Ney's own speculations on why Carnap did not himself suggest such a solution that built on the findings of fundamental physics. As an answer Ney proposes that Carnap regarded there to be too many differences among our best physical theories for there to be consensus about very many representational elements. It is here that Ney, on the other hand, is more optimistic. She writes:

> It is my view that there are actually not so many different ways of formulating physics as Carnap suggested. In particular, one doesn't find either phenomenalist or physicalist (in Carnap's sense of physical-object language) formulations of fundamental physical theory. Fundamental physics tends to be formulated today in much more abstract mathematical terms than was the case in the

> early twentieth century. And rival formulations share much of this common mathematical language. As a result, this makes it much more likely there will be features common to all acceptable rival formulations (Ney 2012, 63).

These common features ensure that core metaphysics is non-empty. Metaphysics is possible because consensus is found with respect to the representational elements among the rival frameworks of fundamental physics. Ney proposes that Carnap was simply more pessimistic in this respect. According to her, Carnap regarded metaphysics to be impossible even as naturalized metaphysics because he saw no prospect of settling on an agreement among the different formulations of fundamental physics. Now, Ney argues that the physics community actually has settled on a shared mathematical language and there are no rival formulation in either phenomenalist or physicalist frameworks. It seems to be Ney's point of view that if Carnap had been aware of this current agreement in the physics community, he would have withdrawn the conclusion that metaphysical discussions were impossible, because it is now evident how they can be resolved through features common to the answers to internal questions asked within the frameworks of fundamental physics. Ney writes: "Part of Carnap's point in 'Empiricism, Semantics, and Ontology' was that there were multiple ways to accomplish this task for physics and so there is no simply reading an ontology off physics as contemporary statements of physicalism would suggest" (Ney 2012, 59). With the agreement that Ney claims to find in the physics community, this worry of Carnap's is unwarranted.

These remarks indicate that Ney has a very particular reading of "Empiricism, Semantics, and Ontology". In her reading, the choice of metaphysics that is entailed by the adoption of a linguistic framework is a pragmatic question only because Carnap saw no prospect in giving a theoretical answer to the question. Though Carnap, according to Ney, adopted the view that the linguistic state of physics would give the correct ontology, these prospects were blocked by the different formulations of fundamental physics in either a phenomenalist or physicalist framework. The frameworks taken seriously by the scientific community were so different at that time that there appeared to be no prospect for any shared metaphysics among these rival frameworks. Therefore, any proposal for a metaphysics would merely express a preference for one framework or another. However, Ney observes that in the course of time things have changed so that the rival frameworks of fundamental physics are now more similar and share certain representational elements, which entail ontological claims that are more than mere expressions of preference for a certain conceptual scheme.

Ney conceives of Carnap's challenge as a challenge that originates in the epistemological problems of determining the true framework. Ney further proposes that Carnap endorsed the view that this problem was restricted to a choice between the different frameworks of fundamental physics, and that his conclusion simply displays his belief that these frameworks were too different. It is merely this problem that Ney immediately proclaims to avoid with her neo-positivist metaphysics. In Ney's reading, Carnap would agree that the framework

of fundamental physics is preferable, and consequently Carnap's challenge, according to Ney, amounts to no more than the challenge to show that there are certain representational elements that the physics community takes to be indispensable to all the rival formulation of fundamental physics. If Carnap's challenge amounted to this, then there would certainly be a prospect for Ney's neo-positivist metaphysics to meet this challenge. She simply has to demonstrate that there are such strongly indispensable representational elements.

### 4.3.3 Carnap's challenge to Ney

However, Carnap's challenge as I have presented it is not concerned with this question regarding the differences and similarities between the frameworks taken seriously by the physics community. The challenge is that any assertion must be an assertion within a framework, and that there is no theoretic question concerning which framework to adopt. The problem is not how to justify that a particular framework is the true framework in an objective and absolute sense. The problem is what semantics govern such formulation. At the outset, core metaphysics might be perfectly acceptable to Carnap. Based on Ney's own suggestions, core metaphysics includes assertions such as 'Reality is such that it obeys Lorentz invariance' and 'Reality is such that it obeys the Born rule'. To say that these assertions are contained in core metaphysics presumably means that in all linguistic frameworks currently taken seriously by the physics community, it is true to say 'Reality is such that it obeys Lorentz invariance'. Similarly, to say that the assertion 'Reality is deterministic' is not part of core metaphysics means that there is at least one linguistic framework taken seriously by the scientific community where is it false to say 'Reality is deterministic'. Whether these assertions are analytic or synthetic in their respective framework does not matter to Carnap. They are perfectly unproblematic as they are asserted within a framework such that their conditions of truth are determined.

Carnap also finds the assertion 'There are abstract entities' perfectly acceptable when it is asserted within a linguistic framework. As an internal claim to a Platonist framework it is true and internally to a nominalist framework it is false. Both a Platonist and a nominalist will agree to this, however, they will insist that this is not what they were discussing. They were discussing whether abstract entities really exist, not what is true to say in this or that framework. Perhaps, they will propose that they are disagreeing on whether 'abstract entity' in the Platonist framework refers to something in the thing in itself, or perhaps, whether the Platonist or the nominalist framework as such has the correct ontology. As previously argued, it is these latter attempts that Carnap's challenge concerns. Externally to a linguistic framework, nominalism and Platonism can merely express the pragmatic preference for different linguistic frameworks. Now, let us consider someone saying 'Reality is really deterministic'. Since 'Reality is deterministic' is not a member of core metaphysics, Ney will agree with Carnap and interpret this as a pseudo-statement, if it is an attempt at an

external statement, it must be expressive rather than assertive. It expresses the pragmatic preference for a particular linguistic framework or alternatively, it is made within one of the frameworks of fundamental physics. In some of them it is true to say this, and in some it is false. Presumably, Ney agrees with Carnap that there is a semantic challenge facing 'Reality is really deterministic' if it is an attempt at a framework-independent assertion. As an external statement it must be regarded as expressive rather than assertive.

