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Consciousness and Reductive Explanation: Has Materialism been Refuted?

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ABSTRACT

Consciousness and Reductive Explanation: Has Materialism been Refuted?

Stephen Rose

Much of the contemporary literature on consciousness in the philosophy of mind is concerned with how phenomenal experience might be accounted for in scientific theory. One position, due to David Chalmers, Frank Jackson and others, has it that because consciousness is not open to reductive explanation (consciousness is not logically supervenient on the physical), materialism, which is committed to a priori conceptual analysis, must be false. In this thesis, an attempt will be made to discredit this viewpoint. While Ned Block and Robert Stalnaker argue that explicit micro-macro (physical) entailments can only be a posteriori justified, I argue that non-explicit entailments can be handled in the same way, and so can only be empirically grounded. These two arguments taken together suggest that micro-macro entailments cannot be a priori justified. If this is the case, then it would seem that materialism is not committed to a priori conceptual analysis and, thus, the failure of consciousness to be a reductively explainable phenomenon, whether true or not, does not warrant any anti-materialist conclusions. Additionally, in reply to the eliminativist attack, a defense of consciousness and qualia will be mounted.

Acknowledgements

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Introduction

Consciousness has become a 'hot' topic in the philosophy of mind over the last ten years.[1] This followed decades of neglect, perhaps more than two-thirds of the twentieth century, where the phenomenon was considered 'unscientific'. The orthodox, philosophical / scientific view which flourished since the time of Descartes suggested that consciousness was ineffable, incorrigible, and immediately available (transparent) to the subject. These properties, along with the notion that consciousness was totally inaccessible from the third-person viewpoint, led to a sort of philosophical / scientific eschewing of the phenomenon. Even though mental states were considered to have subjective, phenomenal aspects, it was thought that cognitive psychology could not properly account for these properties in a systematic science of the mind.

It seems rather paradoxical that in studying the mental, cognitive psychologists would abstain from addressing consciousness. It would seem that a thorough understanding of the mind must in some way include the phenomenological aspect. But if what is being sought are the behavioral dispositions of an organism, then perhaps the phenomenological aspect can be simply bypassed or subsumed in alternate theory. Behaviorism is a mid-twentieth century school of thought which, in

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[1] The information presented in this introduction, excluding inside chapter references, can be found in Flanagan (1995a), (1995b); Kim (1995a), (1995b), (1995c); and Searle (1992).

all its myriad forms (operational, logical, methodological, and radical), challenged the conventional ways of thinking about the mind by denying that mental properties could play any useful role in a proper scientific psychology. Psychology became a discipline which studied behavior and how stimulus inputs led to correlated behavioral outputs. Logical behaviorism, in particular, attempted to define mental terms in terms of behavior. Gilbert Ryle, who paradoxically denied that he was a behaviorist, in his *The Concept of Mind* (1949), suggested that talk of the mental was really just talk of the behavioral dispositions of organisms. In this way, consciousness was displaced as a useful theoretical construct.

The advent of the identity theory of mind, attributed to J. J. C. Smart, U. T. Place, and David Armstrong, came in the wake of the downfall of behaviorism. It constituted an attempt to give consciousness its rightful place in psychological theorizing. Accordingly, mental states could be accounted for via mental / neural state identification. For example, pain state X (mental state) could be identified with c-fibre firings (neural state). Beliefs, desires, and the like would be synonymous with mental terms so, for example, a desire for a cold drink might be accounted for by neural activity in a particular area of the brain.

A problem for identity theory, or type-physicalism, is the idea that mental states may be multiply realized. A specific mental state can perhaps be realized or instantiated by a number of different neural states on different occasions. If this is the

case, then, precise mappings may prove impossible. It would seem that only token identities (token-physicalism) might prove successful in accurate mappings. Another problem with identity theory, and one that specifically corresponds to consciousness, is that mental / neural state identities seem to leave certain important questions unanswered. If neural state X is identified with mental state Y then the further question can always be asked: 'why is it that neural state X has a phenomenology and consciousness emerges as a result of its instantiation?'

In response to the multiple realizability problem, a new mental theory entitled 'functionalism' was advanced. Developed by David Armstrong and Hilary Putnam, this theory has a behavioristic quality to it. A mental state is characterized by its functional role — that is, it is specified in terms of the causal interactions it has with other states. Thus, mental state X is distinguished by the states which it causally interacts with and by the behavioral and dispositional states which it produces as output. In this way, multiply realizable neural states are accounted for as they form causal links and chains which, in most cases, produce particular behavioral outputs. It is clear though that the phenomenological aspect represents a problem for functionalist theory. Even though the theory may be able to deal with causal effects such as why stepping on a tack leads to specific behavioral responses, as with identity theory, the further question can be asked: 'why is it that consciousness emerges as a result of neural state X's instantiation?'

Recently consciousness has emerged from its shadow of neglect. A quite considerable amount of philosophical literature has appeared and the general focus seems to be on how consciousness can be accounted for objectively in a scientific theory. This thesis is concerned with one such attempt at accountability. David Chalmers' 1996 book, *The Conscious Mind: In Search of a Fundamental Theory*, has caused quite a stir in the literature of the philosophy of mind. He argues that materialism, as a theory, is false because it cannot account for consciousness. Materialism is, he believes, necessarily committed to a priori conceptual analysis. Because consciousness fails to be reductively explainable (fails to logically supervene on the physical), an a priori analysis of consciousness in physical or functional terms cannot be given. Consciousness must be something over and above what is stipulated by materialists. Consequently, materialism must be false. My strategy is to argue that materialism is not committed to such an analysis. As such, the failure of consciousness to reduce to the physical, if this is, indeed, the case, does not lead to the falsity of materialism.

This thesis will proceed along the following lines. In chapter one, a general contemporary overview of consciousness in the philosophy of mind will be given. Here I will be utilizing Owen Flanagan's and Ned Block's overlapping categorical distinctions. Following this, I will examine two eliminativist objections to the notions of 'consciousness' and 'qualia' respectively. I will argue that even if these objections

are correct, they do not threaten the existence of the 'what-it-feels-like' aspect of phenomenal consciousness and/or qualia.

The second chapter is mostly expository as I present Chalmers' arguments and strategies. Chalmers is not the only philosopher to believe in a materialist commitment to a priori conceptual analysis. In conjunction with Chalmers, some of Frank Jackson's work will be dealt with. The chapter begins with an examination of Chalmers' central claim concerning the non-reductive nature of consciousness and the falsity of materialism. Five anti-reductive conceivability arguments will be outlined and, subsequently, commented upon. Most of these conceivability arguments are well-documented in the philosophical literature: 'the logical possibility of zombies'; 'the inverted spectrum'; 'epistemic asymmetry'; 'the knowledge argument'; and the 'from the absence of analysis' argument. If materialism is committed to a priori conceptual analysis, then these arguments are apparently successful in showing that consciousness cannot be reductively explained and, hence, that materialism is false. I conclude the chapter with an examination of some of the consequences of Chalmers' view.

In chapter three I argue that materialism is not committed to a priori conceptual analysis. Therefore, the idea that consciousness is non-reductive, whether true or not, has no significant ramifications. Initially I explore Ned Block and Robert Stalnaker's objection to micro-macro a priori entailment. Briefly, they suggest that

explicit analyses can only be justified through a posteriori means. Chalmers counters by noting that non-explicit a priori analysis can do the required work. I argue that analysis of this sort can only be justified empirically (a posteriori) and, thus, in conjunction with Block and Stalnaker's argument, a priori conceptual analysis fails. With this failure, it is clear that materialism is not committed to analysis of this kind. Finally, I close the chapter by stating what my view is in the consciousness debate.

Chapter One

This chapter is comprised of two sections. In the first section a general overview of consciousness in the philosophy of mind will be sketched. Different viewpoints and opinions will be summarized. It will be seen that the majority of these viewpoints fall on the mystery side of the mystery / non-mystery distinction. Section two deals with eliminativist objections to the notions of 'consciousness' and 'qualia'. I argue that such objections do not threaten the existence of these concepts.

Section One: Consciousness - An Overview

Two general observations can be found scattered throughout the philosophical literature concerning consciousness. On one side we find those philosophers who believe that consciousness is, indeed, a mystery.[1] They tend to focus on the following sorts of questions: Is the study of consciousness a scientifically tractable problem? Is consciousness really neurological in origin? If consciousness does arise from brain processes, just what kind of processes lead to its actual manifestation? Will consciousness ever be understood or will it forever remain outside the scope of

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It should be noted that the mystery / non-mystery distinction I am making is very general and, while it does take into account Colin McGinn's brand of 'mysterianism', as outlined by Flanagan (see below), it is more than this. The fact that consciousness, with its subjective underpinnings, exists in a material world is itself rather mysterious. McGinn's argument is essentially epistemological in nature. He suggests that due to our limited cognitive capabilities, an understanding of consciousness will forever remain outside our cognitive grasp.

human understanding? Is human understanding, itself, essentially epistemologically limited and does the mystery of consciousness tell us something fundamental about human capabilities?

On the other side of the debate, we find another group of philosophers who believe that consciousness may, in itself, be an interesting problem but that it is no mystery. Neurology does, indeed, hold the key to a future understanding of the phenomenon. There are even those, and here I am mostly referring to philosophers of an eliminativist bent, who question the actual validity of the concept. Perhaps, due to the very nature of human language, we are essentially confused as to what we are attempting to explain. Beliefs, desires, experiences, and the like may be just useful fictions that are present in human speech, but, in themselves, do not contribute or aid in understanding the phenomenon we call 'consciousness'. In fact, for the eliminativist, this 'phenomenon' may not exist at all.[2]

This mystery / non-mystery distinction tends to polarize the consciousness debate. As David Chalmers has noted, those on opposite sides of the fence have a tendency to argue past one another (1996, xiii). If two philosophers cannot even

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I believe that this point needs to be qualified. Eliminativists such as Paul and Patricia Churchland, and Daniel C. Dennett do not necessarily disagree that there seems to be a phenomenal, subjective aspect to consciousness. Rather, the issue is one of methodology. If the orthodox folk understanding of the term 'consciousness' (whatever it is, which is unclear) is, in some way, an obstacle to neurological phenomenal explanation, then, perhaps, the folk term ought to eliminated. Concerning eliminativism, I will have more to say later in this chapter.

agree as to whether consciousness is a problem, let alone a difficult one, then there really is nothing left for them to talk about. In this section, I will attempt to clarify the debate in general by offering a brief summary of various philosophical positions concerning consciousness. The fact that there are many conflicting views, and that a consensus seems far from being reached, suggests that the problem of consciousness is a difficult one indeed.

Before elucidating particular positions, it should be mentioned that the concept of consciousness is rather ambiguous. Many different interpretations of this notion can be found in the literature. There seems to be no general agreement as to what the term refers to. Is to be 'conscious' simply to be 'awake'? Or does it have to do with 'attention' and 'awareness' in particular? Phenomenal experience refers to the subjective 'feels' ('qualia') accompanying consciousness. Can these 'feels' be separated from awareness or are the two intimately intertwined? Philosophers seem fairly idiosyncratic in their understanding of 'consciousness'.[3] For example, David Rosenthal makes a distinction between what he calls 'state consciousness' and 'creature consciousness' (1997). While the former refers to an actual conscious mental state as, for example, the experience of a sunset, the latter is best viewed as simple awareness. One may be aware of cars rushing by on a busy street and have no

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It should be noted that in stating the following two consciousness definitions, I am not in any way endorsing these views. The same goes for the other definitions, suggested in the subsequent paragraph.

phenomenal feels attached to this awareness. If one were to specifically focus attention on these automobiles, 'state consciousness' would supercede 'creature consciousness' and a phenomenal feel (a 'quale') would emerge in accordance with one's experience. This distinction is similar to Chalmers' division between 'phenomenal consciousness' and 'psychological consciousness' (1996). Accordingly, to be 'state conscious' is to have phenomenal experience(s) — there are particular qualitative properties which accompany one's view of a beautiful sunset. Similarly, to be 'creature conscious' is to be awake and aware which is an aspect of Chalmers' notion of psychological consciousness.

Steven Pinker, in his book, *How the Mind Works*, outlines various definitions of consciousness (1997). He suggests that in many cases, 'consciousness' is used as a synonym for intelligence. He cites Stephen Jay Gould as one who seems to utilize the term in this sense. Pinker, then, following the lead of Ray Jackendoff and Ned Block, puts forth three 'meanings' of consciousness which suggest just how ambiguous the word really is. First, he mentions, self-knowledge. This refers to an organism's ability to reflect intelligently about itself. The self is seen as part of a larger world and this 'information' is important for creating a coherent model upon which the organism can act. Another sense of consciousness involves 'access to information'. Certain data such as perceptual information, may be cognitively available to an organism. Other data, such as the involuntary mechanisms of the

body, may be cognitively inaccessible. Thus, one may say that when one has a thought, or percept, one is conscious of it. This access / non-access to types of information distinction can be likened to the conscious / unconscious division prevalent in psychology. While one is conscious of a red flower (accessible information), one is certainly not conscious (inaccessible information) of the intricacies of the visual system (iris, optic nerve, etc.) which lead to the percept. The third type of consciousness, and what would seem to be the most explanatorily difficult sort of consciousness, is phenomenal experience. Subjective feels ('qualia') seem to be the most mysterious of all. What is it like to be depressed? What is it like to be viewing a beautiful sunset? Why is it like that? This thesis is primarily concerned with phenomenal consciousness and the associated explanatory difficulties which confront a scientific understanding of this phenomenon. As indicated above, the 'feels' which accompany this sort of conscious mental state are known as 'qualia'. Qualia are problematic for they seem to resist physical, functional explanation. An 'explanatory gap' is the result. How to possibly describe the subjective in objective scientific terms is the difficulty manifest here. When using the term 'consciousness' I shall be henceforth referring, except in cases explicitly noted, to phenomenal consciousness (the qualities — 'qualia' — of experience). In this way, I am attempting to avoid the ambiguity in terminology which surrounds this term.

There are various positions that one can take toward consciousness. Here I

will be utilizing Owen Flanagan's categorical distinctions. In his book, *Consciousness Reconsidered*, he does a masterful job of distinguishing between various 'isms'. Flanagan details five distinctions, namely: i) *nonnaturalism*; ii) *principled agnosticism*; iii) *new mysterianism (anti-constructive naturalism)*; iv) *eliminative naturalism*; v) *constructive naturalism* (1992). While his categories are rather general (in some cases it is unclear where some philosophers should fit in), I think they are useful, not only in establishing a general picture, but in clarifying the mystery / non-mystery distinction that I made earlier. Flanagan is, himself, a committed naturalist and his distinctions and their descriptions bear this out.

