Russellian Panpsychism:
Do We Need It and Is It Enough?

By

Damian Aleksiev

Submitted to

Central European University

Department of Philosophy

In partial fulfillment of the requirements for the degree of Master of Philosophy

Supervisor: Philip Goff

May 2016

Abstract

The main aim of this thesis is to clarify the ontological status of phenomenal experience. In order to do this, I first examine how pure physicalism explains phenomenality. Pure physicalism relies on the structural and causal vocabulary of physics, and is compatible with the causal closure of the physical. Nonetheless, I argue that pure physicalism is false since it cannot account for our intuitive understating of phenomenal experience as something beyond-structural. I supplement these intuitions, first with the knowledge and conceivability arguments, and second with my own argument for the transparency of phenomenal concepts called the argument from solipsism. Then, I investigate Russellian panpsychism as a promising alternative to pure physicalism that attempts to solve its problems without any drawbacks. Russellian panpsychism places phenomenal experience at the fundamental ontological level, and at the same time remains compatible with the causal closure of the physical. Finally, I argue against Russellian panpsychism based on the combination problem, as well as my own: reverse conceivability argument, and combination problem for value. The conclusion of this enquiry is that neither pure physicalism nor Russellian panpsychism can provide a satisfactory account of phenomenal experience.

Acknowledgments

I would like to thank my supervisor Philip Goff for his continual support and willingness to discuss my ideas during the entire academic year. Without his plentiful and insightful comments, this paper would not have been possible in its current form. Also, I am indebted to all my teachers at the CEU philosophy department, for sharing their knowledge, and for teaching me how to become a better philosopher.

Table of Contents

Introduction

The aim of this thesis is to explore the ontological status of phenomenal experience. Physicalism is the dominant metaphysical doctrine in contemporary philosophy of mind, and it is closely related to what physics as a science tells us about the world. Physics uses a mathematical (structural and causal) vocabulary to describe the world. On the other hand, our phenomenal experiences – our feelings and sensations – seem to have a rich and qualitative nature that can only be *felt*, but not fully described by the vocabulary of science. As a metaphysical doctrine, the main advantage of physicalism is that it provides a metaphysical picture closely related to our scientific knowledge of the world. Nonetheless, its main disadvantage is that it seems unable to explain phenomenal experience in accordance to our intuitions that phenomenality is something beyond the capabilities a structural and causal vocabulary. Therefore, if we do not wish to give up on our intuitions concerning phenomenal experience, we have to rethink our entire world-view and shift away from physicalism. The alternative that I will explore in this thesis is called Russellian panpsychism, and it promises to solve the problems of physicalism, and at the same time remain compatible with our scientific knowledge of the world.

In *Chapter 1: Physicalism,* I will introduce pure physicalism as a metaphysical thesis based on the grounding explanatory relation, and Barnes' fundamentalist ontological framework. Moreover, I will present the causal argument in support of pure physicalism. In *Chapter 2: Against Physicalism,* I will argue that pure physicalism cannot be true since it cannot account for the grounding of phenomenal facts (the grounding problem). I will do this by first introducing our intuitive understand of phenomenality as something beyond-structural, then I will augment these

intuitions with the knowledge and conceivability arguments, and finally I will attempt to demonstrate that phenomenal concepts are transparent with my own argument from solipsism. In *Chapter 3: Russellian Panpsychism*, I will introduce Russellian panpsychism as a metaphysical alternative to pure physicalism that promises to solve its problems while remaining compatible with the causal closure of the physical. In *Chapter 4: Against Russellian Panpsychism*, I will argue that Russellian panpsychism has serious problems of its own, such as the combination problem, my own reverse conceivability problem, as well as the combination problem for value, therefore transforming it into a less than perfect alternative to pure physicalism.

Chapter 1: Physicalism

In this chapter I will define physicalism and explain why it is a plausible metaphysical position. I will focus my argumentation on what Goff (forthcoming) calls 'pure physicalism'. Pure physicalism is the view that fundamental reality is nothing more than a causal structure composed of physical facts discovered by physics as an empirical science. All other non-fundamental facts are derived from and dependent on this causal structure. In order to define pure physicalism, I will employ the fundamentalist ontology framework as developed by Barnes (2012) and the grounding relation. Then, I will present the 'causal argument' in order to defend the plausibility of pure physicalism as a true description of the world. The definition of physicalism introduced here as well as the associated metaphysical apparatus I will later use as a starting point to both argue against physicalism and to clarify its alternatives.

1.1. Introducing Pure Physicalism

In the most general sense physicalism can be defined as the thesis that "everything is physical" (Stoljar, 2016). Physicalism is the dominant position in contemporary philosophy of mind and with good reason. As a metaphysical position, physicalism is closely related to the theories and discoveries of physics as an empirical science. It rests on the belief that physics can provide humans with insight into the fundamental constituents of reality. This belief is backed by the huge practical successes of physics and the vast power it gave humans over nature. It is evident that the rapid technological developments taking part in our everyday lives would be impossible without the discoveries made by physicists. Concerning philosophy of mind, one of the major implication

of physicalism is that the mind, consciousness, and phenomenal experience in general must also be explainable by the facts of physics. As a science, physics deals with what can be referred to as the *public* or *objective* space, or the space to which all epistemic agents have access, as opposed to the *subjective* or *private* space to which only a particular agent has access. Therefore, if physicalism is true, all experiential phenomena of the subjective or private space must be explainable as aspects of the public space.

Different philosophers provide different interpretation on how to understand physicalism and its relation to *prima facie* non-physical phenomena such as social institutions, phenomenal experience, value or abstracta. Nonetheless, what they all agree on is that fundamental reality is physical, while all other entities that might *prima facie* seem non-physical are either identical to some fundamental physical facts or are in some way dependent on them. The version of physicalism that I will present is what Goff (forthcoming) calls 'pure physicalism'. In the context of the general claim that 'everything is physical' it is best understood as the stance that *fundamental reality is entirely composed of physical facts*. I will now attempt to clarify the two components of the definition for pure physicalism: physical facts and fundamental reality.

Physical facts are the facts provided by our currently best available physical theories. Some possible candidates for them are particles, forces, fields, their properties (such as mass, charge, spin, etc.), and their relations. Simply put, physical facts are the things physicists talk about. However, relying on the discoveries of our currently best physics as a metaphysical foundation is problematic. Firstly, 1) the discoveries of physics are not fixed. We have good inductive reasons from the mistakes of the past physical theories to believe that our current physical theories are not

fully correct. This worry implies that our current physical facts might be approximations at best. Secondly, 2) even if it is possible for physics to reach a state of development where its facts map perfectly into the elements of reality, it is possible that this state – known as the 'completed physics' – might not resemble current physics at all since it might even include supernatural entities. These two problems compose what is known as Hempel's dilemma (Hempel, 1969; Stoljar, 2016; Goff, forthcoming). Nonetheless, for the purpose of defining pure physicalism, Hempel's dilemma does not seem to pose a threat. Pure physicalism escapes Hempel's dilemma by putting constrains on what a complete physics is, and what physical facts are. Pure physicalism *assumes* that the dream of complete physics is possible. Furthermore, the judgement that our current physical facts are approximations is not problematic since what is of importance for pure physicalism is the form of the facts and not necessarily their content. Thus, by putting constrains on what a complete physics is, pure physicalism escapes Hempel's dilemma. Structural facts are facts that can be captured by the vocabulary of mathematics. As a science, physics uses the vocabulary of mathematics in order to create abstract models of the relations between the elements of fundamental reality. Therefore, the form of all physical facts – both past, future, and present – is causal and structural. Physical facts can be defined as *structural and causal facts* involving the fundamental constituents of reality and their relations. Therefore, for pure physicalism, fundamental reality is a causal structure outlined by physics as an empirical science.

To clarify the notion of *fundamentality* I will employ the metaphysical terminology developed by Elizabeth Barnes in 'Emergence and Fundamentality' (2012). Barnes' framework is an example of a 'fundamentalist ontology' or an ontology where reality is understood as having only two

levels: the fundamental and the derivative[1]. *Fundamental entities* are best understood as God's building blocks or as "all and only those entities which God needs to create in order to make the world how it is" (876). What God needs to do in order to recreate our world with the totality of its complexity is to recreate the fundamental entities. Fundamental entities do not come ontologically 'for free', instead their existence is necessary for the existence of all other entities. *Derivative entities*, on the other hand, are all other entities, i.e. the entities that "are not fundamental" (877). Their existence is entirely derived from the existence of the fundamental entities. Once the fundamental entities are put in place, the derivative entities come for free since no additional action is required in order to guaranty their existence. Under a fundamentalist ontology framework, there are no levels of fundamentality or of being derivative – as Barnes explains: "derivative entities are derivative only on fundamental entities, never on other derivative entities" (*ibid*.). The opposite of a fundamentalist ontology is a 'hierarchical ontology' where there are levels to both fundamental and derivative entities. For the purpose of this paper, I believe the simplicity of a fundamentalist ontology offers a clean way to define the metaphysical ideas without drawbacks, thus making the complexity of a hierarchical ontology redundant.

When it comes to pure physicalism, the use of a fundamentalist ontology implies that the physical facts are the fundamental constituents of reality. It does not imply that all facts or properties are physical, nor that all sciences are reducible to physics. Nonetheless, the existence of all other *prima facie* non-physical phenomena must be derived from the existence of the fundamental physical facts. As Chalmers (2015: 248) explains with reference to the example of consciousness: "once

[1] Barnes' framework is an elegant generalization of similar metaphysical ideas that can be found in Fine (2001), Schaffer (2009), Dasgupta (2014), and many other authors (both explicitly and as a background assumption) – perhaps even tracing back to antiquity.

God created the entities of physics, consciousness came along for free". Therefore, what I understand by the term *everything* in the claim that 'everything is physical' is that *all fundamental facts are physical facts*.

1.2. Supervenience vs. Grounding

I believe it is important to clarify how precisely the derivative entities are dependent on the fundamental entities. In order to do this, I will employ the grounding relation. First, I will introduce and compare the concepts of supervenience and grounding. Then I will argue that grounding is more suitable for defining physicalism because it is an explanatory relation. Finally, I will claim that grounding fits well within Barnes' metaphysical framework since it seems that it can be used interchangeably with her notion of "derivative dependent" entities (2012: 879-82).