This is interesting since Ney does not consent to the same proposal for the claim 'Reality is such that it obeys Lorentz invariance'. While this is true to say in all linguistic frameworks that are taken seriously by the scientific community, Ney seems to think that there is more to it. Being strongly indispensable, Lorentz invariance is one of the representational elements that have "genuine significance" such that they are "beyond merely expressing one's preferences for a particular kind of conceptual scheme or linguistic framework". Perhaps Ney would stipulate that reality really is such that it obeys Lorentz invariance. If this means nothing but that Lorentz invariance is strongly indispensable, then Carnap would accept this stipulation as perfectly meaningful, since this would indicate what would count as possible evidence for or against the claim. It would demonstrate that the claim was internal to a framework after all. However, by proposing this "genuine significance" for strongly indispensable representational elements, Ney seems to suggests that these elements represent an aspect of the thing in itself, and that this is not meant relative to any framework but in an absolute sense. Ney might maintain that these are still assertions made within a framework, but at least the claim 'The strongly indispensable representational elements have genuine significance' seems to be made as a theoretic, external claim. This is not just true to say within some frameworks, this will not do for Ney. Neither is hers a suggestion to adopt a framework in which this claim is true. The claim is an attempt at a framework-independent assertion about the representational relation between the linguistic frameworks taken seriously by the scientific community and the thing in itself. Similar problems occur when Ney discusses frameworks as "competing accounts of the truth", discuss whether it is possible between competing frameworks to "verify which ontology is correct" and when she discuss whether it is such that all representational elements "correspond to something in reality". All are attempts to assert something framework-independent about the relation between certain frameworks and the thing in itself. According to Carnap these are pseudo-questions and -claims. It is impossible to assert anything outside a linguistic framework. Ney's problem is to argue how the assertions of core metaphysics can be more than something that is true to say within particular frameworks. How is it not a pseudo-statement to say 'The strongly indispensable representational elements have genuine significance'? Why is 'Reality is deterministic' an expression of linguistic preference, whereas 'Reality is such that it obeys Lorentz invariance' succeeds as a framework-independent assertion about the thing is in itself?

Ney seems to be aware that this calls for extensive semantic theorizing, however, she rather

attempts to circumvent the problem:

> [T]he relevant semantic and epistemological claims I mean to endorse here are only the following. First, the claims of our best, fundamental physical theories are meaningful. Second, the claims of our best, fundamental physical theories are justified. How they come to be justified, how they come to be accepted in the first place: these are issues that this account of methodology in metaphysics need not take a stance on. The point is that physics has a proven track record of success making it a good place to begin metaphysical inquiry (Ney 2012, 62).

The theories of fundamental physics are meaningful, and being a proclaimed realist Ney supposedly regards them to be meaningful as assertions about the thing in itself. This is proven by "the track record of success". There is no need for neo-positivist metaphysics to be concerned with these methodological issues, because the close relation to fundamental physics ensures that this metaphysics can simply inherit these credentials. Core metaphysics can make successful assertions about the thing in itself, because fundamental physics succeeds in making such assertions. There is no semantic theory that demonstrates how this is possible. Rather, Ney ensures that the imposed ontological naturalism is strong enough that neo-positivist metaphysics will succeed with such assertions if fundamental physics succeeds with them. She then in turn denies to give a semantics for fundamental physics, because its success with assertions about the thing in itself is demonstrated by its track record. This track record proves that there is an adequate relation between the frameworks of fundamentals physics and the thing in itself. It proves that the assertions of physics can be evaluated in an objective and absolute sense.

This success is obtained through the institutional error filters found in physics. It is the critical self-regulation of physics that has ensured this success, and consequently Ney has to adopt the view that it is the physics community which ultimately decides on what representational elements that are metaphysically significant and strongly indispensable. It is the physics community that has the proven track record and therefore their sanctioning that can ensure the meaning and justification of theories and indispensability. Ney is aware that this is very restrictive, and that one could be more open minded when it comes to what theories to consider. Ney writes:

> One could (a) allow for more alternative formulations of physical theory beyond those which have actually been developed, (b) allow for more alternative formulations than those physicists have actually endorsed as a community, (c) rest the decision for what does and does not count as alternative formulations of the same physical theory elsewhere than on the physics community, or all of the above (Ney 2012, 63).

However, she exactly emphasizes that this will not do. "I have adopted the more restrictive approach outlined above 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" (Ney 2012, 64). There is no need for a semantic theory and an epistemology for physics because physics has proven itself via its continuous success. However, it is the physics of the physics community that has proven itself, so to inherit the credentials of physics, metaphysics must take this physics as all the available evidence. Anything else would reinstate the requirement of a semantic theory for metaphysics. Ney's idea is to avoid the need of a semantic theory altogether and this can only be achieved by making physics the evidence used in metaphysics, and then argue based on its track record that physics succeeds with assertions about the thing in itself. It is the linguistic frameworks of the physics community in which assertions succeed in being about the thing in itself.

### 4.3.4 Realism and Carnap's Challenge

This appears to be Ney's suggestion of how neo-positivist metaphysics avoids Carnap's challenge and why it remains significant for the rest of metaphysics. Only the physics framework has the appropriate relation to the thing in itself. If one wants to collect assertions about the thing in itself, i.e. if one want to build metaphysics, then the physics framework is the only rational and legitimate place to begin because this is proven to be the true framework. One cannot allow metaphysical reasoning done by metaphysicists to be relevant to this work, since Ney is aware that such reasoning would be accused of being pragmatic rather than theoretic. Any metaphysical discussion, even one taking place with an outset in physics, is under suspicion for being concerned with preferences for conceptual schemes. The appropriate relation between metaphysics and physics is ensured by the biconditional and imperative restriction, since this entails that metaphysics can only rely on what are ultimately the beliefs of the scientific community. Their beliefs are not subjected to epistemological or semantic scrutiny by Ney, because they have their track record of success. The scientific community is a black box out of which theories emerge, and if there is an agreement in all of the scientific community about the indispensability of a metaphysically significant representational element, then we have genuine metaphysical commitment to this element. These are not linguistic preferences, but take the form of assertions about the thing in itself. This success is not ensured by a semantic theory for the beliefs of the physics community, but it is rather defended by the track record of physics. Despite being evidently dependent on the framework adopted by the physics community, the assertions of the resulting core metaphysics are regarded as the fundamental ontology rather than as expressions of preference for a particular conceptual scheme. They are assertions within a framework which Ney nevertheless suggests that we treat as external claims, claims that are made from the true point of view such that they get the thing in itself right. Ney achieves this by rejecting to answer how assertions of core metaphysics succeed to be about the thing in itself. She does not, ultimately, address Carnap's challenge. Rather, she simply insists

that physics has proven its semantic credentials so that it avoids the challenge, and that a metaphysics relying on physics as its evidence can inherit these semantic credentials.