Before proceeding any further, a few definitional difficulties must be dealt with. Throughout much of the literature in the philosophy of mind, the following terms, 'naturalism', 'materialism', and 'physicalism' are abundantly utilized. A thorough examination of the literature reveals some problems with the use of these terms. Sometimes two of the terms, or all of them, are used interchangeably. Flanagan's use of the term 'naturalism' constitutes an example. As mentioned below, he labels his fourth category 'eliminativist naturalism' and refers to Paul and Patricia Churchland as its major advocates. Here he is clearly using the term 'naturalism' as a substitute for 'materialism', as the view held by the Churchlands is usually called 'eliminative materialism'. In Chalmers, we find yet another example of terminological substitution. For Chalmers 'materialism' necessarily entails

'physicalism' as can be seen in the following sentence:

> With this in mind we can formulate precisely the widely held doctrine of materialism (or physicalism), which is generally taken to hold that everything in the world is physical, or that there is nothing over and above the physical, or that the physical facts in a certain sense exhaust all the facts (1996, 41).

Finally, in other cases, simple substitution may take place. Joseph Levine utilizes both 'materialism' and 'physicalism' interchangeably (1997).

Having set out the examples above, I will now proceed to briefly define the terms and show how they will be utilized in the text. 'Naturalism', or 'philosophical naturalism' is often taken to be the methodological standpoint whereby one commits oneself to utilize the results of the sciences. In many cases, the relationship between science and philosophy is construed as symbiotic by naturalists. 'Materialism' is the thesis that posits that everything in the world is dependent on matter or that matter, itself, is the only substance. Finally, 'physicalism' is just another term for 'materialism'. In the text I will, following Flanagan's conflation of the first two terms, be using 'naturalism' and 'materialism' interchangeably. This poses no real problem as the conflation will only occur when Flanagan's categories are discussed. 'Materialism' and 'physicalism' refer to the same ontological thesis and, thus, following Levine, I will be using the two interchangeably.

Flanagan's first category is *nonnaturalism*. This is the view that consciousness is not a natural phenomenon. Rather, it may be an (essential) aspect of some kind of immaterial 'soul' or 'spirit' which is, in some way, separate from the brain. Here we

find Cartesianism, with its dual substance ontology, manifesting itself in its most blatant form. The mind-body gap is complete under this formulation. It is clear that this sort of viewpoint falls on the mystery side of the mystery / non-mystery distinction.

Another position, *principled agnosticism*, suggests that because the relationship between consciousness and the brain cannot be understood in naturalistic terms as things now stand in science, it is best to reserve judgment as to what the final verdict will be. The mystery side of the debate is highlighted here. Flanagan cites Thomas Nagel as the main principled agnostic (see Nagel in reference list). I believe this is a fair reading, as Nagel never suggests that it is epistemically impossible, as a matter of principle, to explain consciousness naturalistically. Rather, he simply points out that there is a difficulty which thwarts explanation. Perhaps science will one day provide understanding and succeed in closing the explanatory gap, but at the moment it is impossible due to conceptual insufficiencies. It will be seen that Chalmers, at least at first, falls into this category. He too believes that an explanatory difficulty is manifest. However, rather than remaining agnostic, he goes one step further and argues against materialism on that very basis. I will briefly state Nagel's view in more detail.

In "What Is It Like To Be A Bat?" Nagel's primary concern is the inherent tension between the subjective and objective viewpoints that go into developing

'truthful' accounts of the world (1981). In a scientific world, data is largely considered to be more correct when it is untainted by the subjective, personal point of view. Objectivity necessitates that in shunning the subjective nature of individual experience, 'truth' is more closely approached and is available for everyone to collectively see. However, a problem arises when one attempts this procedure with regards to consciousness and mentality. Conscious experience is inherently subjective and any attempt to objectify the subjective will undoubtedly leave something out of the picture. This something is the fact that conscious states have a 'what-it-feels-like' quality. According to Nagel, to ignore this notion in a materialist account is to give only a partial account of consciousness.

For Nagel, each individual has a point of view which is the trademark of the subjective. To truly understand what it is like to be a bat, an animal, a Martian, or even another particular individual, we must be able to understand their points of view.[4] But objective accounts of subjective experience cannot go far enough and, thus, there may always be some sort of information missing. As Nagel says:

> My point...is not that we cannot *know* what it is like to be a bat. I am not raising that epistemological problem. My point is rather that even to form a *conception* of what it is like to be a bat (and *a fortiori* to know what it is like to be a bat) one must take up the bat's point of view. If one can take it up

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[4] I may be slightly over-exaggerating Nagel's view. He never actually says whether or not he thinks a human being cannot know what it is like to be another human being. His treatment of the issue leaves it open that a human *can* know what it is like to be another human being.

> roughly, or partially, then one's conception will also be rough or partial. Or so it seems in our present state of understanding (1981, 397).

The last quoted sentence is important for it tells us that Nagel does not believe that the subjective/objective gap is completely unbridgeable. At our present state we are conceptually limited. However, perhaps the appropriate concepts will be made manifest in the future. What is clear is that a conceptual breakthrough is seen as being required if the gap is to be bridged. So Nagel leaves room for some optimism in his account. Chalmers does not seem to share this optimism as we shall see later.

A third view is what Flanagan calls *new mysterianism* (he also refers to this category as *anticonstructive naturalism* or *noumenal naturalism*). According to this notion, materialism is true. Consciousness is a natural byproduct of the brain and is totally material in nature. However, we will never understand it. Why? Because we are epistemically limited, a complete understanding of consciousness will forever evade us.[5] Perhaps some more intelligent species will or can comprehend it, but not humans as they are now mentally composed. The main proponent of this view is Colin McGinn and, it is clear by the category title, that this viewpoint lies on the

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It might seem incoherent to say that we will never understand consciousness and that it is material nonetheless. However, Flanagan suggests that this viewpoint is intelligible for the following reason:

> It is conceivable that just as we cannot know the position and momentum of an electron at one and the same time, or just as we can know that a certain sentence in arithmetic is true though it is in principle impossible for us to prove it within arithmetic, so we can know consciousness is a natural phenomenon though it is in principle closed to us to know what sort of natural phenomenon it is (1992, 10).

mystery side of the divide.[6]

It should be noted that consigning McGinn to this particular category may be a mistake. As I have noted above, a new mysterian is one who believes that consciousness will never be understood due to the fact that humans are epistemically limited. Consciousness is, then, a mystery in this sense. At the same time, proponents of this view, according to the definition, believe that consciousness is entirely material. But McGinn has noted that this may not be the case. In a paper, entitled "Consciousness and Space", McGinn suggests that consciousness is such a surprising and mysterious phenomenon that perhaps it may be a force, entity, or 'whatever', that was prevalent before the big bang and is only now coming into full fruition: "The brain puts into reverse, as it were, what the big bang initiated: it erases spatial dimensions rather than creating them....This suggests the following heady speculation: that the origin of consciousness somehow draws upon those properties of the universe that antedate and explain the occurrence of the big bang (1997, 102)." Could consciousness then be something over and above the material? If McGinn considers it so, as perhaps this quotation suggests, then he should be placed in Flanagan's nonnaturalist category. Otherwise, categorization as a new mysterian will suffice.

Flanagan's fourth 'ism' is what he calls *eliminativist naturalism* (more

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[6]See footnote 1.

commonly known in the literature as simply 'eliminativism'). On this view, naturalism is true and the science of neurology will be the harbinger of understanding all there is to know about the mind and the brain. The concept of consciousness, phenomenal properties, beliefs and desires are all part of folk psychology. Eliminativists argue that folk psychology is a false theory and, hence, that consciousness or phenomenal properties (as understood *in* folk psychology) do not exist. In this sense the explanatory gap ceases to exist as "there is nothing for there to be a...gap about (Block 211, 1994a)." This position falls on the non-mystery side of the distinction outlined earlier. The main proponents of this view are Paul and Patricia Churchland. Daniel C. Dennett is another eliminativist, at least with respect to qualia, though he denies the label. There are a number of differences between the Churchlands and Dennett (and, of course, subtle differences that exist among the Churchlands themselves). While the former tend to embody the paradigm just given, the latter tends to have a slightly different agenda. According to Dennett, folk psychology need not be completely eliminated and neuroscience may have limitations. However, he may be classified as an eliminativist due to his strong opinion that the folk conception of qualia (phenomenal states) does not exist. I will have more to say concerning eliminativism, Patricia Churchland, and Dennett later in this chapter.

Flanagan's final category is one that corresponds to his own work. For the

sake of completeness, and due to the fact that I tend to be quite sympathetic concerning this viewpoint, I will mention it briefly here. In contrast with the anticonstructive, new mysterian stance, Flanagan labels his viewpoint, *constructive naturalism*. Naturalism is taken as a true position. The concept of consciousness is also, in contrast with the eliminativist position, given its rightful place. Flanagan suggests that, even if the eliminativists are correct concerning the possible elimination of the term 'consciousness', the concept itself, is important, at least for the time being, in that it is a catalyst for investigation. Most importantly, contra-Dennett, phenomenal, subjective consciousness is taken as the fundamental explanandum. Qualia do exist and represent the most difficult problem in a complete understanding of consciousness. Thus, the mystery side of the debate is emphasized. Flanagan's view can be considered 'constructive' in that he believes that an understanding of consciousness will only manifest itself through interdisciplinary collaboration. Cognitive science, which brings together the results of neuroscience, linguistics, philosophy and other scientific areas, is, on his view, the key to a future understanding of the consciousness phenomenon.

Two other views need to be documented. These come from Ned Block who lists five perspectives on the explanatory gap (1994a). As the problem of consciousness just *is* the problem of qualia and the explanatory gap, these distinctions can be placed alongside Flanagan's categories. Three of Block's perspectives,

eliminativism, new mysterianism (taken directly from Flanagan), and conceptual insufficiency (principled agnosticism), overlap with Flanagan's categories and, as such, do not need to be documented here. However, the two remaining perspectives are of prime importance for they pertain to issues which I will discuss in subsequent chapters. Continuing the numerical succession that began with Flanagan's categories, these two positions, the insignificant gap view, and the a priori conceptual analysis view, represent numbers six and seven respectively in the list of categorical consciousness distinctions.

The sixth view suggests that the explanatory gap is rather insignificant in that the gap is similar to those prevalent in other scientific endeavors. Thus, while there may be some sort of explanatory problem which confronts a scientific understanding of consciousness, this difficulty is not unique: "...there is no singular explanatory gap, that is, there are no mysteries concerning the physical basis of consciousness that differ in kind from run of the mill unsolved scientific problems about the physical / functional basis of liquidity, inheritance, or computation (Block, 1994a, 211)." On this view a functional or physical reduction of consciousness will eventually close the gap. It is difficult to decide whether this position falls on the mystery or non-mystery side of the distinction mentioned earlier. If there is, indeed, an explanatory gap, then it would seem that consciousness is rather mysterious. However, the fact that the gap is not remarkable suggests that consciousness is *not* a mystery after all. In this sense,

consciousness is scientifically tractable.

Finally, (perspective seven) one may take what might be considered a deflationary position towards consciousness. The explanatory gap is unclosable because reductive explanation needs an a priori physical / functional analysis of the phenomenon in question and this cannot be done for consciousness. Proponents of this view include Chalmers, Levine, and Frank Jackson. Consciousness is very much a mystery here. In the case of 'life', for example, an analysis of the set of functions such as locomotion, respiration, metabolism and so forth, which lead to life would be all that is required for reductive explanation. These functions can in turn be functionally analysed themselves, resulting in a further 'lowering' of the reduction base. In this way, the a priori explanation of life lies in the explanation of these various functions. However, when it comes to a functional analysis of 'consciousness', a functional explanation is incomplete. The functions associated with qualia, as, for example, color classification, leave the following question unanswered: 'why do these functions contain a qualitative phenomenal component?' In contrast, an a priori functional analysis of 'life', for example, is complete in that a question of this sort does not come into play.

In chapter three, I will be criticizing this viewpoint. In brief, I will be arguing, along with Block and Robert Stalnaker, that a priori physical / functional analyses which purportedly ground micro-macrophysical entailments are fallacious. Micro-

macro entailments are only justified on a posteriori grounds and, as such, the closing of the explanatory gap does not require conceptual analysis. The failure of consciousness to be reductively explained (to logically supervene on the physical) does not amount to anything significant as reduction does not require a priori conceptual analyses in the first place. Considerable time will be spent on these issues later, so this is all I will say on this matter (concerning the nature of my objections) at the moment.

This last position fuels the distinction between what Chalmers deems the 'hard' and 'easy' problems of consciousness which was implicitly alluded to in my earlier discussion of Chalmers' notion of phenomenal versus psychological consciousness (1997). As one would guess, for Chalmers, the really hard problem of consciousness is phenomenal experience. This is contrasted with those problems of consciousness which seem to be explainable via the standard methods of cognitive science. The phenomena found under the easy rubric are all apparently scientifically tractable and seem to be characteristic of Rosenthal's 'creature consciousness' distinction. Some of these include, attention, discrimination, information integration, inner-state reportability, wakefulness, and behavioral control. As indicated above, the general notion of consciousness is relatively vague, and there is no doubt that these phenomena constitute part of the overall concept. What is it about these phenomena which makes them 'relatively easy' to understand via current scientific methodology?

What all of them have in common is a susceptibility to mechanistic and/or a priori functional explanation.[7] To specify what it is to be awake, for example, all one needs to do is explain the various mechanisms whose function(s) lead to an awake state. To be awake, according to Chalmers, requires nothing more than an a priori functional explanation (as materialism is committed to a priori analysis). Cognitive science and neurology seem to have the appropriate resources for a definite explanation of this and other phenomena constituting what Chalmers labels 'psychological consciousness'.

Phenomenal consciousness can be found on the opposite side of the hard / easy distinction. Qualitative states seem to possess certain properties which a scientific functional account cannot explain, or so it would seem. At any rate, it is prima facie hard to see how a functional account could explain consciousness. Exploring or specifying cognitive mechanisms may help in understanding

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A 'functional explanation' seeks a teleological account of the phenomenon to be explained. For example, in an analysis (not necessarily a priori) of the human heart's 'function', the following question comes into effect: what role (function) does this play in the preservation of the organism in question? For example, the heart 'functions' as a pump which continuously circulates blood to the organism's tissues and, thus, keeps the organism alive.

'Functionalism' meanwhile, as briefly indicated in the thesis introduction, is a theory of how mental states causally interact. Functionalists are concerned with the following sorts of (functional) questions concerning a particular mental state. What perceptual inputs cause this state? How does this state interact with others in its production? What behavioral output does this state cause and what other states are involved in this process? The hard / easy distinction is specifically concerned with a 'functional' explanation and, even more specifically, is concerned with 'a priori' functional explanation.

phenomenal experience. However, according to Chalmers, this knowledge will always be incomplete. The explanatory gap remains as wide open as ever. As mentioned above, functional explanation always leaves one important question unanswered: 'why are these functions accompanied by phenomenal experience?'

As indicated beforehand, in chapter three I argue that a priori physical / functional analysis (conceptual analysis) is not required for reductive explanation and, furthermore, that materialism is not committed to such an analysis. If the hard / easy distinction rests on an a priori physical / functional base, then I clearly disagree that this sort of 'problems' division has any validity. I do not agree that there is a hard problem of consciousness which rests on Chalmers' distinction. This is not to say that I do not think that there is a hard problem in general. If qualia are for real, which I believe they are, and if there exists some sort of explanatory gap, which I believe there is, then there is a problem of consciousness. However, as I will argue later, the closing of this gap has nothing to do with a priori conceptual analysis. If my arguments are correct, then Chalmers' hard / easy distinction has no bearing on these issues.