Supervenience is the notion traditionally used by physicalists in order to formulate the relation between the non-physical and the physical properties. Supervenience is a *non-causal* and *modal* notion, which can be defined as follows: "A-properties supervene on B-properties if and only if no two things can differ with respect to the A-properties without differing with respect to the B-properties" (Effingham, Beebee & Goff, 2011: 239-40)[2]. As far as physicalism is concerned, it can be defined in terms of supervenience as the claim that "there is no possible world which is identical to the actual world in every physical respect but which is not identical to it in a biological or social or psychological respect" (Stoljar, 2016). In other words, the replication of the exact physical properties in a different possible world will also bring into existence the same exact phenomenal

[2] For a detailed analysis of supervenience and the problem of defining it see McLaughlin and Bennett (2014).

experience. The notion of supervenience is problematic in its own right[3] – however, perhaps the biggest problem with supervenience in terms of physicalism is that it is not an explanatory relation. Being a primarily modal notion, supervenience seems unable to provide the close fit between the physical and the non-physical truths that is required by the definition of physicalism. Supervenience is consistent with the existence of non-physical properties that supervene upon the physical. Such non-physical properties might be properties of emergent entities of a fundamentally different kind then the physical ones. Such emergent entities would supervene upon the physical facts and would necessarily accompany them in any possible world. Nonetheless, they would not be explainable by the physical facts. Why a certain arrangement of physical facts is necessarily accompanied by a particular set of non-physical facts would be left brute and unexplained.

On the other hand, *grounding*[4] is defined in the literature as a as a *non-causal* and *explanatory* notion (Dasgupta, 2014: 558). Grounding is usually used to formulate the relation between two sets of facts: "to say that some facts ground another is just to say that the former explain the latter" (*ibid.*). Grounding has the same modal implications as supervenience: "if some Xs ground Y, then necessarily if the Xs obtain then Y obtains" (559). However, being an explanatory relation grounding provides a closer fit between the sets of facts than supervenience can provide. What grounding adds to supervenience is that the grounded A-facts exist solely *in virtue* of the B-facts, i.e. the A-facts are 'nothing over and above' the B-facts. The notion of 'nothing over and above' can be understood as the claim that the existence of the B-facts fully *explains* the existence of the A-facts in a non-causal way. For an example, if we ask 'what explains the existence of the table in

[3] See Stoljar (2016), chapter 4.

[4] For a more detailed analysis of grounding see Rosen (2010) and Schaffer (2009). For a critical approach to defining physicalism in terms of grounding see Dasgupta (2014).

the room', a causal explanation would be that it was brought in the room by somebody. However, a grounding explanation would be that the arrangement of the physical facts in the table explain its existence. In order for fact-A to be grounded on fact-B, there must be something in the *essential nature* of fact-A (the grounded fact) that makes it necessary that it obtains whenever fact-B (the ground) obtains (572). Therefore, grounding excludes the possibility of mysterious emergent entities that unexpectedly follow specific arrangements of physical facts. Because of this closer fit between the two sets of facts, grounding seems like a much better suited option for defining physicalism.

It is important to add that the notion of 'nothing over and above' should not be understood as an identity thesis. Both grounding and supervenience allow for the *multiple realizability* of properties or facts. What this implies is that the grounded entities are not dependent on a particular set of facts that serve as the ground. For an example, pain – in the case of humans – can be grounded on a specific set of physical facts such as 'c-fiber firing'. Nonetheless, other beings who do not share this particular set of facts might also be able to feel pain and it is even possible that pain can be grounded in objects such as silicon chips or various other compositions of physical facts. What is of importance is that the grounded entities are derivative entities, while the ground is a set of fundamental physical facts in virtue of which the grounded entities are fully explainable.

It seems that grounding fits well within Barnes' (2012) fundamentalist ontology framework. In addition to the distinction between fundamental and derivative entities, Barnes also develops a parallel distinction between dependence and independence. The full spectrum of the possible ontological entities is thus:

1. Fundamental-independent
2. Fundamental-dependent
3. Derivative-independent
4. Derivative-dependent

Dependence is a non-causal relation where one thing is being sustained by another (879-80). The existence of the dependent entities is necessitated by the existence of other entities – like the relation between a complex object and its parts. Dependence is also multiply realizable and does not entail a particular arrangement of accompanying entities (880-81). For an example, a table can still exist without being composed of a particular set of atoms, but the table cannot exist without being composed of any atoms. *Independence*, on the other hand, is best understood as the opposite of dependence. An entity is independent if its existence is self-sustained, i.e. its existence does not deepened on the existence of any other entities. So far I have only covered the fundamental-independent entities, which in the context of pure physicalism are the physical facts. If we accept the grounding relation, the physical facts would serve as the ground for all other facts. Further, the fundamental-dependent entities, if they exist, would correspond to emergent entities (884). They are fundamental entities that are accompanied by the existence of other entities, but nonetheless they are 'something over and above', the entities sustaining them. The accompanying entities *give rise* to the emergent entities. An example relevant to philosophy of mind would be immaterial souls. The existence of such entities is problematic for physicalism since it implies that God would have to include the emergent entities amongst the basic building blocks of the universe. Finally[5], it appears that the derivative-dependent entities correspond to grounded entities. Firstly, being

[5] I have excluded the derivative-independent entities from the discussion since they are both irrelevant to the present discussion and their existence is problematic. Barnes claims that if mathematical trivialism is true, numbers would be such entities.

dependent, their existence is necessary accompanied by the existence of other entities. Secondly, being derivative, they derive their existence solely from the fundamental entities. Since they are not emergent entities, it seems pretty obvious that they exist exclusively in virtue of the fundamental entities, i.e. they are 'nothing over and above' them and are explainable by them. Therefore, it seems that grounding can be used interchangeably with the concept of derivative-dependent entities.

1.3. The Causal Argument for Physicalism

The ontological understanding of physicalism so far is that there are two types of facts in the world. These are the fundamental facts, which are causal and structural facts corresponding to the theories and findings of physics as a science, and the derivative facts which are all other facts. The derived facts are grounded on the fundamental facts. This implies that – if physicalism is true – all *prima facie* non-physical phenomena, such as consciousness, social structures, value or abstracta, must exist solely in virtue of the fundamental physical facts and be explainable by them. Emergent entities are excluded from the ontological picture. However, despite being compatible and inspired by our best discoveries and successes of physics, in order for this ontological picture to be accepted as true, an argument in its defense is required. One such argument – that Stoljar (2016) considers the dominant argument for physicalism – is *the causal argument*. Here I will use a modified version of the argument as presented by Papineau in 'The Rise of Physicalism' (2001: 9). The only change I have made to the argument is in the conclusion. In the original version, Papineau uses the argument to establish an identity between the physical and the mental. Instead, I will use the same

premises to establish a grounding relation between them corresponding to the metaphysical framework I am using[6]. The argument goes like this:

- Premise 1: *the completeness of physics*. "All physical effects are fully determined by law by prior physical occurrences".
- Premise 2: *causal influence*. "All mental occurrences have physical effects".
- Premise 3: *no universal overdetermination*. "The physical effects of mental causes are not all overdetermined".
- Conclusion: Mental occurrences are grounded in physical occurrences.

The main goal of the argument formulated in such a way is to establish that mental occurrences are 'nothing over and above' physical occurrences – but it seems that the same form of argument can be used for any *prima facie* non-physical properties that have physical effects. The key premise of the argument is the completeness of physics (premise 1). This is the thesis that "all physical effects are due to physical causes" (2001: 7). The completeness of physics is established inductively and is *a posteriori* based on two key discoveries from science (2001: 27). The first is that all causally effective physical forces are reducible to a base set of fundamental physical forces. The second is that there is no empirical evidence from physiological research that any special mental forces exist. Since there are no empirical evidences that any special non-physical forces exist (and there should be, if causally active non-physical entities were to exist), from what we know about the world, it can be inductively inferred that the physical facts form a causally closed whole. Additionally, the argument builds upon the commonsensical assumption that mental

[6] Chalmers (2015: 251) also has a version based on grounding. For a version based on supervenience see Stoljar (2016: Chapter 17)

occurrences have physical effects (premise 2). For an example, the feeling of pain results in the physical effect of pain-like-behavior. At this point it might seem like the effects of mental properties have two distinct causes, one physical (premise 1) and one mental (premise 2). This is an instance of what is called causal overdetermination. However, premise 3 clarifies the issue – overdetermination is an improbable and ineffective solution. After all, it does not seem reasonable to believe that all physical effects related to consciousness have two distinct but simultaneous causes at all times. Instead it is more reasonable to suppose that the physical effects of mental properties are not overdetermined. Therefore, since mental properties have physical effects, and all physical effects have physical causes, the cause of these events must in fact be physical. This leads us to the conclusion – the only way to explain the causal power of mental events is if they are grounded on the causality of the physical facts. Being fully explainable by the physical facts, the mental facts inherit their causal powers from the physical ones the same way a table – as a complex object grounded in physical facts – inherits the causal powers of its constituting parts, i.e. of its ground. Therefore, if all mental causality must be explained in terms of being grounded in physical facts, pure physicalism must be true. To doubt this conclusion we must either deny the completeness of physics or offer a better defense for our intuitions.

Chapter 2: Against Physicalism

In this chapter, I will argue that pure physicalism is false since phenomenal facts cannot be grounded in a causal structure. I will call this *the grounding problem* for pure physicalism. The grounding problem is based on the claim that the essential natures of the phenomenal facts are non-physical, and therefore they cannot be explained by the physical facts. First, I will provide intuitive reasons that phenomenal facts are beyond-structural since their qualitative aspects cannot be accounted for by a causal and structural vocabulary (section 2.1). Then, I will use philosophical arguments, namely the knowledge and the conceivability arguments, to expand these intuitions (section 2.2). Finally, I will argue that phenomenal concepts are transparent, and their non-physical essential natures are revealed upon *a priori* introspection. I will attempt to demonstrate this with my own argument for phenomenal transparency called *the argument from solipsism* (sections 2.3 and 2.4).