Ney's strategy to avoid Carnap's challenge is to answer any question regarding the semantics of the assertions of core metaphysics with reference to them inheriting their semantics from the beliefs of the physics community, and then to deny answering any questions regarding the semantics of this community with reference to the success of physics, which is supposed to make such a question obsolete. The success of physics proves the beliefs of the physics community to be such that if there is something that the whole community agrees about, then this is true and not just in the sense that they all believe it or regard it to be true. But we must insist on asking how this track record proves physics in such a way that we are entitled to regard the assertion of physics to be assertions about the thing in itself. Ney's response will probably be that it is because the physics community takes their assertions to be about the thing in itself that we are entitled to regard them as assertions about the thing in itself. There is no argument that directly demonstrates why this realism is entitled. Rather, the track record of physics proves that the beliefs of the physics community are correct or perhaps even true, at least when it is a belief that is shared by the whole community. It is because the whole physics community is realist that we are entitled to take physics to succeed with assertions about the thing in itself. This is what the physics community believes their assertions are about. Realism is not defended by a direct argument, rather it is supported by the general acceptance of the physics community, whose judgement generally earns its credential from the track record of physics.

Ney appears to be aware that the general adoption of realism in the physics community is therefore essential to the whole project. She writes: "Our metaphysical project depends on the attitude in general of the physics community being realist" (Ney 2012, 64). While the combination of the biconditional and the imperative restriction might allow Ney to deflect the requirement of a semantic theory for core metaphysics with reference to its reliance of physics, I think this in turn supports the insistence that more must be said about the semantics of physics. How is it that realism can be an unproblematic position when it is adopted by the scientific community?

I have previously quoted Psillos' proposal that scientific realism cannot be an empirical theory whose evidence is the track record of science. The no miracles argument infers that scientific realism is the best explanation of this track record of success, but according to Psillos "[f]or the no-miracles argument to work at all it is presupposed that explanation – and in particular explanation by postulation – matters and that scientific theories should be assessed and evaluated on explanatory grounds" (Psillos 2011, 312). Following the discussion in section 2.1, scientific realism introduces a criterion of reality – to be real is to be indispensable in an explanation by postulation – that must be in place for the no miracles argument to work. Psillos concludes: "Hence, the no-miracles argument works within the

realist framework; it's not an argument for it" (Psillos 2011, 312). From the Carnapian point of view it is important to stress how the argument requires a criterion of reality. It requires a linguistic convention about what counts as real. Ney is certainly right that the realist interpretations of the theories of fundamental physics are both meaningful and justified if these theories are about the realist reality, that is, if they are asserted within the realist framework. It is certainly correct to say that this realist reality is Lorentz invariant because all this means is that Lorentz invariance is indispensable as an explanation by postulation of commonsensical objects or events. However, what Ney further claims is that this realist reality is the true reality. In Ney's view, this realist reality, or perhaps more appropriately the realist framework, represents the thing in itself. Ney might just say that the realist framework is true. But as already argued the same semantic problem reoccurs for this claim as the one that faces a first order assertion such as 'Reality is such that it obeys Lorentz invariance'. For this to be an assertion it must be made within a linguistic framework such that its truth conditions are determined. Similarly, to say 'The realist framework represents the thing in itself' must be asserted within a framework, however, the claim appears to be an external claim. It is not made inside any framework and appears to be meant in an objective and absolute sense. Of course this will not do for Ney. Following Carnap, she must regard external questions and claims to be meaningless, so the claim must be made within a framework. In this unknown framework it is true to say that realist reality is the thing in itself. For this to be the case semantic rules must be in place for 'realist reality' and 'the thing in itself' – perhaps these two terms simply have the same semantics, such that this amounts to the same as saying that all bachelors are unmarried. In another framework, the sentence 'Realist reality is the thing in itself' might be false because 'the thing it itself' has semantic rules such that it mirrors an empiricist reality. In this case it is false to say that realist reality is the thing in itself. The same applies to scientific realism as that which applies to nominalism or Platonism. Scientific realism cannot be asserted independently of a linguistic framework.

Carnap's challenge results in a semantic problem. Despite the track record of physics, the physics community cannot endorse realism as an external theoretic claim. Such claims are pseudo-statements or alternatively, they are pragmatic claims about which linguistic framework is pragmatically preferable. We cannot rely on the physics community being realist, because realism as a position is meaningless.

This is to emphasize that Carnap's challenge cannot be avoided by adequately relating metaphysics to science. The semantic problem is just as relevant to science as it is to metaphysics. Further, adopting the framework of the scientific community, such that scientific and metaphysical questions and claims are internal to a framework, has the consequence that a framework-dependence is introduced which cannot be removed, because there are no theoretical grounds on which to adopt a framework. The adoption of a linguistic framework is a pragmatic question.

It might be objected that Ney very openly states that the whole project depends on the assumption of realism. Neo-positivist metaphysics builds on science because science aims at giving a complete description of the objective world (Ney 2012, 60). As previously stated, without this realist point of view in the scientific community a metaphysics founded on science would be impossible. It is the good fortune of metaphysics that the scientific community embraces realism. Ney writes: "Fortunately, physics as a whole makes it clear that what they are attempting to do is to construct an accurate theory about what the world is like" (Ney 2012, 64). I read Ney as supposing that the physics community has good reasons for their realism, but as long as Ney denies that it is relevant to provide a semantic theory for the beliefs sanctioned by the scientific community, it must be a leap of faith that this realism is true. Accordingly, we might view Ney as simply assuming scientific realism. More generally, it might simply be viewed as an assumption when she writes that the "fundamental physical theories are meaningful" (Ney 2012, 62), in the sense that they are meaningful as assertions about the thing in itself. This is essentially an attempt at a leap of faith.