In conclusion, we can see that the distinction between mystery and non-mystery leads to some quite divergent viewpoints concerning the nature of consciousness. In general, it would seem that the mystery side of the debate has the

most proponents. Here we find the nonnaturalists, the principled agnostics, the new mysterians (on my reading), the constructive naturalists, and the a priori functional analysts (Chalmers, Jackson, and so on). Those who believe that there is a gap but that it is insignificant seem, for the reason canvassed above, to straddle both sides of the distinction. It would seem that the eliminativists (the Churchlands, Dennett, etc.) are heavily outnumbered. I will examine some of their views in the next section. For the time being, in conjunction with the majority of perspectives described above, it will suffice to simply note that on my view, consciousness is a mystery. I take it that an explanatory gap exists and until it is closed in some way, an explanatory problem will probably remain. In arguing against both eliminativism (section two of this chapter) and a priori analysis (chapter three), my own views are only implicitly accounted for. In defending qualia, the explanatory gap, and materialism, I am in a way assuming the verity of these respective notions. At the end of chapter three I will state my position in more detail.

Section Two: Qualia and Eliminativism

In this section, I want to take a closer look at what exactly is meant by the term 'qualia'. This notion can be seen as a synonym for a variety of terms and phrases such as 'phenomenal experience', 'subjective experience', 'what-it-is-like', 'what-it-feels-like', and, of course, 'consciousness'. Above, I indicated that when I speak of

consciousness, qualia and its related synonyms are generally what I have in mind. However, as with the overall concept of consciousness outlined in the previous section, there are a number of different senses in which the term can be used. Here, I will explore these various senses and see how they relate to two eliminativist objections concerning consciousness and qualia. The first objection, which is specifically aimed at the folk notion of consciousness (if there is one), comes from Patricia Churchland. She argues that the folk conception is too vague and unscientific to play a part in a maturing science of neurology. The notion of consciousness should, then, be eliminated and replaced with new and more appropriate concepts. The second objection comes from Dennett who argues that qualia do not exist at all. Because there are verificational uncertainties in determining when or whether phenomenal experience occurs, an accurate determination between a number of supposed phenomenological scenarios cannot take place. The notion of qualia must, then, be a misconception. I will examine a number of responses to these arguments. My own response will be brief. Both authors seemingly *do not* dispute the idea that there is some sort of subjective, phenomenal experience that occurs in perception. As such, I will argue that the sorts of objections that Churchland and Dennett have in mind, do not disqualify the type of qualia conception I favor.

Michael Tye, in his 'qualia' entry in the Stanford online encyclopedia, discusses two sorts of qualia conceptions (1997). The first notion has to do with what

he deems the 'broad' sense of qualia. On this interpretation, qualia simply are the 'what-it-feels-like' aspects which are intrinsic to phenomenal experience. As he suggests, the 'broad' sense of qualia is difficult to dismiss as phenomenal experience is something that humans are intimately aware of. In contrast, the 'narrow' sense of qualia posits that qualia are "intrinsic, consciously accessible features that are neither intentional nor intentionally determined and that are solely responsible for their phenomenal character (Tye, 1997, Section 1)." What it is exactly for a qualitative state to be non-intentional, Tye never fully describes. As I am mainly interested in the 'broad' sense of the term, I will leave this matter unresolved.

One can hold that qualia in the 'narrow' sense do not exist yet still adhere to the 'broad' notion. Thus, for example, the 'narrow' view holds that qualia are completely accessible to introspection. While this may or may not be true, one can simply dismiss this notion and yet still insist that qualia are the 'what-it-feels-like' character of mental states. Meanwhile, there are some philosophers who hold the 'broad' view but with some additional properties attached. Tye cites Dennett as an example of one who posits such a view. Dennett suggests that qualia in the 'broad' sense have the added properties of being transparent, ineffable, incorrigible, atomic and unanalyzable.[8] As in the 'narrow' sense one can dismiss these (secondary?)

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[8] As I indicated in the thesis introduction, the properties Dennett cites as belonging to qualia (or consciousness in general), represent, since the time of Descartes the orthodox, philosophical / scientific reading of consciousness. In this sense, both Churchland and

properties and simply maintain that qualia are the 'what-it-feels-like' qualities of experience: "One can agree that there are no qualia in the more restricted senses I have explained, and also agree that there are no ineffable or incorrigibly presented or non-physical qualities possessed by our mental states, while still endorsing qualia, in the broad sense (Tye, 1997, Section 1)." As outlined below, Flanagan, in regards to Dennett, suggests roughly the same argument.

In discussing qualitative 'feels' it is interesting to look at which mental states incorporate phenomenal elements. Much like the concept of consciousness, 'qualia' is understood in various senses and there are different views as to which mental states possess qualitative phenomenal components. Tye suggests that perceptual experiences, bodily sensations, 'felt' emotions, and 'felt' moods, are qualitative mental states. Perceptual experiences might include seeing red, hearing a guitar, tasting a cake, smelling a fragrance, and touching sandpaper. Bodily sensations might be feeling pain and feeling thirst. As for 'felt' emotions, anger and lust are examples of these sorts of mental states. 'Felt' moods might include feeling anxious and/or feeling depressed in general. 'Qualia' associated with sensory modalities constitute Flanagan's 'narrow' sense of the term and corresponds with Tye's 'broad' definition (1992). Accordingly, Flanagan's 'wide' sense goes further than Tye permits. The

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Dennett are arguing specifically against this notion. They seem to consider this view as the orthodox 'folk' conception. But is the folk notion equal to the philosophical / scientific notion? This is Flanagan's and Goldman's question (see below).

former suggests that beliefs, thoughts, desires and the propositional-attitudes all potentially have qualitative components. Together, Flanagan's 'narrow' and 'wide' sense of qualia come to constitute the full-range of conscious experience: "Together, the wide and narrow senses of qualia cover the same gamut that 'conscious experience' in the broad sense covers (1992, 67)." Now, while beliefs, thoughts, and the propositional-attitudes in general may have phenomenal aspects, this area is controversial. Thus, in an attempt to extract a notion that has wide acceptance, I will fall back on Tye's 'broad' sense and Flanagan's corresponding 'narrow' sense of qualia. It seems clear that sensory modalities have associated qualia and for present purposes, this is all I need.

Patricia Churchland in "Consciousness: The Transmutation of a Concept" argues that the common-sense notion of consciousness ought to be eliminated and replaced by a more refined, and subsequently, better scientifically 'abled' concept(s) (1983). This would seem to correspond to her and Paul Churchland's advocation of the elimination of the so-called propositional-attitudes (beliefs, desires, etc.).[9] Much as phlogiston and vital spirit in the history of science were eventually displaced and eliminated, Churchland believes consciousness will follow suit.

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The issue of propositional-attitude elimination is another matter and, in principle, seems more controversial than the consciousness situation encountered here. Accordingly, beliefs and desires, which find their expression through 'that' propositions, ought to be eliminated in favor of correspondingly more refined terminology. This issue does not bear on my discussion, so it will not be dealt with.

There seems to be two arguments here. One has to do with the concept of 'consciousness' acting as a theoretical construct while the other has to do with 'consciousness' considered as a natural-kind. The first argument suggests that if consciousness is accepted by ordinary folk as a sort of theoretical concept then certain supposed folk psychological 'laws' are assumed to be part of the concept. Because these purported 'laws' are false, then the phenomena that the concept of consciousness supposedly instantiates must not occur. In this regard, Churchland discusses neurological phenomena that are at odds with the folk view of consciousness. Thus, in attempting to refute the notion of the transparency of the mental, Churchland suggests that the phenomenon of blindsight and blindness denial totally undermine the transparency intuition. While blindsight suggests that there may be unconscious visual awareness, blindness denial suggests that one may believe that one is having a visual experience when, in fact, this is not the case. Churchland also attempts to refute the idea of the unity of consciousness by suggesting that commisurotomized patients ('split-brain') are sometimes consciously unaware that they have had certain experiences. Furthermore, the idea of the unity of the self may be discredited via an examination of somnambulism. If it is assumed that humans can control what they are conscious of (behavioral responses and actions) then nonconscious sleepwalking with correspondingly appropriate navigation through complex surroundings suggests otherwise. These examples purportedly illustrate that

the 'common-sense' folk intuitions which are embedded in the term 'consciousness' are fallacious. Thus, the concept of consciousness, itself, may be a misconstrued construct.

Churchland's second argument puts forth the idea that consciousness is not a natural-kind. Perhaps consciousness is not some sort of undivided phenomenon but is made up of a variety of group processes that can be deciphered and explained through multifarious neurological explanation:

> In our naivete, it seems now that conscious states are a single, unified, *natural kind* of brain state, but we should consider the possibility that the brain is fitted out with a battery of monitoring systems, with varying ranges of activity and with varying degrees of efficiency, where consciousness may be one amongst others, or where these systems cross-classify what we now think of as conscious states. States we now group together as conscious states may no more constitute a natural kind than does say, dirt or gems, or things-that-go-bump-in-the-night (Churchland, 1983, 92).

If consciousness is not a natural-kind as is supposed by the folk notion, then perhaps it should be eliminated as it designates a wrong-headed theoretical posit.

I want to examine two responses to these arguments. Both Alvin Goldman and Owen Flanagan suggest that Churchland's arguments do not represent a serious threat to the concept of consciousness. Both responses question Churchland's folk psychological conception of consciousness. While Goldman believes that more evidence is needed in order to validate the idea that the orthodox philosophical / scientific conception (consciousness is ineffable, incorrigible, transparent, and unanalyzable) just *is* the folk conception. Flanagan suggests that the orthodox

conception is outdated and, currently, because of ambiguity reasons, there is no folk notion available. Whatever the case, ultimately, Churchland's arguments do nothing to engage the issue of phenomenal consciousness and qualitative experience. In conjunction with Tye, I can argue that even if Churchland is successful in refuting the notions of the transparency of the mental, and the unity of the self, this does not mean that phenomenal consciousness does not exist. These notions can be seen as 'qualities' which are added to Tye's 'broad' definition and, as such, do not threaten the existence of phenomenal experience.

Goldman is the only author to really tackle the first argument head-on. He suggests that Churchland does not give ample evidence in support of the subclass of folk 'laws' she believes ordinary folk assume. Thus, do the folk believe that the self is an unanalyzable unity or that blindsighted patients are consciously aware of the 'missing' data that they are reporting? It would seem that the unity of the mind is a metaphysical idea held by philosophers such as Descartes. But can it be assumed that ordinary people hold it also? Where is the proof that ordinary people believe that these particular intuitions are conceptually embedded in the term? As Goldman notes: "...it remains questionable whether the cited requirements on consciousness are really imposed by ordinary folk. If not, then the ordinary concept of consciousness is not overthrown by the so-called "denormalizing" facts she adduces (1993, Section 2)." I assume that what Goldman has in mind is the folk psychological conception of

consciousness. Do ordinary folk beliefs match this folk psychological conception? This is unclear and, thus, Goldman seems correct in asking for more evidence.

Flanagan's response, meanwhile, has two parts, neither of which deals with the argument directly. First, he points out that for consciousness to go the way of phlogiston, that is, to be eliminated from current scientific vocabulary, the concept itself would have to be a theoretical construct 'owned' by the cognitive-science community. However, because consciousness is quite an ambiguous term (this is the second part of his response), it cannot be 'owned' in the same way that phlogiston was:

> ...if I am right that the concept of consciousness is simply not owned by any authoritative meaning-determining group in the way the concept of phlogiston was owned by the phlogiston theorists, then it will be harder to isolate any single canonical concept of consciousness that has recently come undone or is in the process of coming undone, and then that deserves the same rough treatment that the concept of phlogiston received (Flanagan, 1992, 24).

In a sense then, both authors are questioning Churchland's supposed folk conception of consciousness. In Goldman's case, he wonders if the orthodox philosophical / scientific view, which has it that consciousness is ineffable, incorrigible, and transparent, is really assumed by the ordinary folk. In Flanagan's case, he believes that this orthodox view is no longer held by the majority of philosophers. Instead the term is ambiguous in that there are a number of different meanings attached to it. If there isn't a particular or peculiar conception, and it certainly seems that there isn't as my ambiguity discussion in section one

demonstrates, then Churchland's argument is rather weak in that it does not cut across all the conceptual divisions.

Turning to Churchland's 'natural-kind' objection, both Goldman and Flanagan make essentially the same point. Even if one were to deny that consciousness (conceived of as in Churchland's sense or otherwise) is a natural-kind, this does not necessarily mean that consciousness does not exist. As Flanagan notes:

> One can deny that *x* is a natural kind without denying that *x* exists. Dirt, gems, and things that go bump in the night exist. They are even kinds of a sort. They simply are not *natural kinds*. They don't figure in any interesting or unified way in scientific explanation (1992, 22).

I would add that even if consciousness is not a natural-kind and does not eventually loom large in scientific explanation, as Flanagan suggests, there is still something in need of explanation and this is phenomenal consciousness.

As mentioned above, Goldman seems to assume that Churchland is discussing the orthodox philosophical / scientific view of consciousness. Flanagan, meanwhile, notes that Churchland's objection is aimed at what she considers to be the folk psychological concept of consciousness. As the term is ambiguous, Flanagan suggests that Churchland is only attacking a particular conception that is not necessarily the orthodox view held today. In conjunction with Tye's 'broad' definition of qualia, I choose to look at the situation here in the following way. If Churchland is, indeed, discussing the orthodox philosophical / scientific concept, as Goldman believes, then the properties she objects to, the transparency of the mental,

and, the unity of consciousness, can simply be seen as 'qualities' which are added to the 'broad' sense definition. Following Tye, I can dismiss these properties and still hold-on to the 'broad' sense as the 'what-it-feels-like' aspects of experience. In discussing Dennett below, my response will be much the same. In regards to Flanagan's response to Churchland, I can agree with him that there seems to be no necessary folk conception and, as such, Churchland's conception is outdated. In this sense, her objection has little argumentative value. I can simply follow the course I took concerning Goldman's objection and fall back on Tye's 'broad' sense definition of qualia (phenomenal consciousness). Either way, Churchland's argument does not threaten qualitative experience. Of course, some might object and insinuate that I am conflating the terms 'qualia' and 'phenomenal consciousness'. However, following Goldman, Tye, Flanagan, Chalmers, Jackson, Block and even Dennett, I am of the belief that the term 'qualia' and the phrase, 'phenomenal consciousness' are synonyms.

The arguments in Dennett's "Quining Qualia" paper focus on the indeterminancy of verification (1990).[10] In certain hypothetical cases, it is indeterminate when or whether phenomenal consciousness has actually occurred. Because of this indeterminancy, various competing hypotheses referring to the same

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The notion of 'quining' is Dennett's and it refers to the denial of something, a phenomenon or idea, which seems quite real or important.

hypothetical case may all be equally valid. Because it cannot be determined which particular qualia hypothesis is true, Dennett concludes that there are no real truths about qualia in the first place and that the notion, itself, may be a fiction. An example Dennett uses is of a Maxwell House coffee-taster whose tastes have altered during his employment years. It is suggested that it is indeterminate whether his taste qualia, judgmental standards, or memory have in some way been altered. As there is no way to tell what exactly has changed, from either the subject's point of view or from a third-person perspective, qualia have no real use in any sort of scientific framework. As such, they are fictional entities that are better off 'quined' (eliminated). This is Goldman's reading of Dennett and it can be contrasted with Block's understanding.