2.1. The Beyond-structural Nature of Phenomenal Properties

Phenomenal properties, also known as *qualia*, are the properties whose nature is most clearly understandable in terms of their *what-it's-likeness*[7]. They include things like: love, pain, desire, color, sound, smell and similar properties that constitute the full spectrum of our feelings and experiences. Their vivid and direct nature gives rise to dichotomies such as the subjective and the objective, the private and the public, and the internal and the external. We have strong intuitions

[7] The phrase "what it is like" originates in Nagel's famous paper 'What is it Like to Be a Bat?' (1975), and is used to give an intuitive understanding of consciousness. For Nagel, a being is conscious only if there is something that it is like to be that creature from the subjective point of view.

that phenomenal properties are somehow distinct from what is happening in the outside, public and objective world. After all, they do not seem to exist anywhere in the world except as part of our own experience. As a science, physics gives us information about the structural and causal relations of the physical objects that we perceive as colorful, but the sensation of color itself seems to exist only in the eyes of the beholder. The same can be said for any of our feelings, whose experiential quality does not appear to be found in any part of our bodies as a physical objects. The human mind is like a *black box*, accessible only privately to the subject. At any particular moment in time, each person is the only witness of their own experience. Only the subject knows, or better yet *feels* what she is experiencing right now. As observers, we might attempt to infer the feelings of other subjects based on their behavior or our intuition, however there still remains a *gap* that can never be crossed – we can never feel what the other person feels, know if they experience the same feelings as we do, or even if they feel at all. Nonetheless, to believe that phenomenal properties deserve a unique place in our ontology is contrary to physicalism. Simply put, if physicalism is correct, phenomenal properties must be fully explainable by the physical facts.

Despite the power of physics, a defense of the intuition that phenomenal properties might be ontologically fundamental is possible. The structural vocabulary of science seems unable to capture their *what-it's-likeness*. Experiments can be conducted in order to obtain data concerning how people report qualia, or what are the causal sources of qualia in the physical world. However, none of these descriptions can provide access to the experiential quality of phenomenal properties. This intuition is well apprehended by Moore when he talks about his experience of the color yellow (1903: 62):

> "We may try to define it by describing its physical equivalent; we may state what kind of light-vibrations must stimulate the normal eye, in order that we may perceive it. But a moment's reflection is sufficient to [show] that those light-vibrations are not themselves what we mean by yellow".

There seems to be more to qualia than the structural and causal vocabulary of science can account for. Therefore, I claim that phenomenal properties are best understood as *beyond-structural*. By this, I do not intend to imply that phenomenal experience does not have any structure. It is evident that we can describe qualia such as pain in terms of their intensity, their causes, spatio-temporal location, and many other ways that involve a causal and structure vocabulary. Nonetheless, the key claim is not that qualia do not have a structure, but that a structural and causal vocabulary in general cannot encapsulate their *essential nature*[8]. Therefore, I will not refer to phenomenal properties as non-structural, but instead as beyond-structural.

Many more examples can be given to support the claim that phenomenal properties are beyond-structural. This is especially evident with more complex sensations such as: love, loneliness, nostalgia, melancholia, and similar. When I experience emotions such as these, more often than not, I do not precisely know what exactly I need or desire. Furthermore, even when it comes to *prima facie* simpler feelings such as pain and hunger it is hard to see how exactly we might categorize them. There might be cultures and societies where different concepts for the same sensations exist. Some cultures might have very specific and fine grained concepts for the different variation of pain. Other cultures might have a broader concept and refer only to 'unpleasant

[8] Following Goff (2015: 125), by the knowledge of essential nature, I will understand the knowledge of what it is for a property to be instantiated

feelings' in general, but be unfamiliar with pain in the strict sense as we refer to it. This difficulty of expressing what we feel is most evident in literature and poetry. Often whole novels or poems are not enough to express the complexity and depth of human emotion. We invent new words, use poetic language – even sounds and gesticulations – and yet there always appears to be more to the feelings that the descriptions can account for.

In the context of philosophy of mind, David Chalmers calls the inability to explain consciousness in terms of structure and function "the hard problem of consciousness" (2002: 247-8; 2002b). He argues that science can give explanations to many aspects of consciousness such as its "cognitive abilities and functions" (2002b) which include the ability to report information, to monitor internal states or to control behavior (2002: 247). Such aspects of consciousness can be objectively measured, assessed and described as "computational or neural mechanisms" (2002b). He calls these aspects of consciousness "the easy problems of consciousness" since their solutions are compatible with pure physicalism and physics (2002: 247). However, when it comes to the subjective, experiential aspect of consciousness, there seems to be an "extra ingredient" (2002b) that is missing and is somehow beyond the reach of science.

So far I have only talked about our intuitive understanding of phenomenality. In an argument form, the intuitive gap between phenomenal experience and the physical facts can be expressed as follows:

- Premise 1: The what-it's-likeness of phenomenal qualities cannot be accounted for by a structural vocabulary.

- Premise 2: If pure physicalism is true, all truths about the world should be accountable by a structural vocabulary.
- Premise 3: The what-it's-likeness of phenomenal qualities is a truth about the world.
- Premise 4: There are truths about the world that cannot be accounted for by a structural vocabulary.
- Conclusion: Pure physicalism is false.

Next, I will analyze how these intuitions are treated in contemporary philosophy of mind and I will attempt to offer a more conclusive argument as to why the phenomenal facts cannot be grounded on the physical facts.

2.2. The Conceivability and Knowledge Arguments against Physicalism

So far I have provided intuitive reasons for the claim that phenomenal properties are beyond-structural. I will now attempt to augment these intuitions with philosophical arguments, and thus build a stronger case that qualia cannot be grounded in the physical facts. In general, four options are possible concerning the relation between phenomenal properties and the fundamental ontological level:

1. Phenomenal properties do not exist.
2. Phenomenal properties are grounded in physical facts.
3. Phenomenal properties are grounded on something different than physical facts.
4. Phenomenal properties are fundamental.

Eliminationist and illusionist versions of physicalism argue for the *first option*. In short they claim that consciousness is an illusion created by complex physical systems such as the brain. These

positions are often rejected – both by physicalist and anti-physicalists – since they appear to be denying the obvious. Therefore, I will not elaborate on them further in this paper. Instead, I will focus my attention on the *second option*, i.e. the paramount claim of pure physicalists that phenomenal properties are grounded in the physical facts. If phenomenal properties are beyond-structural, their very nature seems inconsistent with the nature of the physical facts. After all, grounding demands explainability, and it is a hard pill to swallow that something structural could explain something beyond-structural. I will use two classic arguments against physicalism: 1) the knowledge and 2) the conceivability argument; to demonstrate that phenomenal properties are indeed beyond-structural and therefore not grounded in the physical facts. If the arguments are accepted, this would leave either the *third option* (that phenomenal properties are grounded on something different than the physical facts) or the *fourth option* (that phenomenal properties are fundamental) as possibilities[9].

According to *the knowledge argument* – the knowledge of all the physical facts does not entail the knowledge of the phenomenal facts. This implies that phenomenal facts are non-physical facts and therefore physicalism must be false. The most famous example of the argument is provided by Frank Jackson (1982) and is known as the example of Mary the neurophysiologist. In the example, Mary has learned all the physical facts about the color red while never actually experiencing redness (she was trapped in a black and white room her entire life). Then one day she exits the room and does experience redness for the first time. The argument goes, that Mary learns something new when she experiences red for the first time. Since she already knew all the physical facts, the new fact she gains knowledge of must be a non-physical fact. This implies that

[9] I will explore these two options in Chapter 3.

phenomenal properties are not grounded in the physical facts, since they cannot be explained by the knowledge of the physical facts alone. The argument can be formally stated as follows (Chalmers, 2002: 250):

- Premise 1: "There are truths about consciousness that are not deducible from physical truths".
- Premise 2: "If there are truths about consciousness that are not deducible from physical truths, then materialism is false".
- Conclusion: "Materialism is false".

The term 'materialism' should be read as synonymous with 'pure physicalism' in the context of my paper.

According to *the conceivability argument* – if it is conceivable[10] that the complete physical facts can exist without the complete mental facts, the existence of the physical without the mental is possible, and therefore physicalism must be false. This argument rest upon the acceptance of the *conceivability principle,* or the thesis that everything conceivable is possible. The most famous example of the argument is the example of the conceivability and possibility of philosophical zombies (Chalmers, 2002: 249). Philosophical zombies are behaviorally and physiologically indistinguishable copies of real humans that, unlike real humans, lack any phenomenal experience – there is no what-it's-likeness when it comes to being a philosophical zombie. By the acceptance of the conceivability principle, the conceivability of philosophical zombies entails their possibility, and even if they actually do not exist, it implies that the mental cannot be grounded in the physical

[10] By 'conceivable' I understand *negative* (something that cannot be ruled out *a priori*) and *ideal* (something that remains conceivable no matter how much we reflect on it) conceivability. For more see Chalmers (2002b).

since otherwise it would not be possible for them to be separated. The argument can be formally stated as follows (Chalmers, 2015: 249):

- Premise 1: "P&~Q is conceivable".
- Premise 2: "If P&~Q is conceivable, P&~Q is metaphysically possible".
- Premise 3: "If P&~Q is metaphysically possible, materialism is false".
- Conclusion: "Materialism is false".

In the above statements, P is the "conjunction of all microphysical truths about the Universe" while Q is an "arbitrary phenomenal truth" (*ibid*.). Again, 'materialism' can be read as synonymous with 'pure physicalism'.

The goal of these arguments is to establish the existence of an *a priori epistemic gap* between the physical and the phenomenal, and from the existence of the epistemic gap, to further infer the existence of *ontological gap* (Chalmers, 2002: 250). Both arguments imply that the existence of the physical facts does not *a priori* entail the existence of any phenomenal fact. This suggests that God can create all the physical facts, but the phenomenal facts will not come ontologically 'for free'. Therefore, since the grounding relation requires "metaphysical necessitation" (Chalmers, 2015: 250), the phenomenal facts cannot be grounded in the physical facts. If phenomenal facts were grounded in the physical, the gap between the physical and the phenomenal should not exist – the same way it is impossible to imagine atoms in a table-like formation without there being a table (conceivability argument), or to know all the physical facts about water without knowing all there is to know about water (knowledge argument).