Under the assumption that scientific realism is true, our metaphysical commitments can be inferred from the strongly indispensable representational elements of frameworks taken seriously by the physics community. According to this reading of Ney, her argument concerns the possibility of metaphysics in a possible world where scientific realism is true. It is a world where physics succeeds at its attempt at assertions about the thing in itself, and where such assertions are meaningful. The metaphysical conclusions arrived at via strong indispensability are true of this possible world. It is then a leap of faith that this possible world is the actual world, so that these metaphysical conclusions are actually true of the thing in itself and not just possibly true.

This position introduces a scientific underdetermination between realism and anti-realism, and differs from the position attributed to Ney above in that it suggests that realism cannot be scientifically sanctioned. Importantly, it regards the metaphysical assertions inferred from physics to be merely possibly true in the sense that the negation of these assertions is equally possible. Ney is very clear that any expression not sanctioned by strong indispensability cannot be assertive. Such statements must be expressive. It would revoke naturalism to propose that strong indispensability merely provides one possible way that the world may be, among many other proposals that could be arrived at by different means or by negating the conclusions. This would eliminate the requirement that metaphysics should defer to science. Such a move cannot be allowed from Ney's perspective. Non-naturalized metaphysics is defective. It is not metaphysics at all but rather non-assertive expressions, and this follows from Ney's own view on the significance of Carnap's challenge to metaphysics.

The sort of view that Ney might adopt is that the metaphysical conclusion of the indispensability argument is only true about the thing in itself if realism is true. Only two possible worlds are introduced, one where realism is true and one where anti-realism is true. In the anti-realist world metaphysics is impossible altogether, whereas in the realist world

metaphysics is possible as a naturalized metaphysics. With this position, all metaphysical assertions are conditionals inferred from strong indispensability and take the form: 'If the metaphysically significant representational elements of physics represent entities in the thing in itself, then ...', where the consequent is the particular metaphysical assertion. In the possible world where the antecedent is true, the consequent – a metaphysical assertion inferred from the indispensability argument – is true.

However, stating naturalized metaphysics in terms of such conditionals or alternatively as the metaphysics of a possible world that might be the actual world is not available to Ney, either. The statement 'The metaphysically significant representational elements in physics represent entities in the objective world' is the cause of the problem. From Ney's point of view, this statement is not endorsed by the scientific community and therefore it cannot be part of core metaphysics; this is the assumption behind the move to avoid the problems for Ney's neo-positivist metaphysics resulting from Carnap's challenge. However, all metaphysical statements that are not sanctioned by science by strong indispensability can only express our preferences for a conceptual scheme and must be part of the filled-in metaphysics. Filled-in metaphysics does not consist of assertions, rather, Ney adopts a local expressivism when it comes to filled-in metaphysics of the sort globally embraced by Price. One cannot in this light assume realism as true, because the statement 'The metaphysically significant representational elements in physics represent entities in the objective world' is not an assertion, it is merely expressive. But then any conditional having this statement as an antecedent must be merely expressive as well. By Ney's own standards, there is no way in which she can assume realism to be true, and these standards are adopted by Ney exactly due to Carnap's challenge, which she regards as a significant challenge to all non-naturalized metaphysics.

Following Carnap, there are even good reasons for being suspicious of simply assuming realism to avoid the problems facing metaphysics. From a Carnapian point of view there is no such assumption. If stating 'p' is problematic then stating 'possibly, p' is just as problematic.[7] Taking the particular example of realism, there is no way in which realism can be true in an absolute sense. Rather, a framework can be a realist framework. However, even the second order claim that this framework then represents the thing in itself must be a pseudo-statement. This problem is not avoided by moving from the actual world to all possible worlds. This would solve the epistemological problem that Ney takes Carnap to introduce. By assuming realism, we simply assume that the framework of the scientific community is the true framework, or analogously, state something about the possible world where this framework is the true framework. The problem, however, is not an epistemological problem. It cannot be avoided by assumption or by moving to a certain possible world, since

[7]Evidently, the whole Lewesian possible world semantics must be treated carefully from a Carnapian point of view. This is not to say that modal langauges are disallowed, this would be in direct contradiction to Carnap's principle of tolerance.

the problem is ultimately a semantic problem. There is no notion of objective and absolute truth, there are no framework-independent assertions. Thus, assuming realism supposedly amount to explicating the sort of linguistic framework in which certain statements are made. Similarly, to say 'possibly, p' might be suggested to mean that there is a linguistic framework in which it is true to say that p, or merely that p is synthetic a posteriori and therefore only empirical evidence can settle whether p or ¬p it the case *within* some framework. These are merely proposals as to how these statements might be understood. There are many other ways to analyse the employment of such linguistic expressions within frameworks. The point is just that realism involves an assertion that must be evaluated within a framework like every other assertion, as there is no framework-independent point of view. This is also the case when making assumptions or when one is asserting something about possible worlds. Statements about the possible world in which realism is true are still statements within a framework. 'Is there really such a world?' is without cognitive meaning if it is meant as a theoretical, external question. The suggestion, as above, could be that what is asked is rather whether there is a linguistic framework in which it is true to say 'The metaphysically significant representational elements in physics represent entities in the thing in itself'. If Psillos is right, then we can answer this question in the affirmative; this framework is the realist framework. However, adopting the realist framework is a pragmatic matter, any framework is allowable. While assuming realism to be true of the actual world can prove to be a viable strategy to avoid epistemological difficulties, the semantic difficulties following Carnap's challenge block even such a leap of faith. According to this challenge realism is unavailable as a theoretical position.