Block has it that in accordance with the example given above, only an expert, say a neurologist, would know with any certainty whether the coffee-taster's taste qualia, standards, or memory have changed (1994a). Verbal reports, based on phenomenal memories, from the subject, himself, are fallacious. From this fact, it can be concluded that the qualities of phenomenal experience are not transparent. The transparency of the mental is one of the many properties Dennett assigns to qualia. Others include incorrigibility and ineffability. Furthermore, Dennett considers qualia to be nonrelational and atomic (unitary). Here Dennett is equating qualia with the orthodox philosophical / scientific conception of consciousness. But if phenomenal conscious experiences are not transparent, that is, if they are open to doubt as to the

verity of their phenomenal content and, thus, not incorrigible, then the orthodox concept of qualia may be fictitious.

The corresponding responses by both authors apply to their own particular readings. Goldman's reply is to suggest that the argument is a 'non sequitur'. In other words, it does not follow, even if first-person and third-person authority are undermined, that there is no 'truth to the matter'. As he suggests, even if it is practically impossible to determine the toga ornaments that Julius Caesar wore at the time of his death, this does not mean that there is no fact of the matter, verificational indeterminancies aside. With regards to qualia, even if there are indeterminancies, this does not mean that there are no qualia. Concerning his own reading, Block suggests that phenomenally conscious memories ought not to be considered incorrigible. Even supposing, following Dennett, that qualia are transparent, the fact that memories are not incorrigible does not prove that present qualitative mental states (experienced in the here-and-now) are not transparent: "...no advocate of transparency of phenomenal consciousness ought to suppose that *memories* of conscious states are literally *incorrigible*. There are a variety of ways of understanding 'transparent' in which it plausibly applies to phenomenally conscious qualities of my states *when I am having those states*... (1994a, 212-213)." It follows that if one accepts Dennett's qualia properties, transparency, ineffability and the like, these qualities are not falsified by the Maxwell House argument.

Parallel to my response to Churchland's argument, at this point, regardless of the successes or failures of the above documented arguments, I can follow Tye and Flanagan's lead and argue that Dennett's argument does not threaten the 'broad' sense of qualia as documented by Tye nor the 'narrow' sense of qualia as documented by Flanagan. Recall that in Tye's 'broad' sense, qualia refers to the 'what-it-feels-like' or the 'what-it-is-like' aspects of phenomenal experience. As indicated earlier, Dennett is an example of a philosopher who suggests that there are properties, ineffability, incorrigibility, and so on, which are included in the 'broad' sense of qualia. But as Tye notes, one can agree that there are qualia in the 'broad' sense and yet, disagree as to the inclusion of these particular properties. Flanagan, meanwhile, suggests that qualia contain none of these properties. He endorses his 'wide' conception of qualia which suggests that perhaps even propositional-attitude states contain qualitative elements. I am not willing to go that far as it is a controversial subject and it is not important for the arguments presented in the present work. However, even if Flanagan is read as endorsing only his 'narrow' sense, which corresponds to Tye's 'broad' sense, the notion of qualia need not contain these properties:

> What Dennett is really after is a particular conception of qualia. It is by no means clear whether it is the orthodox or canonical concept. To be sure all the properties he lists have been ascribed by someone or other to qualia. But I can't think of one credible recent philosophical source that uses the term in a way that ascribes all or even most of the features he lists. Dennett's heart is in the right place, since he rightly resists the idea of atomic, ineffable,

> incorrigible qualia. But his characterization of qualia is contentious... (Flanagan 1992, 73).

In conclusion, while the Churchland and Dennett arguments may provide interesting objections to particular conceptions of qualia, they do not threaten the existence of the notion of phenomenal consciousness. One may find it rather perplexing as to why anyone would argue that this sort of experience doesn't occur. After all, as I already mentioned, it would seem that phenomenal consciousness (qualia) is the one thing that humans are most intimately aware of. It seems obvious that emotions, moods, and such, exist. Anger is a strong emotion that in its intensity can cloud thought and judgment. No doubt most human beings have felt 'what-it-is-like' to be so enraged that one 'cannot-think-straight'. Joy is another emotion that can be quite intense. The joy of completing a difficult project, perhaps a writing assignment, or the joy of executing a challenging task, perhaps the learning of a complex piece of music, are examples that seem to have universal applicability. Similarly, moods, such as feeling melancholic, or generally feeling happy, can be, no doubt, universally applied to all humans. All this suggests that it would seem rather perverse to deny that there is such a thing as phenomenal consciousness. But, as I have hopefully demonstrated, Churchland and Dennett are worried about the potential explanatory problems that the folk and orthodox conceptions of consciousness and qualia pose. And while a mature neuroscience may have no need

for these terms, this does not necessarily mean that the phenomena that these terms refer to do not exist. I don't believe that Churchland and Dennett are suggesting that phenomenal experience, moods, emotions, and the like, are a fiction. Rather, their arguments are concerned with methodology and how folk and orthodox conceptions might be connected to scientific endeavors. In this way, their arguments do not jeopardize the existence of a 'broad' conception of qualia (following Tye) which corresponds to the 'what-it-feels-like' aspects of conscious experiences. In the rest of this work, phenomenal consciousness (which I will refer to as simply consciousness) and qualia will be taken as a given.

Chapter Two

This chapter is mainly expository in character. Most of the material here is aimed at an elucidation of Chalmers' central thesis. In section one, the central argument is given. Briefly, Chalmers argues that materialism, as a theory, is false, in that it cannot account for phenomenal experience. Section two consists of an examination of a priori micro-macrophysical entailment. In section three, the various conceivability arguments against phenomenal reduction are presented and commented upon. In the last section (four), I examine some of the consequences which become manifest as a result of the endorsement of non-logical supervenience.

Section One: Chalmers' Central Claim

Here I will give a brief description of David Chalmers' central argument concerning consciousness and materialism.[1] In the subsequent sections of this chapter, I will attempt to accurately describe some of the arguments which lead to this claim. In schematic form, Chalmers' argument is as follows:

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Most of the views attributed to Chalmers can be found in his paper "Conceptual analysis and Reductive Explanation" and in his book *The Conscious Mind: In Search of a Fundamental Theory* (see References list). Chalmers notes that the former work will probably be, when completed, co-authored with Frank Jackson. Jackson has told me (personal correspondence) that he is working with Chalmers on a reply to Block and Stalnaker (whom I discuss in chapter three). I'm assuming that it is the above paper that he is referring to.

1. Materialism (physicalism) is committed to an a priori conceptual analysis of the macrophysical in microphysical terms.
2. Most, if not all, macrophysical facts are a priori entailed by the microphysical facts and, thus, can be reductively explained.
3. Phenomenal facts are not so entailed and, thus, cannot be reductively explained. (Consciousness is not logically supervenient on the physical.)

Therefore: Materialism is false.

Now, before I flesh out the above argument, I think it is best that some of the terminology involved be defined. The notions of 'conceptual analysis', 'reductive explanation (reduction)', and 'logical supervenience' need to be fully understood if one is to make sense of Chalmers' claim.

An attempt to explain or define what 'conceptual analysis' is may seem rather a trivial task. A 'conceptual analysis' is exactly what is implied by the words 'conceptual' and 'analyze'. A certain concept, for example, the natural-kind term 'water', is scrutinized (analyzed) for various reasons. Perhaps its extension is to be determined. Perhaps its relation to other concepts is what is desired and so on.[2]

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It should be noted that there were major debates in the 1950's concerning the nature of conceptual analysis. Rudolf Carnap, C.I. Lewis and others were interested in whether conceptual analysis involved the clarification, refinement, or 'sharpening' of existing

It is in both these senses, that Chalmers and Frank Jackson, believe that conceptual analysis is an indispensable tool in theory reduction and conceptual relations. Most importantly, conceptual analysis is an a priori exercise. Accordingly, a rational person who possesses the concept 'water' is in a position to a priori know that 'water = H2O'. Possessing the concept's extension provides an a priori deductive passage that has no important a posteriori element. In this way, the micro and macrophysical may be bridged: "...conceptual analysis is the very business of addressing when and whether a story told in one vocabulary is made true by one told in some allegedly more fundamental vocabulary (Jackson 1998, 28)."

There is also an intuitive side to conceptual analysis. In the attempt to link two concepts, or one concept to a number of others, possible cases (hypothetical epistemic possibilities) are imagined in an a priori fashion and then 'squared' with our intuitions about the actual world. Chisholm and Ayer's analysis of knowledge as true justified belief may be counted as a sort of conceptual analysis in that they evaluate accounts of knowledge against our intuitions concerning paradigm examples of knowledge or nonknowledge.

Conceptual analysis will be the main focus of chapter three so a thorough investigation is not needed at the moment. There I will be arguing that conceptual analysis has many problems of its own and, therefore, it is not appropriate for theory

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terms.

reduction. Conceptual analysis is today, in philosophical circles, not looked upon very favourably. Jackson believes that this is a result of misunderstanding and that many philosophers are really in fact "closet" conceptual analysts:

> Conceptual analysis is currently out of favor, especially in North America. This is partly through misunderstanding its nature. Properly understood, conceptual analysis is not a mysterious activity discredited by Quine that seeks after the a priori in some hard-to-understand sense. It is, rather, something familiar to everyone, philosophers and non-philosophers alike — or so I argue....if I am right about our need for it, conceptual analysis is very widely practised — though not under the name of conceptual analysis. There is a lot of 'closet' conceptual analysis going on (1998, vii).

Now, while Jackson may be correct in assuming that much conceptual analysis occurs in a different guise, I believe that anyone who practices it as he and Chalmers do (and David Lewis I might add), will encounter a number of difficulties which are insurmountable in nature. More on this in chapter three.

'Reductive explanation' is the notion that higher-level phenomena can, in principle, be reduced to, and ultimately explained through lower-level, more basic, entities: "In these cases, when we give an appropriate account of lower-level processes, an explanation of the higher-level phenomenon falls out (Chalmers 1996, 42)." An example may be found in the phenomenon of reproduction which may be reductively explained via genetic and cellular description(s). However, once a phenomenon has, in principle, been reduced, the higher-level properties may still be useful for explanatory purposes. As Jerry Fodor has argued, the reduction of folk psychological concepts (beliefs, emotions, and the like) to neurological ones may, of

course, be useful (1994).[3] But, psychological concepts need not become useless in the process. As humans, we need them to fully understand each other on a linguistic level.[4] Briefly turning to consciousness, if this phenomenon is a natural one, it should be, in principle, open to reductive explanation. That is, if consciousness arises from brain processes, it would seem that an explanation of these processes themselves should lead to an understanding of phenomenal experience. In this way, consciousness would be reduced to a neurological (lower-level) base. However, a reduction of this sort is hampered by explanatory problems (the 'explanatory gap').

Moving on to the notion of 'logical supervenience', I will elucidate the latter term, i.e., 'supervenience', before clarifying what the term 'logically' adds to supervenience. 'Supervenience' is the idea that certain higher-level properties are fully determined by certain lower-level properties. For example, it may be said that biological properties (higher-level) are fully determined by physical properties (lower-level). Thus, biological properties necessarily supervene on those that are physical. It is in this sense that consciousness, thought by many to be strictly biological (a product of brain chemistry) in origin may supervene on the physical.

'Logical supervenience', of which we are concerned, may be contrasted with

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[3] It is controversial as to whether folk psychology can be successfully reduced or not. As this point is not important in the context of the present discussion, I will not engage it.

[4] This is a different issue than the one discussed in the above footnote.

'natural supervenience'. While the former implies a conceptual connection between two sets of properties, the latter refers to a real empirical connection. Let me explain. Logical supervenience implies a dependence relation which suggests that it would be logically impossible for one set of properties to hold without, at the same time, another set of properties holding (which are entailed by the first): "In general, when B-properties supervene logically on A-properties, we can say that the A-facts *entail* the B-facts, where one fact entails another if it is logically impossible for the first to hold without the second (Chalmers 1996, 36)." In contrast, natural supervenience is a weaker sort of supervenience relation: "In general, B-properties supervene naturally on A-properties if any two *naturally possible* situations with the same A-properties have the same B-properties (Chalmers 1996, 36)." Thus, natural supervenience is restricted by the laws of nature of our world. A situation such as a science-fiction time-travel machine may be logically possible (it is conceptually coherent that such a machine could be built) but not naturally possible (*if* it violates the laws of nature).

Chalmers suggests that it seems highly possible that consciousness is naturally supervenient on physical properties. Any two identical creatures, in the natural world, will undoubtedly have the same qualitative experiences due to nomological restrictions. However, logical supervenience is another matter. It is logically possible that two physically identical creatures may have different conscious experiences, or, in fact, no conscious experiences at all. As Chalmers notes: "If this is so, then

conscious experience supervenes naturally but not logically on the physical. The necessary connection between physical structure and experience is ensured by the laws of nature, and not by any logical or conceptual force (1996, 38)."

If we now examine the argument schema given at the beginning of this section, we can see that the crucial premise is the third. Reduction and logical supervenience are closely related for if high-level properties logically supervene on low-level ones, they should, in principle, be reducible. Meanwhile, because logical supervenience is based on conceptual connections, this notion is naturally tied to a priori conceptual analysis. The third premise states that it is only the macrophysical phenomenal facts (consciousness) that are irreducible (the phenomenal is not logically supervenient on the physical) to the microphysical. Thus, they are not entailed by the microphysical facts. Because materialism is allegedly committed to an a priori conceptual analysis (entailment) of the macrophysical in microphysical terms, materialism must be false.

One must remember that Chalmers is still conceding to phenomenal experience a physical basis. Therefore, what the claim amounts to is as follows: due to the failure of consciousness to logically supervene on the physical (reductive failure), materialism, as it now stands, must be false. Consciousness may still be physical but, yet, unaccountable in the framework of present-day materialism: "Experience may *arise* from the physical, but it is not *entailed* by the physical

(Chalmers 1996, 18)." This anti-materialist position leads Chalmers to advocate a view of consciousness where experience is considered a fundamental feature of the world alongside space-time and the like. He suggests that the ontology of present-day materialism must be expanded to include this "new" feature.

A number of questions may be posited at this point. Is materialism really committed to a priori conceptual analysis? If so, then does the failure of the phenomenal to logically supervene and ultimately be reduced necessarily falsify materialism? Perhaps there may be another way around this problem. If not, then if consciousness is irreducible for other reasons than non-logical supervenience, does this entail the falsity of materialism? I will have more to say about the contents of these questions in the third chapter.

Section Two: Micro to Macro Entailment

In this section, I will try to accurately describe Chalmers' (and Jackson's) a priori entailment thesis. They believe that once certain conditions are laid out (and "loopholes closed") an a priori entailment from the micro facts (M1) to the macro facts (M2) will be implied: M1->M2. Here I will not adjudicate this issue but simply state the argument.