2.3. The Phenomenal Concepts Strategy

Even so, the arguments are neither fully decisive nor unproblematic. As Chalmers humorously points out – "materialists do not just curl up and die" (2015: 250) when confronted with them. The contemporary approach most often used to counter the arguments is known as *a posteriori physicalism*, or *the phenomenal concept strategy* (PCS)[11]. Both the knowledge and the conceivability argument use *a priori* reasoning to infer the existence of an epistemic gap between physical and phenomenal facts. From the existence of this *a priori* epistemic gap, anti-physicalists postulate the existence of an ontological gap, thus making an inference from *a priori* reasoning to metaphysics. Phenomenal concept strategists accept the existence of the *a priori* epistemic gap. However, they deny that the existence of an ontological gap can be inferred from it. Therefore, PCS physicalists attempt to satisfy our intuitive understanding of consciousness as something different than the physical facts (the acceptance of the epistemic gap), but refuse to give any ontological ground and they maintain that the world is fundamentally physical (the denial of the ontological gap). They attempt to do this by the use of *a posteriori necessities* and *phenomenal concepts*. I will explain these notions bellow.

PCS physicalists accept there is a difference between thinking in terms of function and causal structure, and thinking in terms of what-it's-likeness. They believe that there are two general modes of thought, and therefore two different kinds of concepts that we employ. These are functional/physical concepts, and phenomenal concepts:

- *Phenomenal concepts*: thinking of phenomenal states in terms of how they *feel*.

[11] Chalmers (2002: 253-5) also calls it "type-B materialism".

- *Physical/Functional concepts*: thinking in terms of causal-role, i.e. in terms of what things *do*.

The main claim made by PCS physicalists is that both functional and phenomenal concepts are two different modes of thinking about the physical facts since for any phenomenal concept there is some physical concept that *co-refers*. For an example, we can think of pain as a physical state called 'c-fibers firing'[12], or we can think of pain in terms of how it feels, thus forming the phenomenal concept of 'pain'. However, following the casual argument, PCS physicalists argue, the two concepts are just different ways of thinking of the same thing, in this case – 'c-fibers firing'. Therefore, despite the difference at the conceptual level, there is an identity between phenomenal and physical properties at the ontological level. Phenomenal properties are not something over and above physical properties, instead they *are* physical properties. The identity of the properties is itself grounded in the fundamental physical facts.

At this point the PCS physicalist is faced with the problem of explaining how can the two ways of thinking, that are seemingly so different, nonetheless still refer to the same physical facts. What the existence of the epistemic gap implies is that the phenomenal and the physical concepts are "conceptually isolated" (Yetter-Chappell & Chappell, 2013: 869-70). This brings us to the notion of *a posteriori necessities*. Traditionally, philosophers such as Hume or the logical positivists, only accepted the notion of *a priori* necessities. They believed that only *a priori* mathematical and logical facts are necessary. On the other hand, all *a posteriori* facts about the actual world were considered to be contingent. However, following Kripke (1980), contrary to traditional

[12] The phrase 'c-fibers firing' is scientifically incorrect, but is nonetheless part of the standard philosophical terminology.

philosophers, contemporary philosophers have been more and more accepting of the idea that there are *a posteriori* necessities. Kripke's famous example states that the essence of water is 'H_2O' and this is *a posteriori* discoverable. Even if in some possible worlds there exists a substance that has the same appearance as water (blue, fluid, wet, etc.), but is 'XYZ' instead of 'H2O', this substance is not water. Therefore, it is an *a posteriori* necessity that water is H2O in any possible world. *A posteriori* physicalists adopt this same approach to argue against the existence of an ontological gap between the physical and the phenomenal. They claim that, despite the *a priori* epistemic gap, in the same way water is *a posteriori* necessarily H2O in any possible world, pain is also *a posteriori* necessarily c-fibers firing. Thus, the ontological gap is bridged.

Returning to the knowledge and the conceivability arguments, the PCS physicalist has responses to them both. Regarding the knowledge argument, the PCS physicalist can claim that Mary learned a new phenomenal concept of redness, however the acquisition of a new concept does not entail that it refers to the existence of a new non-physical property. What Mary acquired is not the knowledge of a new non-physical fact, but instead the knowledge of *a new way to think about* an old physical fact. Mary already knows all there is to know about redness since redness is 'nothing over and above' the physical facts about it. Regarding the conceivability argument, the PCS can deny the conceivability principle and employ the notion of an *a posteriori* necessity against it. The *a posteriori* physicalist claims that despite being conceivable, philosophical zombies are impossible. It is conceivable that water is XYZ in some possible world, but empirically we can discover that water is necessarily 'H2O'. The same holds true for phenomenal facts: despite the opposite being conceivable, it is empirically discoverable that pain is 'c-fibers firing' and is in turn grounded in the fundamental physical facts.

2.4. The Transparency of Phenomenal Concepts

It is still possible to argue against the phenomenal concept strategy, and for the existence of an ontological gap between the phenomenal and the physical facts. One way to accomplish this is by arguing that phenomenal concepts reveal the essential nature of their referents, and the revealed essential nature is non-physical. Based on what concepts reveal about the essential nature of their referents, Goff develops the following categorization (2011: 194):

- *Transparent*: "reveals the nature of its referent (where the referent is a property, the concept reveals what it is for an object to have that property)".
- *Translucent*: "reveals part (but not all) of the nature of its referent (where the referent is a property, the concept reveals part of what it is for an object to have that property)".
- *Mildly opaque*: "does not reveal essential properties of the referent, but does reveal accidental features of the referent which uniquely identify it in the actual world".
- *Radically opaque*: "reveals neither essential nor accidental properties of its referent".

For the purpose of this paper, the four categories can be simplified to only two: transparent and opaque concepts. Transparent concepts are those concepts that reveal all or something of the essential natures of their referents, while opaque concepts are those concepts that do not reveal anything of the essential natures of their referents.

The distinction between transparent and opaque concepts can be used to develop a strong argument against *a posteriori* physicalism. I will call this argument *the transparency argument*, and it goes as follows[13]:

- Premise 1: Phenomenal concepts are transparent.
- Premise 2: If phenomenal concepts are transparent, the essential nature revealed by phenomenal concepts is non-physical.
- Conclusion: Pure physicalism is false.

The argument is built around the claim that phenomenal concepts are transparent, i.e. the essential nature of their referents is revealed upon *a priori* introspection. If this is true, the essence of their referents can either be physical or non-physical. If the essence is physical, it must be causal and structural. However, if the essence is causal and structural, the *a priori* epistemic gap should not exist, since it should not be possible to conceive of qualia without the physical facts grounding them. Therefore, since the *a priori* epistemic gap exists, the essence of phenomenal concepts must be non-physical, and pure physicalism is false. The defense of *premise 2* seems quite evident if *premise 1* is true. After all, the *a priori* introspection of any phenomenal concept does not reveal any causal or structural fact about the actual world, but it does reveal how phenomenal states feel. Therefore, the usual response by PCS physicalists is to deny *premise 1*, i.e. the claim that phenomenal concepts are transparent.

[13] This argument is strongly indebted to the ideas expressed by Goff (2011) and Nida-Rümelin (2007).

A posteriori physicalists are forced to claim that phenomenal concepts are *opaque* in order to save pure physicalism.[14] As already stated[15], pure physicalists believe that fundamental reality is a causal structure composed of physical facts. Since they accept the possibility of a complete physics, they also believe that it is only a matter of time until our concepts perfectly map the categories of the world. The causal structure composing the fundamental ontological level is homogenous with our conceptualizing ability. For an example, when I think of water in a purely functional way, water losses all phenomenal associations, and gains the role of a logical variable in a relational network composed of other such variables. By itself, this is still not sufficient to tell us anything about the world since only empirically informed functional concepts reveal something about the actual world. For an example, science informs us that water is 'H_2O' despite the fact we can think water is 'XYZ'. Therefore, functional concepts informed by the *a posteriori* discoveries of science can map the causal structure of the world. Now, it becomes clear why *a posteriori* physicalists believe that phenomenal concepts are opaque. It appears that phenomenality does not reveal anything about the actual state of affairs of the world. As such, phenomenality is like extra baggage which obscures the true nature of the entities we are thinking about by hiding their essences behind a fog of sensation and feeling. Contrary to this, only functional concepts – accompanied by empirical research –reveal the true natures of their referents. Therefore, for the PCS physicalist, only functional concepts informed by science are transparent, while phenomenal concepts are opaque.

[14] Goff (2011: 198) mentions a second alternative that the *a posteriori* physicalist can defend called "The Thesis of Dubious Intelligibility". This is the view that for some properties it is possible to know their essential nature in two transparent, but nonetheless conceptually distinct ways – such as phenomenal and functional. I agree with Goff that this thesis is implausible since it is both counter-intuitive and does not seem to hold for any other property.

[15] See Chapter 1.

It appears that the postulated transparency of phenomenal concepts requires further justification against the claims made by *a posteriori* physicalists. We have strong intuitive reasons to believe that phenomenal concepts are transparent. After all, upon *a priori* introspection, we *know* how pain *feels*, but we do not know if it refers to a physical state. Against this, the PCS physicalist can argue that since phenomenal concepts are opaque, the feeling does not tell us anything about the world the way science does. I believe that this is false, and I will attempt to provide philosophical justification to our intuition that phenomenal concept do indeed revel the essential nature of something in the world.