A footnote with a remark about Carnap and Quine summarizes Ney's view and expose her problem. She writes:

> 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. She adopt the view that science is objective. According to Ney, science makes claims that are not framework-dependent. As I have presented Carnap's challenge, Ney's sides with neither Carnap nor Quine on this. Following Carnap's challenge every evaluation of the truth of an assertion must be conduction within a framework. In this sense the evaluation can never be objective and non-pragmatic. According to both Quine and Carnap one must for semantic reasons adopt a global pragmatism. Ney simply rejects this. Ultimately, no reasons can be provided for this rejection. She might seem to take is as a leap of faith that science is relevantly objective, but as I have argued not even such a leap of

faith is available. Evidently, this emphasizes how Carnap's challenge is a challenge not only to metaphysics but to all attempts at assertion made outside any framework, claims that are supposed to be objective assertions about the thing in itself. In this sense both global pragmatism and the rejection of this are pseudo-statements. There is not such position stating 'No representational elements of a linguistic framework represent the thing in itself'. This statement would be just as problematic as Ney's rejection of it. According to Carnap, framework-independence is impossible. All evaluations of truth are made in a linguistic framework. This includes evaluation of metaphysical and scientific assertions alike. Quine summarizes the view quite nicely in *Theories and Thing.* 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).

Quine signifies how metaphysics is impossible if it is a condition that successful attempts at metaphysics are assertion about the thing in itself. There are no such assertion. They must be pseudo-assertions. The whole discussion regarding "whether or how far our science measures up to the *Ding an sich*" is a pseudo-discussion if it is supposed to be conducted outside any framework. All this follows from Carnap's challenge as I have presented it.

I propose that this demonstrates that Ney's neo-positivist metaphysics cannot avoid the challenge either. Ney's variant of ontological naturalism does not succeed as an answer to how metaphysics is possible, because the instruction provided does not guide us to succeed at attempts at metaphysics. The metaphysics following Ney's variant of ontological naturalism is just as vulnerable to Carnap's challenge as non-naturalized metaphysics. Ney's neo-positivists metaphysicist is no better off than those who discuss the existence of abstract entities or mereological sums while keeping their distance from the findings of science.

This does not allow the conclusion that naturalized metaphysics is not an answer to how metaphysics is possible. There are many other variants of such a metaphysics. With an outset in Ney's naturalized metaphysics, some of these variants will be considered below. It will be argued that none of them fares any better than Ney's variant.

## 4.4 Turning the knobs of naturalized metaphysics

In very general terms, Ney's answer to how metaphysics is possible follows an idea suggested by Blackburn in a brief remark about naturalistic metaphysics. He writes: "It is easy to understand why the naturalistic self-image is so popular. First of all, it answers the question of how metaphysics is possible. It is continuous with science, and, since science is possible, so is metaphysics" (Blackburn 2002, 76). Relating metaphysics adequately to science will ensure that metaphysics is possible just like science: this is the guiding idea behind Ney's response to Carnap's challenge and I will assume that any variant of naturalized metaphysics attempts such a solution to the problems facing metaphysics, as one might question what else could be achieved by requiring that metaphysics should defer to the findings of science. Carnap's challenge argues that any metaphysical assertion must be framework-dependent. The truth of the assertion can only be evaluated within a linguistic framework. To use Quine's phrase: "Truth is immanent". Some essentially semantic argument would be required to reject this claim. As argued, even attempting to assert the rejection is initially semantically problematic. Requiring that metaphysics defers to the findings of science does not appear to be the beginning of an elaborate semantic argument, and therefore I find that we are entitled to regard naturalized metaphysics to be an attempt to avoid the problem, rather than to address it. Just like Ney, I therefore propose that any naturalized metaphysics follows Blackburn and ultimately takes naturalized metaphysics to be possible because science is possible. Ney attempts to avoid Carnap's challenge, not by giving a semantic argument, but by relating metaphysics to physics. She generally regards Carnap's challenge to be significant, but physics nevertheless avoids it. This is the general argumentative scheme that I take to be available to variants of naturalized metaphysics in the attempt to answer how metaphysics is possible when specific interest is bestowed to Carnap's challenge.

In the following, I will investigate how variations in naturalized metaphysics might affect attempts to avoid Carnap's challenge following this scheme. The outset will be Ney's attempt, and the variations will be considered in relation to Ney. I will therefore briefly review the role of different elements of Ney's naturalism in her attempt to avoid the challenge and thereby indicate what knobs that might be turned to approach the problem differently.

### 4.4.1 Reviewing Ney's attempt to avoid Carnap's challenge

Ney defends a closed, biconditional naturalism. She does this to ensure that metaphysics relates to physics in such a way that metaphysics can inherit the semantic credentials of physics. It is the assertions endorsed by the physics community that stand as candidates to being assertions that are "objective and not-merely-pragmatic". It is the physics community that has a proven track record of success in the sense that it is their beliefs that have proven to be successful. Supposedly, this is to emphasize that any metaphysical reasoning and thereby

the opinion of the metaphysics community has never brought any of these successes about. Therefore, Ney restricts the scientific sanctioning to those assertions that are endorsed by the physics community. Further, when the aim is metaphysical assertions, Ney even requires that such assertions can only be made about strongly indispensable representational elements that are regarded to be of metaphysical significance by the whole physics community. As argued, this implies a very strong ontological naturalism. The physics community must be realist with respect to the particular representational element for it to be of metaphysical significance. Ultimately, only common agreement about metaphysics in the physics community scientifally sanctions metaphysics that is assertions about the thing in itself. In Ney's view, any other metaphysical statement is a pseudo-statement that merely expresses the preference for a particular conceptual scheme. These remarks suggests two related knobs to turn, both of which concern the strength of the imposed ontological naturalism. First, one might instead endorse trumping naturalism, and second, the requirement for scientific sanctioning might be changed.