Chalmers believes that 'all' the macrophysical truths of the world are implied

(a priori entailment as implication) by the following conditional: 'PQTI -> M' where 'P' = all the microphysical truths as captured by a completed physics; 'Q' = all the phenomenal truths that a subject experiences; 'T' = a "that's-all" assertion to rule out negative facts; 'I' = indexical information which locates a subject and time; and 'M' = a particular macroscopic truth (or macroscopic truths in general). I wish now to more closely examine these assertions and how they interact in the formation of the relevant conditional.

The information in 'P' comprises all the microphysical truths of a completed physics. Within 'P' we find information which pertains to the structure, dynamics, distribution, etc., of the microscopic entities which populate the microphysical world: "Microphysical truths are truths about the fundamental entities of a physics, in the language of a completed physics (Chalmers 2000, Section 2)." Accordingly, the fundamental laws which these entities adhere to will also be included: "...P will likely include or imply truths about the distribution of fundamental entities (perhaps particles, waves, and/or fields) in space-time, truths about their fundamental properties, and truths about the fundamental laws that govern them (Chalmers 2000, Section 2)."

Macroscopic truths such as 'water = H2O' are, thus, implied by 'P', 'P -> M'. However, a problem arises when this asserted conditional is examined in conjunction with possible scenarios which need to be ruled-out. Nonphysical entities, such as

ghosts or angels, whether they exist or not, pose a problem for they are not implied by 'P'. In consequence, 'P' needs to be 'constrained' in a way that rules out any nonphysical phenomena. Chalmers suggests that a 'that's-all' assertion 'T' be conjoined with 'P'.[5] 'P + T' together imply, in possible world semantics, that our world is a minimal world satisfying 'P'. Negative existentials which state that "there are no ghosts" are now implied by 'P + T'. Our initial conditional 'P -> M' now has an extra ingredient and, therefore, becomes 'PT -> M'.

Before continuing with an examination of what is implied by 'Q', which is of prime importance for it deals with phenomenal truths, 'I' needs to be briefly dealt with. Indexical truths such as "water is composed of H2O" pose a problem for our conditional in that if there is a planet where water is XYZ, the information in 'PT' will not sufficiently enable us to decide if we inhabit the H2O planet or the XYZ planet (this is Chalmers' example). 'PT' would be incomplete. Jackson refers to this as the location problem.

Chalmers suggests that the addition of 'I', indexical information, to 'PT' will solve this problem. 'I' serves to indexically (spatially and temporally) locate the observer in the relevant physical field: "I can be thought of as a "you are here" marker added to the objective map given by PT. I can consist of the conjunction of

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Jackson labels such a constraining device a 'stop clause', while Block and Stalnaker refer to it as a 'nothing but' conditional. I take it that all such expressions are synonymous.

any two claims "I am A" and "now is B", where A is an identifying description of myself (or the subject in question) and B is an identifying description of the current time (Chalmers 2000, Section 2)." With 'I' conjoined to 'PT', the relevant conditional now becomes 'PTI -> M'.

Phenomenal truths, 'Q', are a special case, for we know from the beginning of this chapter that Chalmers believes that the phenomenal cannot be reduced to the physical. However, he does allow certain phenomenal truths a place in the conditional and so it is best to view 'Q' as an assertion that states all the phenomenal facts, modulo the facts of consciousness. The question then is what do these peculiar phenomenal truths consist of? The answer to this query can be found in the following:

> ...knowing whether an object is red arguably requires knowing whether it is the sort of object that causes a certain sort of color experience, and knowing whether an object is hot arguably requires knowing whether it is the sort of object that causes experiences of heat. If so, then if truths about color experiences and heat experiences are not implied by PTI, truths about color and heat are not implied either (Chalmers 2000, Section 2).

This would be an unacceptable result, for 'PTI' must include, if it is to be objectively successful, some truths about color, heat and phenomenal information in general. Thus, the information in 'Q' will include truths such as what phenomenal properties and states particular subjects experience and any nomological principles that lead to their instantiations. Some phenomenal truths, those objectively accessible to science, will, in principle, be reductive in character. In this way, Chalmers has filtered the

objective aspects of 'Q' away from those that have any subjective character. Finally, the conditional becomes, with the addition of 'Q', 'PQTI -> M'. Yet, there are a few small qualifications to be made. 'T' must now designate a world 'PQ' while 'I' is indexed again to include the relevant physical information along with the pertinent information 'Q'.

At this point, this is all that I have to say concerning this conditional and what it implies. In chapter three, I will argue that 'PQTI -> M' cannot succeed because it cannot be justified on a priori grounds.[6]

Section Three: Arguments against Phenomenal Reductive Explanation

In chapter three of his book, Chalmers suggests that if one is to argue against a reductive explanation of consciousness, one must show how phenomenal experience fails to logically supervene on the physical (and is, therefore, not a priori entailed by the microphysical facts). He presents five arguments to this effect: 1) the logical possibility of zombies (a version of the absent qualia argument); 2) the inverted spectrum; 3) from epistemic asymmetry; 4) the knowledge argument; 5)

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'PQTI -> M' is a general statement suggesting that 'all' macroscopic truths are entailed by microphysical truths. In the next chapter, for argumentative reasons, I will, be examining specific conditionals as, for example, 'H2O -> water'. It is important the reader understand that when I discuss the relevancy of the 'H2O -> water' conditional, I am, at the same time, discussing the relevancy of the conditional 'PQTI -> M'.

from the absence of analysis. Chalmers suggests that there are a variety of ways that one can go about arguing against the logical supervenience of consciousness. First, one may try and conceive of a logically possible situation where the physical facts remain constant but experience does not. The first two arguments follow this strategy. Secondly, one may wish to invite an epistemological reading and argue that an appropriate link between knowledge of physical facts and knowledge of consciousness cannot be found. Chalmers' third and fourth arguments utilize this method. Finally, one may wish to carry out a conceptual analysis of the very concept of consciousness itself. In doing so, one might argue that: "...there is no analysis of the concept that would ground an entailment from the physical to the phenomenal (Chalmers 1996, 94)." The last argument that Chalmers presents is in line with this approach. It must be stated that all the arguments have one thing in common in that they are all conceivability arguments. Most importantly, they all rest on Chalmers' assumption that reductive explanation requires conceptual analysis. Before commenting on the arguments themselves, I will briefly present them.

Argument One: The Logical Possibility of Zombies

This argument is straightforward. It is a *conceptually coherent possibility* that a physically identical replica of myself could exist without consciousness (a zombie). If this scenario is, in fact, conceivable, then it is clear that phenomenal experience is

not open to an a priori physical / functional explanation. The phenomenal is not a priori entailed as it is conceivable that my physical / functional duplicate lacks experience. One must note that the emphasis here is on the conceptual possibility and not the notion of whether they (zombies) do exist. As Chalmers states: "The mere intelligibility of the notion is enough to establish the conclusion (that the idea of a zombie is conceptually coherent) (1996, 96)." If this argument is correct, then consciousness does not logically supervene on the physical and is, therefore, irreducible.

Argument Two: The Inverted Spectrum

One is to imagine a physically identical world where color conscious experiences are inverted. My 'blue' experiences will be experienced by my twin as 'red' and like inversions will be manifest across the color spectrum. What does this demonstrate? The fact that such a spectrum inversion is *logically* possible shows that consciousness does not logically supervene on the physical. While the physical facts have remained constant across these two worlds, the experiential facts have differed and consciousness cannot then be reduced.

Argument Three: From Epistemic Asymmetry

Chalmers notes that: "...there is an *epistemic asymmetry* in our knowledge of

consciousness that is not present in our knowledge of other phenomena (1996. 102)." He suggests that the physical facts do not and cannot lead us to knowledge that humans are conscious creatures. However, from our own first-person perspective, we know that we are conscious. Our knowledge of the phenomenal is, thus, epistemically asymmetrical to our knowledge of other phenomena in the world. Let me explain. By examining cloud formations, meteorologists can fairly well predict when precipitation will occur. Likewise, an examination of the human body's internal organs can or will reveal if there are problems therein. All scientists need to look at is the physical phenomena. On the other hand, an examination of the brain does not reveal (at least at the present stage of neurological investigation) the fact that subjective consciousness is, somehow, seated within. Here, viewing the physical material is not adequate or sufficient for a confirmation of experience. If the physical facts do not lead us to knowledge of phenomenal experience a reduction of the phenomenal to the physical would be difficult indeed.

Argument Four: The Knowledge Argument

Neuroscientist Mary, who has grown-up in a black-and-white environment, and who is knowledgeable as to how color experiences affect the brain, is introduced to a color environment and subsequently has a color experience for the first time. It would seem that Mary's previous color knowledge was incomplete for she now

knows 'what-it-is-like' to have a phenomenal color experience. What is suggested here is that the facts about subjective color experiences are not entailed by the physical facts. Consciousness fails to logically supervene on the physical and is, it would seem, irreducible. If the phenomenal cannot be reduced to a physical base then it may not be entailed by the microphysical. Jackson intended this version of the knowledge argument to be anti-materialist in nature.

Argument Five: From the Absence of Analysis

Chalmers suggests that no analysis of consciousness will enable humans to understand how phenomenal experience is entailed by the physical facts alone. He further suggests that: "...the only analysis of consciousness that seems even remotely tenable for these purposes is a functional analysis (Chalmers 1996, 104)." But even this fails. To deem a state conscious simply because it is verbally reportable, or is the type of state that leads to awareness is *not* to describe consciousness. What we need are phenomenal feels and, according to Chalmers, functional ideas will not help: "To analyze consciousness in terms of some fundamental notion is either to change the subject or to define the problem away (1996, 105)."

These arguments, taken together, seem compelling. It would appear that consciousness cannot logically supervene on the physical and reduction is an

impossibility. However, if the arguments are considered individually, these conclusions may be unwarranted. It is not clear that every argument above leads to the failure of logical supervenience. I want now to examine these arguments. I will begin with number five (the absence of analysis) and, moving backwards, will end with number one (the logical possibility of zombies).

Immediately, it is clear that if materialism *is* committed to a conceptual analysis of consciousness, then the failure to present one in physical terms or otherwise is an important problem. The notion that materialism is, in fact, committed to such an analysis will be the topic of the last chapter, so, for the time being, accepting this claim as a given sets serious constraints on any sort of objection(s) to Chalmers' argument. Perhaps all one can do at this point is raise the question that if it is, indeed, true that a physical or functional analysis (conceptual analysis) of consciousness is insufficient for a complete understanding of phenomenal experience, then does accepting this claim necessarily warrant an anti-materialist conclusion? Perhaps this conceptual gap will be filled-in in the future. For now, ontological leaps, such as the one Chalmers makes, should perhaps be avoided.

The knowledge argument implies that complete knowledge of physical facts does not necessarily lead to knowledge of experiential facts. There are a number of replies scattered throughout the philosophical literature. In what follows, I will briefly sketch some replies and then consider their relevance with regard to

Chalmers' belief that consciousness cannot logically supervene on the physical, and, in consequence, the former cannot be reductively explained.

Both Laurence Nemirov and David Lewis suggest that the only "knowledge" Mary gains is an ability to recognize and imagine the appropriate phenomenal properties which are manifest in particular color experiences. What Mary gains then is a 'know-how' ability — she now possesses the practical ability to recognize and imagine the phenomenal properties associated with color experiences. She does not gain any new factual information for she already possesses all the facts in question. Thus, the physicalist story is left intact, the phenomenal may be reducible, and materialism is not threatened.[7]

Another response, put forth by Churchland, Tye, and others, suggests that Mary comes to know in a new way, facts and propositions that she already was knowledgeable of. There may be various ways to gain epistemic access to the same fact and, thus, one might say that Mary enters a new epistemic state when she experiences a color sensation. She possessed all the relevant facts beforehand, so the knowledge she gains does not threaten materialist theory.

Lycan, Loar, and Van Gulick suggest yet another response which is similar in style to the one just outlined above. What Mary acquires is a new phenomenal

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All the counter (knowledge) argument summaries that I present here are taken from Van Gulik (1997).

concept which points out relevant physical or functional concepts she already possesses. Hence, Mary acquires a new way of knowing an old fact. This would seem to stave off any anti-materialist threat.

I am not going to gauge in detail the success of these various counter-arguments as that would be beyond the scope of this work. However, the problem with these responses is that while they may or may not be successful in countering the anti-materialist conclusion of the knowledge argument, they do not seem to close the explanatory gap which exists between the phenomenal and the physical. If a gap still exists, it is possible to argue against the reducibility of the experiential and, as a consequence, Chalmers' argument given at the beginning of this chapter still holds.

I now turn to the argument from epistemic asymmetry. Chalmers claims that our knowledge of consciousness is different (epistemically asymmetrical) from our knowledge of other scientific areas. Because of this, the physical does not entail the phenomenal and consciousness is not logically supervenient on the former. Taken simply as an argument against materialism, one might argue that the notion of epistemic asymmetry does not represent a grave threat. It could be argued that the ontological conclusion is based on epistemic premises. While it may be true epistemically that our knowledge of experience is different than our knowledge of other scientific domains, it does not follow that materialism is, therefore, false. In assuming so, one is overstepping the boundaries of the argument and leaping to an

unjustified conclusion. It would seem that another argument would be needed to go from epistemic considerations to metaphysical conclusions. In a way, it could be concluded that this argument is not fatal for, or is at least compatible with, materialism.

However, as an anti-reductive objection, the argument from epistemic asymmetry is successful. If the physical does not entail the phenomenal, a reduction surely cannot take place. And it is this latter conclusion that is relevant in Chalmers' central argument. If reduction fails, then the phenomenal cannot logically supervene on the physical and, thus, materialism is false. Epistemic asymmetry implies a difference in knowing and this seems to be exactly how it is with our knowledge of consciousness (as compared to most scientific knowledge). Not granting the argument a metaphysical conclusion (as I did in the last paragraph) does not reverse the fact that there does seem to be some sort of epistemic asymmetry in the vicinity which leads to problems for materialist theory.

In looking at the inverted spectrum argument, I could argue much as I did in my objection to epistemic asymmetry. The inverted spectrum might not represent a menace to materialist doctrine. Recall that this argument puts forth the idea that it is conceivable that two functionally identical persons (e.g., myself and my twin) may have inverted color experiences and yet, this would be undetectable behaviorally. Because of functional and, therefore, physical identity, this would suggest that

experience is something that materialism cannot account for. This is one way that Chalmers' argument could be read. However, it can be argued that the inverted spectrum represents only an attack on functionalism and leaves materialism untouched. If two functionally identical people possess inverted qualia while inhabiting the same functional state, materialism may still stand. Perhaps various qualia can be realized by the same functional state or perhaps a particular quale may be multiply realizable. If this is the case, the argument may very well spell problems for functionalism but not necessarily for physicalism. The above may well be true, but if the argument is one of anti-physical entailment, then surely reduction cannot take place. If the phenomenal cannot be reduced and, therefore, does not logically supervene, then Chalmers' anti-materialist argument can still come into effect.