I will call my argument for the transparency of phenomenal concepts *the argument from solipsism*. I will argue that phenomenal concepts do reveal something about the world even if no physical facts existed. Based on the *a priori* epistemic gap between the phenomenal and the physical, it is conceivable that each phenomenal quality could be grounded in any physical fact. As it was explained above, the response of the *a posteriori* physicalist against this worry is the deployment of *a posteriori* necessities. Nonetheless, it appears that we can doubt the existence of all the physical facts, but not the existence of any of our experiences. Descartes famously claimed that we can doubt everything except our own existence as a thinking beings[16]. We can doubt the existence of the material objects, we can doubt the existence of other minds, and we can doubt the truth and falsity of our ideas. For all we know, the world might be a hallucination, we might be brain in a wat, or we might be deceived by an omnipotent deceiver. In summary, we can doubt everything, except for the fact that we *experience something*. The philosophical thesis corresponding to the skeptical worry that nothing but our mind exists is called *solipsism*. I do not

[16] He later used this initial conclusion to reestablish the existence of the material world, as well as God, and the immaterial soul, but this is beyond the point here.

claim that solipsism is true, but only that it is conceivable, and therefore possible. The very conceivability of solipsism is enough to emphasize that we understand *the essence of something* in the world even if all that exists in the word is experience. If we can doubt the existence of the physical facts, the what-it's-likeness of phenomenality is all there is to the world. Therefore, it seems experience *per se* does tell us something about the world, since intuitively, we still grasp the essential nature of something even if solipsism is true. Furthermore, if we grasp the essential nature of something in reality, the concepts referring to it must be transparent. Additionally, since all that exists in the context of solipsism is experience, all my concepts are phenomenal concepts. Therefore, phenomenal concepts are transparent. Even if not conclusive, I think this argument does manage to build a case for the transparency of phenomenal concepts and thus augment the already strong doubt that pure physicalism is false.

Chapter 3: Russellian Panpsychism

In this chapter, I will offer a metaphysical alternative to pure physicalism called Russellian panpsychism. So far I have used the grounding problem to demonstrate that phenomenal facts are beyond-structural, and therefore cannot be grounded in the physical facts. The acceptance of the grounding problem implies that pure physicalism is false, and demands an alternative to it. I will start the quest for an alternative by taking into account the worries emerging from the causal argument in what I call *the causal closure dilemma* (section 3.1). Then, I will present a further problem for pure physicalism, that I will call *the mysteriousness of matter problem*, or the worry that the postulation of a causal structure at the fundamental ontological level makes pure physicalism an incoherent metaphysical position in its own right. Finally, as a solution to both the grounding problem, and the mysteriousness of matter problem, I will introduce a philosophical position called Russellian panpsychism, and explain in detail how it manages to deal with the before mentioned problems (section 3.3).

3.1. The Causal Closure Dilemma

In the previous chapter I elaborated on the grounding problem, and concluded that since the essential natures of phenomenal concepts appear to be beyond-structural, they cannot be grounded in the physical facts, and therefore pure physicalism is false. It appears that qualia are so radically different from the structural and causal facts on which pure physicalism relies that they demand the rethinking of our entire world-view. If the argumentation so far is to be accepted, there are only two options left for phenomenal facts: either they are grounded in something different than the

physical facts, or they are themselves fundamental. In either case, pure physicalism is false, and the postulation of alternative metaphysical theories is necessary.

The first obstacle that any metaphysical alternative to pure physicalism must overcome is *the causal argument* for physicalism[17]. The causal argument is an *a posteriori* argument based on the discoveries of science. To deny the causal argument would mean to deny everything physics tells us about the world. The ability of science to describe phenomena in structural and causal terms has given us considerable power over the world. We are surrounded by innumerable evidences of the practical applicability of science in our day-to-day experience ranging from technological advancements, to advancements in medicine and education. The only phenomena that seem not to fit the physicalist picture are the internal, private phenomena discussed in the previous section. Therefore, we are faced with a *dilemma* between our intuitions concerning phenomenal facts and our scientific knowledge of the world. Either we must accept that the world is a causally closed whole made up of physical facts, or we must accept our intuitions that phenomenal facts are non-physical. However, it looks as if they cannot both be true.

When the problem is approached in an either/or way, the causal closure of the world appears to outweigh our intuitions. However, to take this horn of the dilemma implies that we accept pure physicalism against the grounding problem[18]. The other horn of the dilemma entails that we reject the causal closure of the physical and embrace a position such a substance dualism that faces even more problems concerning mental causation[19]. Therefore, a simple solution to the dilemma is to

[17] See Chapter 1, section 4.
[18] See Chapter 2.
[19] See Robinson (2016).

choose a middle path. Taking the middle path implies that any respectable theory of mind must be compatible both with the discoveries of science, and our intuitions concerning the non-physical nature of the phenomenal facts. Basically, if we claim that consciousness is non-physical, we must explain how something non-physical and causally efficacious can be compatible with the causal closure of the physical. Many metaphysical theories such as dualism, idealism, or neutral monism can be postulated as possible alternatives to pure physicalism. However, the scope of this paper does not permit a detailed elaboration of what all of them are, or how they deal with the causal closure of the physical. Instead, following the middle path, I will focus my attention on a thesis called Russellian panpsychism according to which the phenomenal facts are fundamental, but are nonetheless compatible with the causal closure of the physical, and our scientific understanding of the world.

3.2. The Mysteriousness of Matter

Before I can elaborate on the details of Russellian panpsychism, I first need to present one additional problem for pure physicalism that will allow me to explain how Russellian panpsychism manages to combine our intuition concerning the beyond-structural nature of phenomenal facts with the causal closure of the physical. Unlike the grounding problem which started from the need to account for the reality of consciousness, this argument is based on the worry that pure physicalism is an incoherent metaphysical position *per se*. Namely, the base claim of pure physicalism that fundamental reality is nothing but a causal structure 1) is contrary to our intuition that the essential natures of causal powers are not purely dispositional; and 2) appears to lead into

an infinite regress of causal dispositions[20]. If physical facts have essential natures that are not purely dispositional, and pure physicalism cannot account for them, the essential natures of the fundamental facts are left *mysterious*.

The thesis that fundamental reality is nothing more than a causal structure is called *causal structuralism.* Pure physicalism is a form of this view. Causal powers are dispositional properties, i.e. properties that provide the possibility for the actualization of other states. For an example, *fragility* is a dispositional property since it provides the possibility of *breaking* even if the object is not actually broken at the current time. The properties causal powers give rise to are called *causal manifestations*. According to causal structuralism the nature of all causal powers is dispositional since they give rise to further dispositional properties as their manifestations. Therefore, this view is also known as *dispositionalism,* or the view that *all* properties are dispositional.

The first worry is intuitive and rests on the assumption that the essential natures of fundamental entities must be intrinsic instead of extrinsic. *Intrinsic properties* can be defined as properties that an entity has *in-itself,* i.e. independently of any other entities. *Extrinsic properties,* on the other hand, can be defined as properties that an entity has only in relation to other entities. If causal dispositionalism is true, the essences of all physical facts must be extrinsic. Entities are defined in terms of what they *do*, instead of what they *are*. Specifically, physical facts do not have an essence in virtue of themselves, but only in virtue of their mutual relations as parts of the fundamental causal network. The intuitive concern is that "dispositions are not themselves real enough to

[20] For a more tailed exposition of these problems see Robinson (1982).

constitute the actual nature of objects" (Goff, forthcoming). Again, pure physicalists cannot answer this concern. Even if pure physicalists accept that the physical facts have intrinsic properties that constitute their essential natures, they are unable to explain what these intrinsic properties are except by causally and structurally describing them in terms of their mutual relations. In summary, if fundamental entities have intrinsic natures, these natures cannot be explained in terms of what they do, and therefore, the intrinsic natures cannot be accounted for by pure physicalism, i.e. they are left *mysterious*.

The second worry for dispositionalism is a philosophical problem based on the observation that dispositionalism lead into an *infinite regress* of dispositions. The infinite regress is problematic since it makes it difficult for dispositionalists explain what the essence of a given causal power is. According to causal structuralists, the essence of a causal power is given by its causal manifestation, i.e. the further dispositions it gives rise to. Therefore, if dispositionalism is true, the essential nature of a causal power *A* is to be understood as its disposition to give rise to a new causal power *B*, i.e. a new dispositional property. The worry is that this process can be extended to infinity and we will never arrive at a precise answer as to what the essence of the original causal power consists of. For an example, the essence of causal power *A* is to give rise to a new causal power *B*, whose essence in turn is to give rise to a causal power *C* – and so on until infinity. A solution to this problem is to claim that causal powers give rise to categorical properties. However, since categorical properties are properties "whose nature cannot be captured with only formal or causal predicates" (Goff, forthcoming) this solution is incompatible with pure physicalism.

These two problems are not conclusive. As Chalmers (2015: 254) points out: "there are respectable structuralist or dispositionalist views of physics on which physics involves just structure or dispositions all the way down". After all, the dispositionalist might simply reject the intuition that essential natures should be intrinsic as unfounded. Nonetheless, the existence of these worries is enough to give rise to more doubts against pure physicalism. The problem of the mysteriousness of matter has to be taken into consideration when looking for a suitable alternative to pure physicalism. Any theory that manages to both satisfy our intuitions concerning the existence of intrinsic natures, and be compatible with the causal closure of the physical must surely be more desirable than a theory that does accomplish this.

3.3. Introducing Russellian Panpsychism

Russellian panpsychism is a version of a wider metaphysical position that postulates consciousness at the fundamental ontological level known as *panpsychism*. In the most general sense, panpsychism can be defined as the thesis that "that everything has a mind" (Chalmers, 2015: 246). However, not many philosophers agree with this wide reaching thesis since it implies that all physical entities, both fundamental (such as electrons or quarks), and derivative (such as tables and buildings) have minds. Instead, panpsychists usually go for the more moderate claim that at least "some fundamental physical entities are conscious" (*ibid*.). This implies that there is something that it's like to be a fundamental physical entity, such as an electron or a quark, even if the consciousness of such entities might be different then our own.