Ney is generally optimistic that some consensus can be found among the different frameworks taken seriously by the physics community. This is what ensures that there are strongly indispensable representational elements and therefore, what ensures core metaphysics is not empty. However, she is also aware that physics is largely inconsistent. This is manifest for instance with the different interpretations of quantum mechanics that are all taken seriously by the physics community. Ney tries to accommodate these inconsistencies by requiring strong indispensability. This, however, she does to accommodate an epistemological problem such as the one proposed by Monton. Monton requires that "metaphysics is meant to get at truth" (Monton 2011, 156). In relation to the question of the consistency of science, strong indispensability is supposed to pick out assertions that are indeed true. Carnap's challenge on the other hand is not such an epistemological problem. The problem is not whether it is possible to infer from science any true assertions about the thing in itself. Rather, the challenge questions how any attempts at an assertion about the thing in itself is possible. In this regard, the optimism or pessimism regarding the current state of science is an irrelevant aspect when it comes to a solution to Carnap's challenge. Consistency is only relevant in so far as science sanctions both an assertion and its negation such that any assertion might be inferred from them. If scientific sanctioning then is closed under deductions, science will then sanction any assertion, which of course would render any ontological naturalism obsolete. This problem, however, must be solvable by adequately qualifying scientific sanctioning in the presence of inconsistencies.

As argued, Ney's closed, biconditional naturalism might be such that she can avoid Carnap's challenge for the assertions of core metaphysic by deflecting the problem to physics. Physics contains successful assertions about the thing in itself and by adequately basing metaphysics on these assertions, metaphysics avoids the challenge: this is her simple idea. Again, this is the strategy proposed by Blackburn. The physics community as a whole endorses scientific

realism and this scientifically sanctions scientific realism. Wanting no more from metaphysics than what can be achieved with the assumption of scientific realism, Ney finds scientific realism to entitle realism with respect to core metaphysics. However, Carnap's challenge finds positions exactly such as realism problematic. Any attempt to stipulate the relation between the linguistic frameworks endorsed by the physics community and the thing in itself is either an assertion within a framework, which would deflate the claim, or merely interpreted as a pragmatic suggestion for the adoption of a particular linguistic framework. From this perspective, it might be better for the naturalist to back down on scientific realism, if this is the cause of the problem. This is the third knob, which will be turned below.

### 4.4.2 Changing the ontological naturalism

The first proposal above was to see what might be achieved by changing the imposed ontological naturalism. While Ney imposes a very strong ontological naturalism with strong requirements to scientific sanctioning, it might perhaps be fruitful to loosen both.

Loosening the biconditional restriction itself would result in the weaker trumping naturalism. As an imperative, this was explicated as: Accept $p$, if science sanctions $p$. Along with the imperative restriction, trumping naturalism introduced the trumping restriction that that there is no assertion, $p$, such that $p$ is a logically implied by metaphysics and $\neg p$ is scientifically sanctioned: $\forall p\,(\neg(M \vdash p \wedge \mathrm{SA}(\neg p)))$. Following trumping naturalism, there might be assertions in metaphysics that are not sanctioned by science as long as science does not sanction its negation. Metaphysics has a significant autonomy form science. As long as metaphysics distances itself from science, it can avoid any intervention from science. For a metaphysicist this might be good news, but as a means to follow Blackburn's argumentative scheme, trumping naturalism is not strict enough. The naturalist wants to defend the possibility of metaphysics with reference to the possibility of science and an adequately close relation between science and metaphysics. Arguably, this is not achieved with trumping naturalism. Blackburn's argumentative scheme can simply not be carried out under the assumption of trumping naturalism. It seems that biconditional naturalism is required for this scheme. Therefore, trumping naturalism is not a solution to the problems faced by Ney in the light of Carnap's challenge. Trumping naturalism makes things even worse.

The other knob one might turn concerns the requirements for scientific sanctioning. For an assertion to be scientifically sanctioned as a metaphysical assertion, Ney requires that it asserts something about a strongly indispensable representational element that is regarded to be metaphysically significant by the physics community. From the point of view that one merely wants the scientifically sanctioned assertions to be those assertions that stand in an appropriate relation to science such that in can inherit the legitimacy of science, this seems to be unnecessarily restrict. An assertion made about a representational element that is not strongly indispensable is regarded by Ney to be merely expressive; it is regarded as something

that expresses the preference for a particular conceptual scheme. It is quite curious why Ney does not regard these to be assertive as well. It is not claimed that these are true. Such assertions about representational elements that are not strongly indispensable cannot be sanctioned as true because this would imply that both an assertion and its negation were sanctioned as true. This has the aforementioned consequences. However, such a statement might nevertheless be sanctioned as an assertion whose truth-value it yet undetermined. Ney appears to deny this. She maintains that such statements cannot be assertive, and that this results from them being subject to Carnap's challenge. Instead, they must be regarded as expressive. In this way a representational element might undergo a curious transformation. As long as there are more competing frameworks that disagree about a particular representational element, any statement about the this representational element is expressive. However, as physics develops, one of these frameworks might perhaps be abandoned by the physics community. All of a sudden, the representational element has genuine significance and assertions can be made about it. Regarded thus, it is very difficult to see what changed about the statement since it went from being expressive to being assertive. A framework was abandoned, but the claim, supposedly, was made in the same way and in the same framework. Why then, would it suddenly be assertive rather than expressive? Why was it not assertive all along?

Presented in this way, it is difficult to see how Ney can require strong indispensability as a condition that must be met for a claim to be scientifically sanctioned as an assertion. It is simply arbitrary to distinguish between the strongly indispensable representational elements, and those representational elements that are not strongly indispensable. This suggestion also fits well with Ney's description of the frameworks of fundamental physics as competing accounts of the truth. Being such competing accounts, their respective implied metaphysics must similarly be different proposals for the correct metaphysics. Nothing is lost for Ney, I argue, by changing the restriction on scientific sanctioning in this way. However, nothing is achieved either. Loosening the scientific sanctioning this way does not avoid the external claims that are problematic due to Carnap's challenge. Rather, they become more numerous. To abandon the requirement for strong indispensability for scientific sanctioning merely allows that many more claims are sanctioned as assertions about the thing in itself. The problem according to Carnap is that there are no such assertions. These are pseudo-assertions that at worst are cognitively meaningless and at best are pragmatic proposals for the adoption of a linguistic framework.