In considering the zombie argument, at this point, I am, contrary to the procedure I have been following above (excluding the argument from analysis), not going to be offering any objections. The main reason for this is that, in taking the argument at face value — that is, if one accepts the premise that zombies can logically exist — I have yet to come across, or come up with, an argument against it that is defensible. Thus, I will wait until chapter three to see if any of my counter-a priori entailment arguments help in discrediting Chalmers' zombie argument. For the time being, it must be concluded that if a zombie can exist and this indicates that consciousness is not open to an a priori physical / functional analysis, then there is

no micro-macro entailment, reductive explanation of the phenomenal fails (consciousness does not logically supervene on the physical), and, hence, materialism is false.

It should be noted that other arguments, similar to Chalmers' zombie argument exist in the literature. John Searle's conscious robot argument is an example (1992). Searle suggests that it is logically possible to conceive of the building of two functionally identical robots, one conscious and the other not. He suggests that if the robots in question are functionally identical, then, regardless of their conscious or non-conscious states, their behavior will be identical as well: "We could have *identical behavior* in two different systems, one of which is conscious and the other totally unconscious (Searle, 1992, 496)." The content of the argument must be qualified for Searle is not arguing against materialism per se. Rather, he is suggesting that attempts to objectify consciousness based on behavioral analyses are doomed to failure for behavior, itself, is insufficient for third-person objective knowledge. While it is true that Searle believes that there is, indeed, some sort of explanatory gap between the physical and the phenomenal, he is not suggesting, like Chalmers, that consciousness must be something above and beyond what materialist theory stipulates. Chalmers also argues that behavioral analyses are not enough but goes further in arguing that the logical conceivability of zombies has profound consequences for materialist theory. Of course, the suggestion that consciousness is

somehow independent of behavior has its own ramifications. the most detrimental being, I believe, the idea that consciousness is somehow epiphenomenal and irrelevant when it comes to human action. This is one of the consequences of Chalmers' position and to this I now turn.

Section Four: Some Consequences

In this last section, I will briefly examine two consequences that may manifest themselves if one espouses Chalmers' idea of the non-logical supervenience of consciousness. While the first consequence, epiphenomenalism, seems to follow directly from consciousness being causally closed to the physical world, the second consequence, panpsychism, is a result of Chalmers' idea that consciousness should be considered a fundamental property of the world alongside space-time and the like. I believe both views are highly problematic in that, a priori, they seem counterintuitive, plain false, or unknowable. Chalmers attempts to dismiss any counterintuitive 'feels', but I believe he is ultimately unsuccessful.

Epiphenomenalism

This is simply the notion that phenomenal experience does not play a part in human choice and action. Chalmers' viewpoint leads to epiphenomenalism in that if consciousness is not logically supervenient on the physical, then for any particular

mental event, a physical explanation can always be given. If it is accepted that the physical world is, in principle, causally closed, then a nonphysical consciousness, or consciousness that simply naturally supervenes on the physical is, somehow, independent from the causal realm:

> If we assume that the physical world is causally closed and that consciousness causes some physical events, then it follows under certain natural assumptions about causation that consciousness must supervene logically (or metaphysically) on the physical. If so, then given that the physical world is causally closed, the mere natural supervenience of consciousness implies that consciousness is epiphenomenal (Chalmers 1996, 150).

The idea that consciousness might be epiphenomenal is extremely counterintuitive. The suggestion that a particular pain does not lead to some sort of behavioral action (e.g. wincing from the pain of stepping on a tack etc.,) seems a misguided notion. If one assumes that certain causal theories are true, then the idea of epiphenomenal experience seems quite absurd. Absent a causal theory of memory, we would not remember any of our past thoughts. Absent a causal theory of reasoning, none of our reasoning would have any effect on our decisions.

But, of course, counterintuitive reflections cannot be equated with a full-blown argument. As Chalmers notes in this regard:

> The most common objection to epiphenomenalism is simply that it is counterintuitive or even "repugnant". Finding a conclusion counterintuitive or repugnant is not *sufficient* reason to reject the conclusion, however, especially if it is the conclusion of a strong argument. Epiphenomenalism may be counterintuitive, but it is not *obviously* false... (1996, 159).

In other words, even though one might be tempted to argue against Chalmers' non-logical supervenience claim because it leads to epiphenomenalism, one should not be tempted to do so because of this particular consequence. Now, this may be so, but it does lead to suspicion which cannot entirely be stifled.[8]

Panpsychism

This is the view that all physical things or objects in the world possess varying degrees of consciousness. Those who espouse this view believe that phenomenal experience may be a widespread phenomenon which manifests itself in matter, again in varying degrees, according to some sort of complexity scale. Chalmers, who finds the idea intriguing but never officially endorses it, suggests that if consciousness is to be taken as a fundamental property of the universe, then perhaps it is an all-pervasive feature which inhabits all material:

> ...if experience is truly a fundamental property, it seems natural for it to be widespread. Certainly all the other fundamental properties that we know about occur even in simple systems, and throughout the universe. It would be odd for a fundamental property to be instantiated for the first time only relatively late

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To be fair, Chalmers discusses a number of strategies that might be adopted in order to preserve the non-logical supervenience of consciousness and, at the same time, avoid epiphenomenalism. (See pages 150-160 in *The Conscious Mind* for more information). While he believes that these strategies ultimately fail and, therefore he is forced to accept some form of epiphenomenalism, he also feels that phenomenal epiphenomenalism is a tricky issue. He believes that until a reliable theory of causation and experience is detailed, the fact that his views lead to experiential causal inefficacy should not be regarded as a serious problem.

> in the history of the universe, and even then only in occasionally complex systems (1996, 297).

Of course, if experience is so ubiquitous, one would expect to find it in even simple concrete objects such as rocks and pieces of earth. Thus, there would be an experiential hierarchy moving from humans, down through the animal and cellular kingdoms, and eventually reaching a low point in inanimate objects.

Does panpsychism seem counterintuitive? Perhaps counterintuitive is the wrong word to use here. Perhaps 'hard-to-imagine' might be a more appropriate phrase. How can evidence be gathered to confirm the existence of consciousness in inanimate objects? Would we even recognize evidence of conscious properties if we looked? Even though, as mentioned above, Chalmers doesn't officially endorse the idea of the ubiquitousness of phenomenal experience, he does suggest that it should not be considered as false from the outset: "This idea is often regarded as outrageous or even crazy. But I think it deserves a close examination. It is not *obvious* to me that the idea is misguided, and in some ways it has a certain appeal (1996, 295)." Whatever the case, if panpsychism is the type of idea that Chalmers' views lead to, then I believe that his initial ideas deserve very close scrutiny. It seems to all come down to the idea of logical supervenience, the irreducibility of the phenomenal and whether this entails the falsity of materialism (if materialism is committed to a conceptual analysis). This will be the focus of the next chapter.

Chapter Three

In this chapter I argue that materialism is not committed to a priori conceptual analysis. Therefore, the failure of consciousness to be reductively explained has no profound metaphysical consequences for materialist theory. In section one, I expound Block and Stalnaker's objection to micro-macro entailment. They suggest that explicit descriptions would be needed to ground such entailments and this exercise would be a posteriori in nature. In section two, I examine Chalmers' notion that non-explicit analyses are adequate in a priori justifying the entailments. In section three, I argue that non-explicit analysis will not ground the relevant micro-macro entailments as this can only be accomplished in an a posteriori fashion. Thus, either way, explicit or non-explicit, a priori entailments cannot be located. Section four is an examination of Chalmers' response to Block and Stalnaker. Here I defend the latters' arguments in conjunction with my own argument as put forth in section three. Finally, in section five, I examine what all this implies for consciousness and materialist theory.

Section One: Block and Stalnaker on A Priori Conceptual Entailment

In this section, I will outline Ned Block and Robert Stalnaker's objection to micro-macro a priori entailment. In their paper, "Conceptual Analysis, Dualism and the Explanatory Gap", they argue that such entailments cannot occur for a number of

reasons: 1) historically and hypothetically, explanatory gaps in science have been successfully closed without recourse to conceptual analysis; 2) methodological simplicity considerations play a part in micro-macro identification; 3) "approximate" conceptual analyses do not contain enough information to appropriately link micro-macro concepts (Block and Stalnaker, 1998). These arguments purportedly demonstrate that a priori considerations are insufficient in justifying micro-macro conceptual entailments. Block and Stalnaker believe that justification must come on a posteriori grounds and reduction is a process of micro-macro empirical identification. The upshot is that physicalism is *not* committed to a priori entailments and, therefore, the irreducibility of the phenomenal (whether true or not) does not lead to the falsity of materialism. Anti-reductionist arguments then, such as Chalmers' zombie case, are not a threat to materialism. While this argument in particular may be logically possible, its conclusion does not lead to the profound consequences that Chalmers envisions. I will now state Block and Stalnaker's arguments in more detail.

1.1. The conceptual analysis thesis

Block and Stalnaker are interested in the relation between two claims. First, there is the claim that there exists an 'explanatory gap' which is found between the physical and the phenomenal. Second, there is the claim, put forth by Chalmers and

Jackson (and to a lesser extent by Joseph Levine[1]) that consciousness should be analyzable in functional or physical terms. The fact that consciousness resists such a conceptual analysis is proof that it is not a priori entailed by the physical.

Concerning the relationship between these two claims, Block and Stalnaker are interested in the idea that the explanatory gap can *never* be closed due to the lack of a conceptual analysis entailing the phenomenal and the physical. Here they are following Chalmers' argument in suggesting that reduction requires a priori conceptual analysis. They label this position the "conceptual analysis thesis" and they attribute it to Chalmers and Jackson. Block and Stalnaker's paper is an attempt to refute this stance.

1.2 Closing explanatory gaps

Block and Stalnaker attempt to counter the conceptual analysis thesis by considering how an explanatory gap might be closed without recourse to a priori conceptual entailment. They examine the concept of life and conclude that an analysis of the concept in physical or functional terms aids explanation very little. Life may be conceptually analyzable as fulfilling a certain set of functions such as

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While Levine believes in the existence of an explanatory gap (indeed, he originally coined the phrase), he does not necessarily believe that it warrants metaphysical conclusions concerning the nature of materialist theory. Much like Nagel, he views the problem as essentially one of epistemological concern.

reproduction, locomotion, respiration and so on. The problem is that these functions are themselves macrophysical terms and, as such, do not entail any micro-macro connections. Furthermore, Block and Stalnaker doubt that functional fulfillment is conceptually adequate for life. An elaborate machine could be built in accordance with the life functions outlined above. Would this machine then be alive in the relevant scientific sense? It is highly doubtful:

> A moving van locomotes, processes fuel and oxygen and excretes waste gases. If one adds a miniaturized moving van factory in the rear, it reproduces. Add a TV camera, a computer and a sophisticated self-guiding computer program, and the whole system could be made to have more sophistication, on many measures, than lots of living creatures (Block and Stalnaker 1998, Section 4).

Moreover, can these functions really be considered a priori? What if scientists in the future discover evidence that discredits a particular function? It is clear that until all the evidence is in (whether or not this is actually possible), the functions in question should not be considered a priori.

Block and Stalnaker suggest that the closing of the explanatory gap in the case of life (life was thought to be somehow connected with a mysterious 'life-force') was bridged by a posteriori means. Scientists examined how simple living things worked and attempted to apply these simple properties to other creatures: "Closing the explanatory gap in the case of life has nothing to do with any analytic definition of "life", but rather is a matter of showing how living things around here work (Block and Stalnaker 1998, Section 4)." Thus, Block and Stalnaker do not see a need for a

priori micro-macro 'gap closing' entailments.

1.3 Methodological simplicity

Simplicity here refers to the type of methodological considerations adopted in cases of scientific uncertainty. For example, 'inference to the best possible explanation' is a case of methodological simplicity. Block and Stalnaker discuss how simplicity plays a role in identity claim decisions. If we examined why water boils the following identities would probably play a part in the explanation: 'heat = molecular kinetic energy'; 'pressure = molecular momentum transfer'; 'boiling = a certain kind of molecular motion'. Presuming that these assertions are identity claims rather than merely correlated phenomena helps simplify matters: "Assuming that heat = mke, that pressure = molecular momentum transfer, etc., allows us to explain facts that we could not otherwise explain. Thus we are justified by the principle of inference to the best possible explanation in inferring that these identities are true (Block and Stalnaker 1998, Section 6)." Simplicity considerations are governed by a posteriori methods. Thus, in conjunction with the above example, empirical facts lead scientists to conclude that the identities are true. It is hard to see how the phenomenon of boiling could be justified or explained on a priori grounds.

IV. Approximate conceptual analyses

Block and Stalnaker suggest that any sort of 'approximate' conceptual analysis will not support a priori entailment. What they are suggesting here is that only explicit conceptual analyses (explicit descriptions) *would* seem likely to include an a priori element.[2] However, as they have attempted to argue, such explicit analyses would often fail and are unlikely to be had. Without complete micro-macro definitions, conceptual analysis doesn't stand a chance. This point is important for I will be later arguing that Block and Stalnaker are correct in this assumption:

> Jackson emphasizes that there is an element of stipulation involved in the a priori entailment from physics of everything outside of consciousness. In discussing the example of the entailment of the facts of solidity from physics, he says "That's what it takes, according to our concept, to be solid. Or at least it is near enough."... Near enough for what? His answer is: near enough for practical purposes. "For our day to day traffic with objects, it is the mutual exclusion that matters [as opposed to being everywhere dense], and accordingly it is entirely reasonable to rule that mutual exclusion is enough for solidity."
>
> But it can hardly be assumed that what matters for practical purposes is a priori. What matters for practical purposes depends on the facts of psychology and economics (for example)....Introducing such a notion of approximation does not seem a promising way to avoid the problem we have been raising for the a priori entailment from physics to everything outside of consciousness (Block and Stalnaker 1998, Section 8).

Jackson's admission that there is an element of stipulation involved in a priori

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If the term(s) in the consequent of a conditional is/are definable using the terms in the antecedent, then the conditional is trivially a priori. The consequent term(s) is, thus, explicitly defined. An example might be: 'A hard, igneous rock that architects use quite often -> granite'. Block and Stalnaker argue that explicit trivially a priori analyses cannot be located as physics is incomplete. Thus, while the above conditional may be trivially a priori true, its justification is an a posteriori matter.

analysis is highly relevant. If explicit definitional analyses cannot be performed, then one must stipulate that the analysis in question is correct anyhow. Both Chalmers and Jackson understand at this time that there are no explicit micro-to-macro analyses available and, thus, they must accentuate the role of incomplete, implicit analyses. Approximation is one way to do this. However, Block and Stalnaker believe that partial or incomplete analyses do not work. At the same time, they also believe explicit analyses fail. I will be coming back to this argument later in this chapter. To a partial examination of Chalmers' rebuttal I now turn.[3]

Section Two: Non-Explicit A Priori Definitional Analysis

The primary issue which is prevalent in Chalmers' response to Block and Stalnaker is that the latter philosophers are mistaken about what exactly a priori conceptual analysis entails. Accordingly, Chalmers suggests that the type of conceptual analysis that he (and Jackson) have in mind does not require explicit definitions of the concepts in the relevant conditionals. Thus, Chalmers believes that Block and Stalnaker's argument does not even get off the ground. I think it is important that Chalmers' case for non-explicit definitional analysis be outlined. In

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Block and Stalnaker do offer other arguments in support of their argument against a priori entailment and the conceptual analysis thesis. Chalmers, in turn, responds to a number of these undocumented arguments. Here, I have only outlined those arguments from both Block and Stalnaker, and Chalmers which are relevant to my position.

the following section I will attempt to criticize this argument. Later I will apply my critique to Chalmers' response to Block and Stalnaker.