All versions of panpsychism make a distinction between the microphysical and the macrophysical, and the microphenomenal and the macrophenomenal. The *microphysical* is the realm of the fundamental physical facts such as electrons and quarks. On the other hand, the *macrophysical* is the realm of the derivative physical objects such as tables, building, or humans. The *microphenomenal* refers to the postulated phenomenality of the fundamental physical facts, i.e. the microphysical entities. The microphysical entities that are bearers of microphenomenal experience are also called *microsubjects*. On the other hand, the *macrophenomenal* refers to the phenomenal experience of the macrophysical, i.e. of entities such as human beings. The bearers of macrophenomenal experience are known as *macrosubjects*.

There are big debates among panpsychists concerning the precise details of the relation between the microphenomenal and the macrophenomenal (specifically the ontological status of human consciousness), as well as the relation between the microphenomenal and the microphysical. Based on these differences, two main versions of panpsychism can be defined[21]:

1) Constitutive Panpsychism
2) Emergentist Panpsychism

Constitutive panpsychism is the thesis that the consciousness of macrosubjects (such as humans or animals) is not fundamental, but is grounded in the consciousness of the microsubjects[22]. The

[21] *Panprotopsychist* versions of each of these theses can also be formulated. Panprotopsychism is a thesis similar to panpsychism with the main difference being that instead of phenomenal properties, panprotopsychists postulate the existence of protophenomenal properties as fundamental. Protophenomenal properties are theoretical non-phenomenal properties that serve as an ontological base for phenomenal properties. For more see more see Chalmers (2015: 259-61), and Alter & Nagasawa (2015: 433-4).

[22] The version of constitutive panpsychism I am discussing here is known as *constitutive micropsychism*. It is worth mentioning that an alternative version called *cosmopsychism* also exists. In short, cosmopsychism is the thesis that the universe as a whole is conscious while all other types of consciousness are grounded in this one fundamental entity.

fundamental ontological level is (at least partially) composed of microsubjects whose phenomenality is different, and presumably simpler, than the phenomenality of the macrosubjects. The microsubjects *combine* and thus constitute the macrosubjects, and consciousness as we know it. Thus, human consciousness comes ontologically 'for free', and is 'nothing and above' the fundamental kinds of consciousness.

Emergentist panpsychism, on the other hand, is the thesis that the consciousness of macrosubjects (such as humans or animals) is fundamental, i.e. it is not grounded in anything. This view implies that when God created the elements of the world, she had to create human consciousness among the fundamental building blocks of the universe. Emergentist panpsychists argue that the consciousness of macrosubjects is causally brought into being by the microsubjects in virtue of emergent laws. Therefore, the consciousness of macrosubjects is 'something over and above' the sum of the microsubjects giving rise to it.

Russellian panpsychism, or more precisely *constitutive Russellian panpsychism*, is a type of constitutive panpsychism. Russellian panpsychists attempt to clarify the relation between the microphenomenal and the microphysical with the postulation of phenomenal properties as the intrinsic properties of the fundamental physical facts. Russellian panpsychism originates from the writings of Bertrand Russell, specifically *The Analysis of Matter* (1954). There are many variants of Russellian panpsychism, and they do not necessarily correspond to Russell's original conception. As described by Alter and Nagasawa contemporary Russellian panpsychism has the following key characteristics (2015: 425-6)[23]:

[23] Alter and Nagasawa originally discuss a more general view called Russellian monism. As defined by Chalmers (2015: 261), Russellian monism is the disjunction of Russellian panpsychism and Russellian panprotopsychism.

1) Structuralism about physics
2) Realism about inscrutables;
3) Phenomenal foundationalism.

Structuralism about physics is the claim that physics as a science can only describe the world in terms of structural properties. Physics uses the causal and structural vocabulary of mathematics, and only tells us about the relational structure of matter, but not about its intrinsic nature. To put it simply, physics is only scratching the surface of reality. *Realism about inscrutables* is the claim that material objects have intrinsic properties – called inscrutables – that ground the structural properties described by physics. These non-structural properties represent the most fundamental ontological level of reality. Inquiring into the nature of inscrutables leads to *phenomenal foundationalism.* Phenomenal foundationalism means that at least some inscrutables are phenomenal. As Russell (1927: 402) points out, phenomenal properties appear to perfectly fit this role since: "percepts are the only part of the physical world that we know otherwise than abstractly". Therefore, Russellian panpsychism is not a supernatural position, and the phenomenal aspect of the world is not separated from the physical facts. As such Russellian panpsychism is best understood as an *extended* version of physicalism, or what Galen Strawson (2015) calls – *real materialism*.

With the postulation of phenomenal properties as the intrinsic properties of the fundamental physical facts, Russellian panpsychism: 1) solves the problem of the grounding of phenomenal facts; 2) is compatible with the causal closure of the physical; and 3) solves the mysteriousness of matter problem. First, as with other versions of panpsychism, the grounding of phenomenal facts

Russellian panprotopsychism has the same key characteristics as Russellian panpsychism, expect that it postulates protophenomenal properties as the intrinsic natures of the fundamental physical facts.

problem is solved by the postulation of phenomenality at the fundamental ontological level. The intrinsic phenomenal natures of the microsubjects serve as a grounding foundation for all other existence. The microphenomenal experience of the fundamental physical facts grounds the microphysical, the macrophysical, and the macrophenomenal. Second, Russellian panpsychism is compatible with the causal closure of the physical since the causality of the physical is a manifestation of the causality of the microphenomenal experience of the physical facts. As Chalmers explains (forthcoming):

> "On this view, microphenomenal properties are causally efficacious in virtue of their playing fundamental microphysical roles, and macrophenomenal properties are causally efficacious in virtue of being grounded in microphenomenal properties".

Thus, the causal and structural facts that physics deals with as a science are only a description of the causal roles played by the microphenomenal properties. Finally, the mysteriousness of matter problem is solved since the causal structure described by physics is grounded in the beyond-structural microphenomenal consciousness of the fundamental physical facts. Thus microphenomenal properties compose the essential natures of the physical facts, and matter is no longer mysterious.

As far as the transparency of phenomenal concepts is concerned, the Russellian panpsychist claims the reverse of what the phenomenal concepts strategist claims. While the PCS physicalist holds the stance that phenomenal concepts are opaque, while only functional concepts can be transparent, the Russellian panpsychist would defend the opposite – only phenomenal concepts are transparent, while physical concepts are opaque. Upon introspection, phenomenal concepts revel the essential

natures of the physical facts composing our brain states. On the other hand, the physical concepts are opaque since they are only scratching the surface of reality, i.e. they cannot reach further than the extrinsic properties of the fundamental facts.

Russellian panpsychism also manages to deal well with the common arguments against physicalism, namely the knowledge, and the conceivability argument. Against *the knowledge argument*, Russellian panpsychists might reject that Mary knows the complete physical truths, since she does not know the intrinsic properties of physical facts, but only their extrinsic properties (Alter and Nagasawa, 2015: 441). If she would know the intrinsic phenomenality of the physical facts, she would also know redness without leaving her room. Against *the conceivability argument,* Russellian panpsychists can claim that only "structural zombies" which are duplicates of the relational physical structure of humans lacking consciousness are conceivable. On the other hand, "categorical zombies", which are duplicates in terms of both the relational physical structure and the underlying intrinsic/phenomenal properties are not conceivable (Chalmers, 2015: 256)[24].

Before ending this chapter, I wish to examine how Russellian panpsychism fares when compared to the other types of panpsychism, i.e. constitutive non-Russellian panpsychism, and emergentist panpsychism. Both constitutive non-Russellian panpsychism, and emergentist panpsychism face the problem of explaining mental causation in a way that is compatible with the causal argument[25]. The main difference between Russellian panpsychism and other forms of constitutive panpsychism is that according to the latter: "there are microphenomenal properties that do not play

[24] It is worth mentioning that versions of both the knowledge and the conceivability argument aimed against Russellian monism also exist. For more see Chalmers (forthcoming).
[25] See Chapter 1.

microphysical roles" (Chalmers, 2015: 254). In the context of Russellian panpsychism, the casualty of the macrophenomenal is a manifestation of the causality of the microphysical. However, if constitutive non-Russellian panpsychism is true, not all microphenomenal properties have microphysical roles. Since the macrophenomenal is constituted by the microphenomenal, this implies that the causality of the macrophenomenal is not fully (if at all) a manifestation of the causality of the microphysical. Phenomenality appears to be beyond the scope of physical causation. This worry is even more emphasized when it comes to emergentist panpsychism. In the context of emergentist panpsychism, the macrophenomenal is not grounded in the microphenomenal, but instead is 'something over and above' it. Because of this, the causality of the macrophenomenal is not a manifestation of the causality of the microphysical. Therefore, the causality of the macrophenomenal has to be accounted for in a way that is distinct from the causality of the fundamental microphysical facts. Again, the macrophenomenal is outside of the scope of the causation of the physical. These worries make both constitutive non-Russellian panpsychism and emergentist panpsychism incompatible with the causal argument for physicalism. They both seems unable to explain how macroexperience can play a causal role, and seem to entail either epiphenomenalism, interactionism, or overdetermination (Chalmers, 2015: 259). Any of these options could nonetheless be true, but they make the before mentioned views less attractive since they are in conflict with our scientific picture of the world. Therefore, Russellian panpsychism appears to be *prima facie* the best available panpsychist alternative to pure physicalism that manages to solve its problems without any drawbacks.

Chapter 4: Against Russellian Panpsychism

In this section, I will cover three problems for Russellian panpsychism. First, I will provide a brief summary of *the combination problem* and its main aspects (section 4.1). Second, I will claim that Russellian panpsychism cannot escape the *a priori* epistemic gap between the physical and the mental despite the postulation of phenomenality at the fundamental ontological level. In order to do this, I will deploy my own novel version of the conceivability argument which I will call *the reverse conceivability argument* (section 4.2). Finally, I will claim that value facts share many of the same characteristics as phenomenal facts in the sense that they also appear to be beyond-structural. Building on this, I will try to use the same approach as with phenomenal facts to claim that value facts cannot be grounded in the physical facts. Nonetheless, I will claim that Russellian panpsychism cannot account for value facts either, based on what I call *the combination problem for value* (section 4.3).