Another way of loosening the requirements for scientific sanctioning are those already mentioned by Ney. She discusses whether to allow for more physics-based metaphysical reasoning. This might involve metaphysical judgements about what representational elements are metaphysically significant, to allow metaphysicists to decide between competing theories, and perhaps even to allow metaphysicists to develop or re-include theories that are not taken seriously by the physics community. None of these can be allowed, according to Ney,

because it is the physics community that has proven itself by its track record of success. To allow for such metaphysical reasoning would make any result of this reasoning suspicious because metaphysics is the primary subject of Carnap's challenge. Every judgement must ultimately be made by the scientific community because it is the beliefs of this community alone, according to Ney, that avoids Carnap's challenge. But these beliefs do not in fact avoid Carnap's challenge, nevertheless, Ney's remarks still signify why such a loosening of the requirements to scientific sanctioning would not achieve anything if the aim is to show how naturalized metaphysics is an answer to how metaphysics is possible.

If anything, the already strong requirements imposed by Ney must be strengthened further. The essence of Ney's requirements is that a claim is only sanctioned as an assertion about the thing in itself if the scientific community endorses that claim as such an assertion. To strengthen Ney's requirement, one must therefore try to impose restriction of what beliefs held by the scientific community justify such a scientific sanctioning. Perhaps, the most obvious suggestion would be to insists that the sanctioning should be limited to assertions with empirical content that are also endorsed by the physics community. However, this will not solve the problem for naturalized metaphysics either. The problem is the one that Ney attributes to Quine that "we don't even have objective, not-merely-pragmatic standards of verification within science" (Ney 2012, 62 fn 9). The framework-dependence is not avoided by empirical assertions. Every attempt at an assertion made outside all linguistic frameworks is vulnerable to Carnap's challenge. Such assertions are simply pseudo-assertions. This is so regardless of whether they are empirical or non-empirical. The only viable solution would be to require that only assertions made within a linguistic framework are scientifically sanctioned. This would indeed avoid the problem that some scientifically sanctioned assertions are pseudo-assertions. However, it would in turn mean that none of the scientifically sanctioned assertions were possible members of metaphysics, as they would not be about the thing in itself. There would be no metaphysical assertions among the scientifically sanctioned assertion. Consequently, imposing the biconditional restriction would make the collection of metaphysical assertions empty, as it would restrict the assertions available as metaphysical assertion to those that are scientifically sanctioned.

This indicates how changing the requirements for scientific sanctioning is not a way for the proponents of naturalized metaphysics to demonstrate how a particular variant of naturalized metaphysics is actually possible.

### 4.4.3 Backing down on scientific realism

As I have established, any attempt to state realism as an objective and not-merely-pragmatic position fails. There is no way to state scientific realism outside a framework. There is no such point of view available. Scientific realism shares similarities with nominalism and Platonism. In a realist framework, scientific realism is true, just like 'There are abstract

entities' is true in the Platonist framework. This framework-dependence is unavoidable despite stipulations such as 'Realism is really true'. There is no such position as scientific realism and therefore, this position cannot be endorsed by the scientific community. With scientific realism, science is just as problematic as metaphysics.

The naturalists who follow Blackburn's argumentative scheme might therefore back down on this scientific realism. As argued in section 3.1, this is allowable for the naturalist since nothing in ontological naturalism and the naturalist view of science requires scientific realism. The first suggestion would perhaps initially be to adopt scientific anti-realism. Of course, if Ney is right, this is not the view adopted by the scientific community, however, as argued the scientific community cannot adopt scientific realism anyway, at least not as anything but an unforced choice of framework. In this sense, scientific realism cannot be sanctioned by science either. As already explicated, scientific anti-realism states that science is not about the thing in itself. The thing in itself is regarded as underdetermined by scientific investigations. Scientific anti-realism is, as expected, the negation of scientific realism. This, however, pose a problem for scientific anti-realism. If scientific realism is a pseudo-statement, then the negation of the position must be a pseudo-statement as well. Scientific anti-realism rejects that there is a direct representational relation between assertions within the scientific framework and the thing in itself. The thing in itself is unavailable in such a way that scientific assertions are not about the thing in itself, but the problem is an epistemological one, according to the scientific anti-realists. Explicated thus, it is evident why scientific anti-realism must be just as problematic as scientific realism. A claim is still made about the relation between the assertions within the scientific framework and the thing in itself, a claim that appears to be an attempt at a theoretic, external claim. If it is merely claimed that there is a framework in which it is true to say that the framework of science does not directly represent the thing in itself, then it can be regarded as an assertion, but one that as signified is made internally to a framework. This, however, is not what scientific anti-realism seems to amount to. Scientific anti-realism as a thesis is a pseudo-statement just like scientific realism. It is no more available as a thesis than scientific realism.

If a proponent of naturalized metaphysics wants to avoid the problems resulting from scientific realism, she must instead adopt instrumentalism. This is the position that rejects the discussion between the scientific realists and anti-realists over the relation between science and the thing in itself. According to the instrumentalist, there is no such discussion. We can employ any linguistic framework that we want for science. This includes both realist and anti-realist frameworks. As suggested by Quine above, this is not the same as adopting conventionalism. In Quine's words this would be to confuse truth with evidential support, however, it is ultimately a pragmatic question which framework to adopt. Once a framework is adopted, there are theoretical questions and claims, some of which are true and some of which are false, some of which are synthetic and some of which are analytic. However, as assertions they must be evaluated within the framework in which they are asserted. Adopting

instrumentalism would still allow for discussions such as the one conducted by Ney over the metaphysical significance of every representational element of a physical theory. It could still be asked whether "the physics community intends every representational element of its best theories to correspond to something in reality" (Ney 2012, 64). However, it would require that a framework was in place with semantic rules for the term 'reality'. If the discussion, on the other hand, is intended to question whether to adopt a local scientific realism or anti-realism, the instrumentalist, just like Carnap, will reject the discussion as meaningless. If the debate concerns how this representational element relates to the thing in itself, then there must either be a framework in place with semantic rules for 'the thing in itself' or the debate must be regarded as meaningless unless it concerns what framework would be pragmatically preferable with respect to some given aim.