Chalmers suggests that in many cases it is asserted that for a conditional to be a priori, the terms in the consequent must be definable using the terms in the antecedent. In this way, a priori entailment would require explicit definitions. However, he suggests that this is not his and Jackson's view and asks us to imagine the following scenario:

> Let G be the conjunction of the following assertion: "Smith believes with justification that Jones owns a Ford. Smith initially has no beliefs about Brown's whereabouts. Smith forms a belief that Jones owns a Ford or that Brown is in Barcelona, solely by valid inference from his belief about Jones. Jones does not own a Ford, but by coincidence, Brown is in Barcelona." Let K be the assertion: "John does not know that Jones owns a Ford or that Brown is in Barcelona (Chalmers 2000, Section 3)."

There are two important claims that Chalmers is making here. First, he claims that it seems reasonable to conclude that 'G -> K' is a priori. This is because the empirical information in 'G' plays no fundamental empirical role in deducing that 'K' is true. Secondly, as this example demonstrates, it seems safe to assume that no explicit analysis of the concept of knowledge using the terms in 'G' is available. Thus, it would seem that a priori entailment may not, in general, require explicit definitions.

The above scenario and Chalmers' subsequent conclusions are based on Edmund Gettier's judgment that 'knowledge is *not* true justified belief'. Gettier's argument demonstrated that one could come to justifiably believe a true claim 'P'

based on an inference from a false claim 'Q'. While one might be justified in believing 'P', 'P' surely cannot count as knowledge for the latter cannot be grounded in a falsehood.

Empirical information plays no important role in Gettier's argument. The information 'Q' may be based on faulty empirical information as when one believes that they saw something which was not actually there (e.g. one believes that they saw a man with a beard but in fact the man only had a mustache). For Chalmers, the fact that the role of the a posteriori is trivial, suggests that the conclusion is a priori. In conjunction with his example presented above he states:

> The argument proceeds by presenting the epistemic possibility that G, and appealing to the reader's concept of knowledge to make the case that G entails K (and that G entails J, where J is a corresponding positive claim about John's justified true belief). Empirical information played no essential role here, so the conditional is a priori; and the a priori conditional plays an essential role in deriving the a priori conclusion (Chalmers 2000, Section 3).

Furthermore, no explicit analysis of knowledge is needed to ground the entailment. The concept of knowledge needs no in depth explanation as it appeals to the reader's semantic intuitions: "...it seems clear that the a priori entailment from G to K is in no sense *hostage* to an explicit analysis of knowledge that would support the entailment. Whether or not there is such an analysis, the entailment is a priori all the same (Chalmers 2000, Section 3)."

Following the Gettier case, how would the conditional 'H2O -> water' work? If a rational agent possesses the concept 'water', then adequate empirical information

in the antecedent allows the agent to ascertain the concept's extension. This empirical information, the distribution of 'H2O' etc., leads the agent to the knowledge that 'water is H2O'. The conditional is a priori in roughly the same sense that Gettier's argument is a priori. The empirical information in question plays no fundamental role in the conditional's justification. At the same time, no explicit analysis of water is needed to ground the conditional — 'water' only appears in the consequent.

If the information in the antecedent included claims concerning the very concept under inquiry (e.g. 'water') then the apriority of the conditional would be trivially true. But Chalmers wants the apriority of the conditional to hold even if the antecedent does not directly refer to the concept in question. When conditions like these obtain, when there is what Chalmers labels nontrivially sufficient information in the antecedent, a rational agent may still ascertain a concept's extension:

> ...a "water"-free description of the world can enable one to identify the referent of "water", and a "knowledge"-free description of the world can enable one to decide whether it is an instance of knowledge. In these cases, we can say that *nontrivially* sufficient information enables identification of a concept's extension (Chalmers 2000, Section 3).

Finally, Chalmers notes that the information in the antecedent can be used to test various hypothetical concept extension possibilities. If a rational subject possesses a concept (e.g. 'water') he or she can examine possibilities to see what the concept's extension would be if the world had turned out differently. Thus, the subject may conclude that if 'XYZ' displayed a certain distribution, behavior, and

appearance much like 'H2O', then, if this information were presented as real, water would be 'XYZ'.

Section Three: The Case for Explicit Analysis

In this section I argue that conditionals of the sort that are described above, 'H2O -> water', can only be justified on empirical grounds. My general argument rests on the idea that for such a conditional to be a priori knowable, the subject must know *beforehand* that 'H2O = water'. It is only then that the subject can be said to know the validity of the a priori conditional. However, this conditional would be grounded in past empirical knowledge and, thus, would not be justified on a priori grounds. In the proceeding, I will attempt to flesh out this argument and then present some plausible counter-arguments that I believe Chalmers would endorse.

The methodology of science is, in my view, based on a posteriori justification. Now a full defense of this view would require several case studies so I can only point to a few considerations here. Regularities in the natural world are observed and accounted for in scientific theory. As Block and Stalnaker indicate, (see section 1.3 above) a posteriori justification, in conjunction with the notion of 'inference to the best possible explanation', is, in part, the basis for the formulation of micro-macro identity claims. The question is: 'can the a posteriori information be factored-out leaving an a priori micro-macro conditional?' My argument, as noted above, suggests

that this cannot be accomplished. For a rational agent to ascertain the validity of the a priori conditional 'H2O -> water', they must *first* know that 'H2O = water'. This *beforehand* information is entirely a posteriori in nature for it is based on the original empirical identity claim. And this argument extends to *all* micro-macro conditionals. Chalmers suggests (personal correspondence) that I don't address the argument that PQTI is enough. In other words, a rational agent given the information in PQTI and the corresponding macrophysical concept M, will be able to ascertain the truth of M. I believe my argument does address this notion. Even if an agent had *all* the information in question, some sort of identity claim is needed for micro-macro linkage. This information will have to be empirical as there is no other way that a connection could be made. Thus, the a posteriori cannot be factored-out. [4]

According to Chalmers, the extension of a concept, possessed by a rational agent, is determined by the empirical information in the antecedent of the conditional in question. Thus, in the case of 'water', it is the empirical information in the antecedent 'H2O', its distribution, appearance, behavior, etc., that determines its extension. The extension of water is the actual physical matter out in the world. This physical matter is composed of 'H2O' and so, clusters of 'H2O' molecules come together to form droplets, ponds, lakes, etc., of water: "...if a subject possesses the

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[4] I would like to thank Chalmers, Murray Clarke, and Don Dedrick for suggesting that my argument needed further elucidation.

concept "water", then sufficient information about the distribution, behavior, and appearance of clusters of H2O molecules enables the subject to know that water is H2O, to know where water is and is not, and so on (Chalmers 2000, Section 3)." Chalmers claims that this is all an a priori matter. The relevant empirical information in the antecedent (the distribution etc., of 'H2O' molecules) does not play, as in the Gettier case, an essential part in the justification of the a priori conditional. Water just *is* the distribution etc., of clusters of 'H2O' molecules. Accordingly, it would seem that this empirical information is lost in the identity claim.

There are two ways that one can argue against a case such as this. One way would be to argue that empirical information does play a role and so the conditional is not a priori. Another way would be to argue that the term 'water' would have to be found in the antecedent somewhere. If so, then the conditional would be simply trivially a priori and the consequent 'water' would be explicitly defined. Block and Stalnaker's arguments would thus come to bear on things. I will look at this latter option first.

Chalmers suggests that only 'nontrivially sufficient information' should play a part in the relevant conditional. This means that, as in the Gettier case, the concept under analysis ('water') must not appear in the antecedent. If it does, then, as I mentioned above, it is trivially true that the conditional is a priori. I argue that, in order for 'nontrivially sufficient information' conditions to obtain, the subject must

know that 'H2O = water' *before* he or she can be said to know the conditional 'H2O -> water'. Otherwise, how would the agent come to understand that the distribution, appearance and behavior of 'H2O' molecules determines 'water's' extension? But if an agent must know that 'H2O = water' in order to know that 'water = H2O' then the equation would look something like this '(H2O = water) = water'. The relevant conditional would be '(H2O = water) -> water'. However, to get a 'nontrivially sufficient information' conditional, such as in the Gettier case, the term 'water' would have to be factored out of the antecedent. If it cannot, then the conditional would consist of 'trivial information' and be an explicit analysis. The arguments against these sorts of analyses would now come into effect.

Looking at the argument from empirical justification (the first of the two mentioned above), it can be maintained that if the agent must know that 'H2O = water' *before* he or she can know that 'water = H2O', then the justification for the conditional 'H2O -> water' occurs at this earlier moment. How would an agent come to know that 'H2O = water'? He or she might be presented with the information in a science textbook. The pertinent empirical facts would be outlined and the identity of the two would be explained. The empirical information which originally led to the identity claims would play a part here and would, thus, play a role in the justification of the conditional, 'H2O -> water'. If empirical information is important for justificatory purposes, then the conditional cannot be a priori. At the same time, the

argument presented in the paragraph above would come into effect as the term 'water' would appear in both the antecedent and the consequent.

In essence, there is really just one argument here with two related conclusions. If the pertinent knowledge must be known *beforehand*, then both the trivial (first argument) and empirical (second argument) conclusions follow. Henceforth, I will treat these two as constituting one larger objection. If correct, Chalmers' conditional is not a priori and, at the same time, conceptual analysis requires explicit definitions. I will now examine some possible responses that Chalmers might advocate.

One possible reply concerns the indexical information which is presented in the antecedent of the conditional 'PQTI = M'. Recall that the information in 'I' locates a rational agent spatially and temporally so that they exist in the here-and-now. As I have argued above, for the 'H2O -> water' conditional to be a priori, an agent would have to know *beforehand* that 'H2O = water'. In other words, for the conditional to be a priori in the present, an agent must possess past knowledge of the equivalency of 'H2O' and 'water'. Chalmers could argue that this past information may have been empirical but, in the present, that does not matter. The indexical information in 'PQTI' would take care of this (remember that all macroscopic truths, including 'H2O -> water', are entailed by 'PQTI'). If our agent were to view some 'water' in the present, they would automatically know that they were also viewing 'H2O'. Thus, 'H2O -> water' would be a priori. The past information would be

filtered-out so-to-speak.

I don't believe that such a response would undermine my initial objection(s). Locating a subject in the 'here-and-now' may, in a way, preserve the apriority of the conditional but, at the same time, the apriority of the conditional would become trivial. This is because the conditional would be justified on past a posteriori grounds. A priori justification in the present must rely on this past a posteriori justification. It is clear that the latter is the most important in that, without it, justification in the present could never take place. The conditional '(H2O = water) -> water' is justified in the antecedent and because the term 'water' appears in both the antecedent and the consequent, the conditional is trivially a priori.

What if the subject in question never came to the initial conclusion that 'H2O = water'? Chalmers might argue that this would not matter as a single agent can never know all the facts in 'PQTI'. Perhaps, one day, he or she will come to know the essential information. However, none of this suggests that the conditional 'H2O -> water' is not a priori:

> It might also be objected that no human could grasp all the information in PQTI, so that no human could grasp the truth of the relevant conditional. This is surely true, but it is no bar to the apriority of the conditional. Apriority concerns what is knowable in principle, not in practice, and in assessing apriority, we idealize away from contingent cognitive limitations concerning memory, attention, reasoning, and the like. Once we idealize away from human memory and processing limitation, the problem here is removed (Chalmers 2000, Section 4).

What Chalmers seems to be suggesting here is that any rational agent, in principle,

can grasp any of the pertinent truths in 'PQTI'. Of course, grasping all of them would likely be an impossibility. However, in principle, all of the important truths are knowable a priori.

In response, I can argue that no matter what 'truths' are made available to any rational agent, for the relevant conditional to be nontrivially a priori, be it 'H2O -> water', DNA -> life' or '100 degrees centigrade -> waterboiling', the agent must know the appropriate micro-macro equivalency *beforehand*. In the case of 'H2O -> water' the agent must know that 'H2O = water' before he or she can a priori know that 'water = H2O'. In the case of 'DNA -> life' the agent must know that 'the replication of DNA = the propagation of life' before he or she can a priori know that 'life = DNA'. In the case of '100 degrees centigrade -> waterboiling'. the agent must know that '100 degrees centigrade = waterboiling' before he or she can a priori know that 'waterboils = 100 degrees centigrade'. The information that the agent must know beforehand is a posteriori in nature. Thus, justification for the conditional is perhaps entirely a posteriori and whatever a priori element there is rendered trivial (see my previous counter-objection above).

Chalmers might argue that even if the information in the antecedent of '(H2O = water) -> water' were in the present, the empirical information can be factored-out thus preserving apriority and nontrivially sufficient information conditions (the conditional would be a priori in the sense that empirical information would not play

a justificatory role, and the concept under investigation would not appear in the antecedent). If our conditional 'H2O -> water' is seen as 'E -> C', where 'E' = empirical information and 'C' = the concept in question, the information that 'H2O = water' (the *beforehand* knowledge as outlined in my initial argument(s)) can simply be factored to the left as 'E2'. 'E2' ('H2O = water') conjoined with 'E -> C' ('H2O -> water') will still yield the relevant a priori conditional:

> Certainly these will be...cases in which "E->C" is a posteriori: for example, it is a posteriori that if a glass contains H2O, it contains water. But these will always be cases in which the antecedent E, does not contain *sufficient* empirical information to identify the concept's extension given possession of the concept alone. The a posteriori of these conditionals reflects the fact that further empirical information is required for their justification. But then all we need to do is *conjoin* E with the relevant further empirical information, E2, and we will obtain a conditional "E' -> C" that is knowable a priori, where E' is the conjunction of E and E2. For example, in the case of "water", identification of the concept's extension requires a great deal of further information about the distribution, behavior, and appearance of clusters of H2O molecules in the world. But once this information E2 is conjoined with the original information E, we obtain an a priori conditional of the form "E' -> C" (Chalmers 2000, Section 3).

The most important sentence from the above quotation is the following: "The a posteriori of these conditionals reflects the fact that further empirical information is required for their justification (Chalmers 2000, Section 3)." For Chalmers, the type of justification he has in mind is the a priori kind. The a posteriori information can always be factored-out leaving an a priori conditional in the Gettier sense. Maybe this can work in cases as the one he mentions concerning the glass with H2O in it. However, it cannot work in cases where the justification for the conditional *must* be

a posteriori. This is what I have been arguing. A posteriori justification must occur *beforehand*. If so, then Chalmers' a priori conditional is only trivially a priori (see my first counter-objection) and, in conjunction with my original argument(s), not a priori at all.