4.1. The Combination Problem

It is almost unanimously agreed amongst contemporary philosophers of mind that the *combination problem* is the most terrifying challenge for Russellian panpsychism and constitutive micropsychism in general. Chalmers has already explored the combination problem in detail in 'The Combination Problem for Panpsychism' (forthcoming). Therefore, in this paper, I will not dwell too much on it but will only summarize its main aspects before moving onto more novel problems for Russellian panpsychism in sections 4.2 and 4.3.

In the most general form, the combination problem for panpsychism can be phrased as the question: how can micro-subjects combine to form macro-subjects? The paradigmatic exposition of this problem can be traced back to William James (1890). James argued that experiences (feelings) do not aggregate into further experiences, and that minds do not aggregate into further minds. The aggregation of any number of feelings or minds will not yield a new feeling or a new mind. This line of reasoning leads to the conclusion that macro-consciousness is 'something over and above' the sum of its parts, i.e. it is not grounded in facts about micro-subjects. In contemporary philosophy of mind, this is known as *the subject-summing argument* (*ibid.*).

Especially in the context of Russellian panpsychism, the worry can be extended to the question of how the experiences involved in the fundamental physical facts combine to create human consciousness. Russellian panpsychism is an ontology compatible with the scientific picture of the world where "microphenomenal properties are all directly associated with a fundamental physical property, and there appear to be only a few of these" (*ibid.*). Therefore, both the structure and causality of the microphysical realm, as well as the macrophysical and the macrophenomenal, appear to be grounded on a presumably small set of micro-phenomenal properties corresponding to the intrinsic natures of the small number of fundamental physical facts as informed by physics as a science. It is not intuitively clear how this small set of base phenomenal properties can ground all other existence, and combine to yield the complexity of macroexperience. In contemporary philosophy of mind, this is known as *the palette argument* (*ibid.*).

The subject-summing argument and palette argument are just two of the seven ways Chalmers (*ibid.*) catalogs concerning how to phrase the combination problem in an argument form. Solutions

to the combination problem have been proposed, but many philosophers do consider it a decisive argument against constitutive panpsychism. Perhaps the seriousness of the combination problem is enough to make us give up on constitutive panpsychism altogether, and maybe enquire into emergentist panpsychism or even substance dualism as alternatives to physicalism. Nonetheless, for the purpose of this paper, I will not discuss these issues further but move to my own worries for Russellian panpsychism in the next two sections.

4.2. The Reverse Conceivability Argument

In this section I will attempt to demonstrate that the *a priori* epistemic gap between the phenomenal and the physical is not closed even if accept Russellian panpsychism as true. Chalmers (2015: 266; forthcoming), following Goff (2009), presents a unique version of the conceivability argument called *the conceivability problem for micropsychism*. This argument is a part of the combination problem and works against constitutive micropsychism. The argument is based on the conceivability of *panpsychist zombies*, or beings that are both microphysical and microphenomenal duplicates of humans but unlike us lack consciousness (Chalmers, 2015: 266; Chalmers, forthcoming). Roughly, the argument is that even if we accept the existence of micro-subjects, it is conceivable that macrosubjects might not exist. Under Russellian panpsychism, at least some of the physical facts constituting my body have microexperience. Nonetheless, it is conceivable that even if every bit of matter in my body is conscious, this does not necessitate the existence of my own consciousness. The argument can be formally stated as follows (Chalmers, forthcoming):

- Premise 1: "PP&~Q is conceivable".

- Premise 2: "If PP&~Q is conceivable, PP&~Q is metaphysically possible".
- Premise 3: "If PP&~Q is metaphysically possible, constitutive panpsychism is false".
- Conclusion: "Constitutive panpsychism is false".

Where PP is the "conjunction of all microphysical and microphenomenal truths about the universe" while Q is a "macrophenomenal truth" (*ibid*.).

The above conceivability problem for micropsychism does not deal with the *a priori* epistemic gap between the physical and phenomenal *per se*. Instead, the problem attempts to exploit a more refined gap between the microphenomenal and the microphysical facts on the one side, and macrophenomenal facts on the other side. Contrary to this, I will deploy a novel version of the conceivability argument that is closer to the standard conceivability argument against physicalism[26], but reverses the roles of the physical and the phenomenal in terms of ontological fundamentality. Since my argument is aimed against Russellian panpsychism, my starting point is the acceptance of fundamental phenomenality, while I doubt that it necessitates the existence of the grounded physical facts. My argument does not entail the existence of philosophical zombies, but it does imply the existence of *philosophical ghosts*, i.e. beings that have phenomenal experience, but lack physical bodies. The main target of my argument is Russellian panpsychism, but the argument should work against any version of constitutive panpsychism.

I will call my argument *the reverse conceivability argument*. It is based on the observation that the fundamentality of the phenomenal does not necessitate the existence of the physical facts. Under Russellian panpsychism, the causality of the physical is an expression of the causality of the

[26] See Chapter 2.

phenomenal. When we talk of the causal closure of the physical, we are in fact talking about the causal closure of the micro-phenomenal since the physical facts (the microphysical) are grounded in their intrinsic phenomenal natures. This follows from the proposition that the fundamental building blocks of the universe are feelings. What I claim is that the microphysical and macrophysical structure and causality we observe in our everyday experience does not necessarily follow from the existence of the fundamental feelings. Instead, the connection between the fundamental feelings and the grounded physical causal structure is contingent. A Russellian panpsychist would claim something along the lines that "a microphenomenal property that plays the mass role is causally responsible for attracting other entities, and so on" (Chalmers, 2015: 257). However, it is easily conceivable that any microphenomenal property can play any microphysical role, i.e. the intrinsic phenomenal nature that grounds the electron might easily have given rise to very different causal powers. For an example, the intrinsic nature of an electron might be a micro-phenomenal state *A* that in our world is manifested as the causal power of negative charge. However, it is conceivable that the electron could be in the same micro-phenomenal state *A*, but nonetheless have another even radically different causal power, or have no causal power at all. This is true for cosmopsychism as well, where it is conceivable that the global feelings of the universe could have grounded a very different physical causal structure. The argument can be formally stated as follows:

- Premise 1: Q&~P is conceivable.
- Premise 2: If Q&~P is conceivable, Q&~P is metaphysically possible.
- Premise 3: If Q&~P is metaphysically possible, constitutive panpsychism is false.
- Conclusion: Constitutive panpsychism is false.

Where Q is the conjunction of all microphenomenal truths about the Universe, while P is an arbitrary physical truth.

The reverse conceivability argument implies that a microphenomenal copy of our world – a *ghost world of pure feeling* – that lacks any microphysical or macrophysical structure is metaphysically possible. As already stated, it also implies the possibility of philosophical ghosts, or being that have phenomenal experience, but lack physical bodies.

Perhaps the argument can be criticized with the claim that we do not in fact know any of the microphenomenal truths so we cannot assert that their conjunction is conceivable independently of the physical facts. However, if we do know at least some macrophenomenal truths, and phenomenal concepts are transparent, it seems that microphenomenal truths cannot be that much different from our own experiences, at least in their essential qualitative natures. In the same way that the concept of a table – if it was transparent – would reveal to us what atoms are, macroexperience being grounded on microexperience should be substantially similar to its ground. I also wish to note that my argument is not aimed against the grounding of the macrophenomenal in the microphenomenal. The *ghost world* might as well contain macro-subjects, but nonetheless lack any physical structure. Instead, my argument is based around the supposition that the knowledge of any feeling – whether micro or macro phenomenal – does not entail the knowledge of its postulated physical causal and structural dispositions.

I believe the reverse conceivability argument is sufficient to demonstrate that the *a priori* epistemic gap between the physical and the phenomenal is ineradicable even if the phenomenal is postulated

as fundamental, as is the case with Russellian panpsychism. Therefore, the argument raises further doubts to the claim that the physical is grounded in the phenomenal. Both the microphysical and the macrophysical facts must be 'something over and above' the microphenomenal, since the existence of the microphenomenal does not necessitate their existence. Perhaps the acceptance of this argument should also direct us into emergentism or substance dualism as alternatives to physicalism.

4.3. The Grounding of Value

The final worry I wish to express before ending my critique of Russellian panpsychism is connected to the grounding of value. The ontological status of value is a complex topic in its own right and I cannot do it justice here. Instead, for the purpose of this paper, I will only attempt to justify certain intuitions concerning the status of value in the context of both pure physicalism and Russellian panpsychism, and build the case that neither can sufficiently account for value. Therefore, the worries expressed here should be seen as proposals, and not necessarily as conclusive arguments. Perhaps they could be further developed in a future work.

I believe that we have strong intuitive reasons to claim that value facts are beyond-structural in the same way phenomenal facts are[27]. Value facts are facts about ethical and aesthetic value, i.e. the good and the beautiful. They involve all things we find to be good or beautiful, i.e. that evoke a sensation of goodness or beauty in us. Such things can warry from moral actions, good deeds, objects of fine art, the elegance of mathematical theorems, or even finely done food or beverages.

[27] See Chapter 2

Prima facie, it appears that the object of value facts (the good and the beautiful) cannot be accounted for by a causal and structural vocabulary. Whatever the object of value facts is, it does not seem to be contained in the precise objects that evoke the value related feelings within us as subjects. First, it seems that we are able to recognize certain actions and objects as good or beautiful, but nonetheless, we are unable to express or define what precisely we find good or beautiful in them. Unlike other events in the world that trigger an emotional response in us, when it comes to value, their cause is elusive. Whole works of art are unable to fully capture the essence of what we find good or beautiful in the world. Moreover, there are vast cultural and even personal differences of taste and opinion concerning what we find ethically permissible or aesthetically pleasing. All of this leads to the concern that whatever we find good or beautiful in the world, it cannot be captured by a definition, or with a causal or structural vocabulary in general. For an example, a machine, as a purely mechanical construct without phenomenal consciousness, would probably be unable to recognize value in the world based on algorithmic pattern recognition in the same manner we as humans do based on our intuitions. The machine might be able to recognize physical objects, and even perform complex operations with them, but in order for a machine to be able to recognize the elusive object of value, value would have to be defined in strict terms which based on what was said above is highly unlikely.