Such an instrumentalism is certainly available even in the light of Carnap's challenge. Thus, with this view of science, science avoids the problems that it faced with the attempted assumption of scientific realism. The instrumentalist simply takes the question regarding the relation between science and the thing in itself to be a pseudo-question. The instrumentalists view is the view endorsed by Quine above. However, once instrumentalism is adopted it is difficult to see how a deference of metaphysics to instrumentalist science will instruct how metaphysics can succeed with assertions about the thing in itself. What is this deference to the findings of science supposed to achieve? As already argued in 3.1, a metaphysics based on instrumentalist science will supposedly be an instrumentalist metaphysics. This point is also made by Ney. To quote her again: "if the physics community as a whole were instrumentalists about their theories, then I grant there would be something seriously wrong with trying to using fundamental physical theories to inform metaphysical claims.(Ney 2012, 64). If the physics community adopts instrumentalism, then naturalized metaphysics must adopt the resulting framework-dependence of physics and thereby not adhere to the proposed condition for metaphysics. Denouncing scientific realism and adopting instrumentalism is not a viable strategy in the attempt to establish that naturalized metaphysics is an answer to how metaphysics is possible. The resulting naturalized metaphysics would not instruct us how to succeed with assertions about the thing in itself. A metaphysics of instrumentalist science would be a metaphysics of linguistic frameworks; not of the thing in itself.

## 4.5 Naturalized metaphysics is impossible

The previous section considers a number of variations that can be made to Ney's naturalized metaphysics, and it is demonstrated how none of them fares any better in avoiding Carnap's challenge. Naturalized metaphysics is an answer to how metaphysics is possible if metaphysics is possible only when ontological naturalism is obeyed. However, as demonstrated, metaphysics is no more possible with respect to Carnap's challenge as naturalized metaphysics than as non-naturalized. Therefore, naturalized metaphysics is not an answer to how

metaphysics is possible unless or until Carnap's challenge can be refuted. For now at least, metaphysics is not possible as naturalized metaphysics. Relating metaphysics to the findings of science does not instruct us how to succeed with assertions about the thing in itself. Just as emphasized by Quine, the problem is ultimately that science is just as vulnerable to Carnap's challenge as metaphysics. Therefore, to require a deference of metaphysics to the findings of science achieves nothing. Neither metaphysics nor the findings of science can be assertions about the thing in itself, or more appropriately, since the former statement is also a pseudo-statement, both the assertions of metaphysics and those of science must be made within a framework.

# Chapter 5

## Conclusion

No assertion can be made objectively and absolutely. No assertion can be made about the thing in itself. Indeed, these assertions cannot be made either. They are also pseudo-assertions. Strictly, it is unavailable to us to say what these alleged assertions attempt to say. All we can do is to ask which linguistic framework they are asserted in. If no indications are given, we must simply capitulate and maintain that we do not understand what is said. This proves the strength and scope of Carnap's challenge. It is not just a challenge to metaphysics but to all assertions including those of science. This is why it is impossible to overcome with naturalized metaphysics.

This project has established a necessary condition for metaphysics that was shared by the proponents of naturalized metaphysics: 'Attempts at metaphysics are successful only if they result in assertions about the thing in itself'. For this to be an assertion, it must be an assertion within a linguistic framework. For this to be an assertion, there must be semantic rules in place for 'metaphysics', 'assertion', and 'the thing in itself' among many others. Any attempt made throughout this project at objective and absolute reference to the thing in itself has been a pseudo-statement. Indeed, this makes pseudo-statements rather numerous in the present project. There is no way to assert that metaphysical or scientific assertions do or do not represent the thing in itself. So what then is the conclusion of the present project? Simply that when alleged metaphysical assertions are challenged to somehow indicate in what linguistic framework the assertions are made, no metaphysically acceptable answer can be provided; this is the case for both naturalized and non-naturalized metaphysics. Any answer will prove the apparently metaphysical disputes to be non-theoretical pragmatic disputes concerned with linguistic conventions of different linguistic framework or perhaps ordinary assertions within a framework like 'There is really a white piece of paper on my desk' and 'There is a prime number greater than a hundred'. While the question might immediately be avoidable by appropriately relating one's metaphysics to science, this merely deflects the question to science. Essentially, what has been demonstrated in the previous chapter is that Carnap's challenge is equally significant to metaphysics and to realist science with the consequence that deference to the findings of science does nothing to avoid this challenge. Similarly, it has been argued that it is not an alternative to explicate how the metaphysical assertions are made within the linguistic framework of the scientific community.

This will reinstate the framework-dependence, because second order assertions about the relation between linguistic frameworks and the thing in itself are equally problematic. Also they must be pseudo-assertions unless they are made within a framework. This problem, as argued in section 4.4, cannot be avoided no matter what variations of ontological naturalism that are defended.

Metaphysics is an attempt to change the mode of speech and particularly to change the mode of evaluation so that it is not conducted within linguistic frameworks. It is this move that causes the problems of metaphysics with respect to Carnap's challenge. This move is simply impossible. It is not only impossible for metaphysics but for any field of inquiry. Carnap's challenge is a challenge to metaphysics because it is metaphysics that attempts this move. It is a problem for naturalized metaphysics because naturalized metaphysics attempts to make this move for science, or argues that the move is already made in science qua possible. In that case, relating metaphysics to science should solve the problem. This, however, is not a way to avoid Carnap's challenge. Again, it is just as significant for science as it is for metaphysics. It is equally significant for any inquiry that attempts to move beyond the discourse internal to frameworks. Again, in Quine's words: "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, 22). This question about the thing in itself is a pseudo-question whether it is asked with respect to metaphysics or to science. Ultimately, this is why naturalized metaphysics is no solution to Carnap's challenge and consequently, 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 impossible. When the proponents of naturalized metaphysics are suspicious towards traditional analytic metaphysics, they should be just as suspicious towards their own naturalized metaphysics and even towards their precious realist science. All are equally vulnerable to Carnap's challenge because they all require that their successful assertions must be about the thing in itself. With this requirement, there is apparently no way out of Carnap's challenge, any attempt to assert how an assertion relates to the thing in itself must itself be asserted within a linguistic framework. Any attempt to assert how a linguistic framework or how some assertion within a linguistic framework relates to the thing in itself must also be asserted within a linguistic framework ad infinitum.

To conclude, all naturalized metaphysics is impossible until or unless Carnap's challenge is refuted.

Chapter 6

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