Furthermore, we have philosophical reasons to think that terms such as the good and the beautiful can never be defined. One such famous example is Moore's *Open Question Argument* (Moore, 1903). The argument can be summarized as the claim that for any possible definition of 'good' we can come up with examples that we think of expressing goodness, but are not accounted for by the

definition. Inspired by Yetter-Chappell & Chappell (2013: 866), I will present the argument in a formal way as follows:

- Premise 1: *G* is a definition for 'good'.
- Premise 2: The statement ''this is *G*; but it is not good'' is not self-contradictory.
- Premise 3: If (1), then 'good' does not mean the same thing as *G*.
- Conclusion: 'good' does not mean the same thing as *G*.

For an example, if we say that the 'good' is "whatever makes the gods smile", this definition can be objected, since arguably sacrifice makes the God's smile, but we have reasons to think that sacrifice is not good contradictory (Fisher, 2011: 13). The argument can quite easily be modified to account for any attempt to define the 'beautiful' as well, and I will not give further examples of this. Of course, the Open Question Argument is highly debatable, and there are many objections against it. Nevertheless, for the current purpose, the argument is sufficient to give additional basis to the intuition that value facts are indeed *beyond-structural*.

This similarity between value facts and phenomenal facts seems enough to make us think that value facts, as well as their objects – the good and the beautiful – are indeed phenomenal. If we agree to place value facts as a subset of the phenomenal facts, this by itself is enough to raise doubts that pure physicalism cannot account for value facts. Based on all that was argued so far concerning the grounding of phenomenality in the physical facts, it seems quite evident that if value facts are beyond-structural they too could not be grounded in the fundamental physical facts. Therefore it seems, there is an *a priori* epistemic gap between the physical facts and the value facts. Furthermore, value concepts appear to be transparent in the same way phenomenal concepts are. It seems that we know what the essential nature of the good and the beautiful is upon *a priori*

introspection. Again, even if solipsism is true, it appears our *a priori* introspection of moral and aesthetic concepts would reveal something about the essential nature of the world. Even if no physical facts existed, and we were living in a hallucination created by an omnipotent deceiver, it appears evident that the existence of value would be one of the things whose existence we could not doubt. After all, we would still recognize pain or love as good or bad, and we would be able to judge the different events happening in the hallucination in terms of value.

If pure physicalism cannot account for the grounding of value, perhaps Russellian panpsychism can raise to the occasion. I claim that this is not the case, since if value is indeed phenomenal, it seems hard to imagine how micro-value would combine to form macro-value. In the context of Russellian panpsychism, at least some of the fundamental physical facts should have micro-value, which would latter combine to form macro-value. This is problematic since it is hard to imagine how value at the macrophysical level could be grounded in micro-value, the same way a table (a macrophysical object) is grounded in the fundamental microphysical facts. The very existence of micro-value is hard to imagine (since it is not clear what it could be), but even if it exists, it seems very implausible to suggest that what makes a painting beautiful, a moral deed good, or a mathematical theory elegant – is some combination of micro-values arranged in a specific formation. Furthermore, if micro-values indeed exist it should be possible to create valuable objects and deeds simply by grouping together a bunch of particles containing micro-value, the same way a bunch of stones makes a heap. All of this is very counter-intuitive and in opposition to all we know about value in the world. Value in the real world appears to be much more elusive than a simple sum of value particles combining to form bigger value, i.e. increasing qualitatively in proportion to their quantity. Furthermore, even if the worries expressed so far are not enough to

convince us that Russellian panpsychism cannot account for value, it is questionable can value be even placed at the fundamental ontological level considering the limited amount of space amongst the fundamental physical facts – as it was expressed by the palate argument. All of this leads to the conclusion that the combination problem for Russellian panpsychism is even more pressing in the case of value. Therefore, if these worries are to be accepted, a Russellian panpsychist world seems unable to account for value. Perhaps this problem implies that the solution to the grounding of value is to be found in other alternatives to pure physicalism, such as cosmopsychism, neutral monism, emergentism, idealism or substance dualism.

Conclusion

Russellian panpsychism promises to solve the problems of pure physicalism without any drawbacks. However, the issues I have explored in the previous chapter demonstrate that this is not the case. Russellian panpsychism does manage to provide a solution to the grounding problem by placing phenomenal facts at the fundamental ontological level. Furthermore, Russellian panpsychism solves the mysteriousness of matter problem, and at the same time remains compatible with the causal closure of the physical – thus *prima facie* satisfying both our intuitions concerning phenomenality, as well our scientific understanding of the world. Nevertheless, upon closer inspection, the *prima facie* elegant and simple solutions provided by Russellian panpsychism fail since Russellian panpsychism has elaborate problems of its own. Like a ship that sinks as soon as it sets sail, Russellian panpsychism is crippled by serious issues as soon as its construction is examined in more detail. I have talked about the combination problem, my own reverse conceivability argument, as well the inability of Russellian panpsychism to account for value, i.e. the combination problem for value. All of this should be enough to direct the quest for the ontological explanation of phenomenal experience away from both pure physicalism, and Russellian panpsychism – into different metaphysical systems, perhaps even at the cost of rejecting the causal closure of the physical.

References

Alter, T. & Nagasawa, Y. (2015). 'What is Russellian Monism?', in T. Alter and Y. Nagasawa (eds.), *Consciousness in the Physical World*, New York: Oxford University Press, pp. 422-451.

Barnes, E. (2012). 'Emergence and Fundamentality', *Mind*, 121: 484, pp. 873-901.

Chalmers, D. (2002). 'Consciousness and Its Place in Nature', in D. Chalmers (ed.), *Philosophy of Mind: Classical and Contemporary Readings*, New York: Oxford University Press, pp. 247-273.

Chalmers, D. (2002a). 'Does Conceivability Entail Possibility?', in T. Gendler & J. Hawthorne (eds.), *Conceivability and Possibility*, New York: Oxford University Press, pp. 145-200.

Chalmers, D. (2002b). 'Facing up to the Problem of Consciousness', available: http://consc.net/papers/facing.html

Chalmers, D. (2015). 'Panpsychism and Panprotopsychism', in T. Alter and Y. Nagasawa (eds.), *Consciousness in the Physical World*, New York: Oxford University Press, pp. 246-276.

Chalmers, D. (forthcoming). 'The Combination Problem for Panpsychism', in L. Jaskolla and G. Bruntrup (eds.), *Panpsychism*, New York: Oxford University Press.

Dasgupta, S. (2014). 'The Possibility of Physicalism', *Journal of Philosophy*, 111 (9/10), pp. 557-592.

Fine, K. (2001). 'The Question of Realism', *Philosophers' Imprint*, 1, pp. 1-30.

Fisher, F. (2011). Metaethics: An Introduction, Durham: Acumen.

Goff, P. (2009). 'Why Panpsychism Doesn't Help to Explain Consciousness', *Dialectica*, 63(3), pp. 289-311.

Goff, P. (2011). 'A Posteriori Physicalists Get Our Phenomenal Concepts Wrong', *Australian Journal of Philosophy*, 89: 2, pp. 191-209.

Goff, P. (2015). 'Real Acquaintance and Physicalism', in P. Coates and S. Coleman (eds.), *Phenomenal Qualities: Sense, Perception, and Consciousness*, New York: Oxford University Press, pp. 121-143.

Goff, P. (forthcoming). *Consciousness and Fundamental Reality*.

Hempel, C. (1969). 'Reduction: Ontological and Linguistic Facets', in S. Morgenbesser, P. Suppes, and M. White (eds.), *Essays in Honor of Ernest Nagel*, New York: St Martin's Press, pp. 179–199.

Jackson, F. (1982). 'Epiphenomenal Qualia', *Philosophical Quarterly*, 32, pp. 127-136.

James, W. (1890). *The Principles of Psychology*. London: Macmillan.

Kripke, S. (1980). *Naming and Necessity*, Cambridge, MA: Harvard University Press.

Moore, G. E. (1903). *Principia Ethica*, Cambridge: Cambridge University Press.

Nagel, T. (1975). 'What is it Like to Be a Bat?', *The Philosophical Review*, vol. 83, pp. 435-50.

Nida-Rümelin, M. (2007). 'Grasping Phenomenal Properties', in T. Alter and S. Walter (eds.), *Phenomenal Concepts and Phenomenal Knowledge*, New York: Oxford University Press, pp. 307-336.

Papineau, D. (1998). 'Mind the Gap', *Philosophical Perspectives*, vol. 12, pp. 373-388.

Papineau, D. (2001). 'The Rise of Physicalism', in C. Gillett and B. Loewer (eds.), *Physicalism and Its Discontents*, New York: Cambridge University Press, pp. 3-36.

Robinson, H. (1982). *Matter and Sense*, Cambridge: Cambridge University Press.

Robinson, H. (2016). 'Dualism', in E. N. Zalta (ed.), *The Stanford Encyclopedia of Philosophy*, spring 2016 edition), available: http://plato.stanford.edu/archives/spr2016/entries/dualism

Rosen, G. (2010). 'Metaphysical Dependence: Grounding and Reduction', in B. Hale and A. Hoffmann (eds.), *Modality: Metaphysics, Logic, and Epistemology*, New York: Oxford University Press, pp. 109-136.

Russell, B. (1927). *The Analysis of Matter*, London: Kegan Paul.

Schaffer, J. (2009). 'On What Grounds What', in D. Manley, D. Chalmers and R. Wasserman (eds.), *Metametaphysics: New Essays on the Foundations of Ontology*, New York: Oxford University Press, pp. 347-383.

Stoljar, D. (2016). 'Physicalism', in E. N. Zalta (ed.), *The Stanford Encyclopedia of Philosophy*, spring 2016 edition, available: http://plato.stanford.edu/archives/spr2016/entries/physicalism

Strawson, G. (2015). 'Real Materialism (with new postscript)', in T. Alter and Y. Nagasawa (eds.), *Consciousness in the Physical World*, New York: Oxford University Press, pp. 161-208.

Yetter-Chappell H. & Chappell R. Y. (2013). 'Mind-body Meets Metaethics: A Moral Concept Strategy', *Philosophical Studies*, 165 (3), pp. 865-878.