I want now to take a closer look at the Gettier case as its conclusions fuel Chalmers' arguments for micro-macro entailment. It will be recalled that, in the Gettier example, a priori conditions (empirical factors do not play an essential role) and 'nontrivially sufficient information' conditions (the term 'knowledge' does not appear in both the antecedent and the consequent) obtain. Chalmers believes that micro-macro a priori entailments follow an analogous course. I think there is a fundamental problem here. Following Chalmers' micro-macro conditional examples as in 'H2O -> water', we can formulate the Gettier case as 'true justified belief -> ~knowledge' (true justified belief does *not* entail knowledge). In the 'water' example, it is the distribution, behavior, appearance etc. of clusters of 'H2O' molecules which leads a rational agent, who possesses the term, to the conclusion that 'water = H2O'. In the 'knowledge' case, it is the empirical information in the antecedent (whatever claims, events, etc., that enable a subject to form true, justified beliefs), which leads a rational agent, who possesses the term, to the conclusion that 'knowledge ≠ true justified belief' (knowledge does *not* equal true justified belief). Chalmers claims that the justification for the conditional in both cases is completely a priori. I disagree.

While the Gettier case may be intuitively justified a priori, cases of micro-macro entailment cannot. Below, I will attempt to explain why I believe this is so.

In examining the 'type' of terms involved in the Gettier conditional, it is clear that these are folk vocabulary terms. 'Belief', 'justification', 'truth', and 'knowledge' are all intuitively accessible to those who possess the vocabulary in question. The antecedent and the consequent in the Gettier conditional contain vocabulary which is all of one 'type'. The same cannot be said about micro-macro entailment conditionals. While 'water' is a folk vocabulary term, 'H2O' clearly is an abstract scientific term that designates microphysical phenomena. It is not a language that is immediately accessible unless a person has formed the appropriate links. Thus, with micro-macro entailments, there are two types of vocabulary terms involved.

In the Gettier case, a reader (one who is presented with the appropriate informational scenario: see Chalmers' scenario as described in section two of this chapter) can directly ascertain the apriority of the conditional. This is because all of the terms are immediately accessible to him or her. The terms in the antecedent, and in the consequent for that matter, do not need to be empirically justified for the reader to grasp the conclusion. 'Justification', 'truth', etc. apply to the macro realm in the Gettier case. However, microphysical terms are another matter. This type of term is not part of our folk vocabulary. Perhaps they one day will be but that is beside the point. If a micro-macro equivalency is to occur, the terms in the two vocabularies

must be linked. The justification for this link must be proven on a posteriori grounds. Otherwise, how could two terms ever come to refer to the same object? Thus, empirical information cannot simply be pushed aside as Chalmers would have it. It is this information which justifies the inter-vocabulary linkage.

At this point, my initial argument(s) comes into effect. If a subject is to know that 'water = H2O' (in Chalmers' conditional), then they will have had to understand beforehand the empirical link connecting these two terms. This link is empirical and can only be justified on a posteriori grounds. So 'H2O' cannot determine the extension of 'water' if the subject does not know that 'H2O' is 'water'.

Thus, in conclusion, I believe that Chalmers' utilization of Gettier case conclusions is inappropriate because it is a faulty analogy. The Gettier example may be a priori and, perhaps, an explicit analysis of knowledge is unavailable. However, micro-macro conditionals do not follow the same sort of logic. Micro-macro entailments are based on empirical justification and, as such, are not a priori in the pertinent sense. I therefore conclude that Chalmers' defense of non-explicit definitional micro-macro entailments is unconvincing. Explicit analyses would seem to be needed in order to illuminate just how these conditionals are justified. Block and Stalnaker argue that such explicit analyses are not often found and so conceptual analysis is not needed to close the explanatory gap. I have already outlined their arguments at the beginning of this chapter. In what follows, I will look at Chalmers'

reply to Block and Stalnaker. In the appropriate cases I will attempt to utilize the conclusions reached in this section in order to further Block and Stalnaker's case.

Section Four: Adjudicating Chalmers' Response to Block and Stalnaker

As mentioned earlier, Chalmers believes that Block and Stalnaker's arguments are ultimately not compelling in that they focus on the failure of explicit analysis. Because Chalmers believes that a priori entailment does not depend on this sort of analysis, he thinks that these arguments do not engage the relevant issues. In the last section, I argued that non-explicit analysis is unable to ground a priori entailments. If my argument(s) is correct, then Block and Stalnaker's explicit analysis objection can come into play. Even though, due to the fact mentioned above, Chalmers does not deal with all of Block and Stalnaker's objections in detail, he does consider some points. Here I will provide Chalmers' responses (however brief they are) to the arguments given in section one of this chapter. I will then, in conjunction with my argument(s) in the previous section, examine his responses.[5]

Before addressing any specific argument, I think that it is best to state Chalmers' overall objection to Block and Stalnaker's paper. As indicated above, he believes that none of the arguments presents a threat to the type of conceptual

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As Chalmers' replies are quite scattered throughout his paper, I will not, contrary to the method I utilized in section one, break this section into various subsections.

analysis that he and Jackson have in mind. Block and Stalnaker's objections to explicit analysis do not endanger a priori entailment as this type of entailment does not require explicit analysis anyway. Thus, Chalmers critiques the global structure of Block and Stalnaker's argument. He suggests that their objections to explicit definitional entailments and the two-dimensional semantic framework do not work.[6] This is because this sort of argument is in disagreement with the Gettier case and, as Chalmers has apparently shown, this case does not require explicit analysis:

> ...if this sort of argument succeeds, it succeeds equally in making a case against the a priori Gettier entailments discussed earlier. It is at least plausible for "knowledge" as for "water" and "life" that there is no explicit analysis to support the entailments....But nevertheless, the a priori Gettier entailments earlier exist; or at least, it is clear that this sort of argument does little to make a case against them. So by parity, this sort of argument does little to make a case against the a priori entailments we are concerned with (Chalmers 2000, Section 5).

However, if my argument in the last section is correct, then non-explicit definitional conceptual analysis cannot succeed. Thus, the only alternative is to see if explicit analysis can do the work and, according to Block and Stalnaker, it cannot. So I conclude that the latters' arguments represent important objections that cannot be simply dismissed.

Recall Block and Stalnaker's argument, outlined in section 1.2, that,

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Because both Chalmers and Jackson indicate that the two-dimensional framework functions as only a clarifying mechanism and does not alter the contents of the entailment arguments, I do not discuss it here. Briefly, this possible-world modal logic framework is used to isolate the a priori element supposedly inherent in all concepts.

historically and hypothetically, the closing of scientific explanatory gaps has nothing to do with conceptual analysis. They examine the concept of life and conclude that the fulfillment of a certain set of functions aids very little in explanatory gap closure. These functions are macroscopic terms and, as such, do not entail micro-macro knowledge. Thus, there is no accurate explicit definitional account of life that can bridge the micro-macro. A posteriori evidence is necessary for the appropriate connections.

Chalmers does not have much to say concerning this. After all, he feels that conceptual analysis does not require explicit definitions:

> We can agree with Block and Stalnaker that there are plausibly no precise explicit analyses of concepts such as "water" and "life" (or at least, no precise analyses of a manageable length). But as we made clear earlier...such explicit analyses are not required for a priori entailment (Chalmers 2000, Section 5)."[7]

Much like Chalmers, I do not have much to say here. My arguments in the last section (three) suggest that such explicit analyses are needed. They may not be required in the Gettier case, but they are certainly needed in micro-macro conceptual entailment.

In their discussion on methodological simplicity, stated earlier in section 1.3 of the present chapter, Block and Stalnaker suggest that simplicity considerations

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Remember that Chalmers' paper will likely be, when completed, co-authored with Jackson. His utilization of 'we' statements creates some ambiguity as in some circumstances 'I' is utilized when clearly a 'we' should have been. Please note that I reference this paper as being authored (for the time being) only by Chalmers.

play a large role in determining scientific truisms. They give the example of micro-macro identity claims in the case of water boiling. In the assertion that some phenomena are identical rather then merely correlated, simplicity considerations often come into play. Moreover, these types of methodological considerations are usually a posteriori in nature.

Chalmers suggests that simplicity factors are in accord with his position on a priori entailments. As has been mentioned earlier, Chalmers believes that empirical facts do play a role in determining a concept's extension. Later, however, they can be factored-out leaving an a priori conditional. He notes that the pattern of application of concepts is a priori. Thus, a rational agent, who possesses the term 'water', a priori knows that where there are clusters of 'H2O' molecules, there is water. Simplicity considerations may play a part in micro-macro identity claims as when science has to find an identity between a number of quite similar terms. Yet, once the micro-macro identity claim is determined by science, a rational agent will a priori know the relevant conditional 'H2O -> water'.

At this point, I can bring in my initial argument(s). For a rational agent to a priori know that 'H2O -> water' he or she must know first that 'H2O = water'. Conditional justification occurs in the 'H2O = water' identification stage and is based on a posteriori information that has been proven by science. This applies to any micro-macro entailment that originates from PQTI. Chalmers would have it that once

science has determined a micro-macro identity, any rational agent who possesses that macro term will be able to know the conditional in question. I argue that the agent must know the identity claim first.

Block and Stalnaker criticize Jackson (and here I am extending the criticism to Chalmers) for his use of approximation (see 1.4 of this chapter). If explicit analyses cannot be found, and there is reason to believe that none will be found anytime soon, then Jackson and Chalmers must make the case for non-explicit analysis (approximation). Jackson admits that there is an element of stipulation involved. Chalmers, meanwhile, attempts to eliminate this stipulatory element by basing micro-macro entailments on the conclusions of the Gettier case.

In response, I will briefly note that I have already argued in length that the conclusions of the Gettier case cannot be extended to micro-macro entailment and so explicit analyses are needed. Jackson's 'approximate analyses' thus cannot do the job.

In conclusion, it would seem that explicit analyses are essential in the grounding of a priori micro-macro conditionals. Block and Stalnaker argue that such explicit analyses are nowhere to be found and would be difficult to formulate in any case. Thus, I conclude that successful conceptual micro-macro entailment is an impossibility. It would seem that the 'conceptual analysis thesis' has been refuted. In

the next and final section, I will discuss what the implications are for materialism, reduction, consciousness, and the explanatory gap.

Section Five: Implications

Now that the arguments have been given, it is time to reassess Chalmers' central claim concerning consciousness and materialism. The argument, outlined in section one of chapter two, is as follows:

1. Materialism (physicalism) is committed to an a priori conceptual analysis of the macrophysical in microphysical terms.
2. Most, if not all, macrophysical facts are a priori entailed by the microphysical facts and, thus, can be reductively explained.
3. Phenomenal facts are not so entailed and, thus, cannot be reductively explained. (Consciousness is not logically supervenient on the physical.)

Therefore: Materialism is false.

I will examine each premise to see if its claims are accurate. In this way, we will be in a position to better understand that materialism is not falsified by Chalmers' argument.

The first premise states that materialism is committed to an a priori conceptual analysis of the macrophysical in microphysical terms. If the arguments in this third chapter are correct, this claim is false. Such analyses would require explicit definitional micro-macro conceptual evaluations. Block and Stalnaker here, I believe, successfully argue that such analyses cannot be found. Chalmers and Jackson, who no doubt realize this, attempt to make do with non-explicit approximate analyses. I argue that micro-macro entailments are not analogous with the conclusions in the Gettier case and, as such, non-explicit analyses will not ground the entailments. Thus, materialism is not committed to a priori conceptual analysis.

The second premise suggests that because most, if not all, macrophysical facts are a priori entailed by the microphysical facts, the former facts are, in principle, reductively explainable. As I have argued above, a priori micro-macro entailments cannot be located and, therefore, reduction does not depend on conceptual analysis. What methodological considerations are involved in reduction I will leave unanswered. A posteriori identities would seem to be necessary for reduction but not perhaps 'wide' enough to close the explanatory gap. As indicated in the introduction, the further question can always be asked: 'why is it that neural state X (identified with mental state Y) has a phenomenology and consciousness emerges as a result of its instantiation?'

If materialism is not committed to a priori conceptual analysis and reduction

does not depend on a priori micro-macro entailments, then the claim that phenomenal facts cannot be a priori entailed and thus are not reductively explainable (are not logically supervenient), is meaningless. Yet, an explanatory gap still remains. However now, the 'conceptual analysis thesis' which suggests that the explanatory gap can never be closed due to a lack of phenomenal-physical entailment, is rendered ineffective.

In chapter two, I sketched five anti-reductive arguments which purportedly demonstrated the failure of the phenomenal to be microphysically entailed: 1) the logical possibility of zombies; 2) the inverted spectrum; 3) epistemic asymmetry; 4) the knowledge argument; 5) from the absence of analysis. The last case is immediately ruled out as Block and Stalnaker, and myself have argued against a functional conceptual analysis. But, in light of the arguments presented in this chapter, do the conclusions of the four remaining anti-reductive arguments still hold? In other words, if materialism is not committed to a priori entailments and, in consequence, the phenomenal facts are not so entailed by default, then how are these a priori conceptual analysis irreducibility arguments affected?

It would seem that the remaining four anti-reductive arguments have no particular relevance if a priori entailments are not important for materialist theory. I will look at the zombie and knowledge arguments first as they are arguments formulated by Chalmers and Jackson respectively.

Both the zombie argument (from Chalmers) and the knowledge argument (from Jackson) purportedly demonstrate that microphysical facts do not a priori entail the phenomenal facts. Because of this, consciousness fails to be a reductive phenomenon (fails to logically supervene on the physical). Following Block and Stalnaker's micro-macro objections, it can be argued that, forgetting consciousness for the moment, no a priori entailments of *any* sort can occur (see section one of the current chapter). These type of entailments require explicit analyses which are a posteriori. It follows then that the notion that consciousness cannot be entailed is irrelevant. As Block and Stalnaker state, nowhere in the work of Chalmers or Jackson can a single micro-macro explicit entailment example be found. In response, Chalmers and Jackson suggest that non-explicit definitions are sufficient for their purposes. However, as I have argued, non-explicit definitions cannot be justified a priori. So it would seem that the zombie and knowledge arguments do not have the profound consequences that Chalmers and Jackson suggest. While the zombie argument may be a conceptually or logically possible scenario, it does not have any metaphysical ramifications: "The fact that the notion of an unconscious zombie is not a contradiction cuts no ice (Block and Stalnaker, 1998, Section 9)."

The inverted spectrum and the epistemic asymmetry arguments also fail to have any deep metaphysical implications. Recall that in the former argument, what is proposed is that it is a conceptual possibility that two functionally identical

creatures may have inverted phenomenal experiences (with respect to color perceptions). If they are physically and functionally identical, then this is an indication that the phenomenal facts are not a priori entailed by the microphysical facts. In the latter argument, from epistemic asymmetry, it is suggested that the physical facts do not and cannot lead to the knowledge that humans are conscious creatures. But, in terms of first-person knowledge, we know that we are phenomenally aware. Thus, there is an epistemic asymmetry in our knowledge of consciousness when compared with other scientific areas. Chalmers states that the phenomenal facts are not a priori entailed by the physical because it is conceivable that a complete knowledge of the physical facts will not lead to an understanding of phenomenal experience. Now, as I have argued against a priori entailment it is the case that neither of these arguments has the anti-reductive and anti-materialist conclusions that Chalmers believes.

It should be noted that my objections are aimed at an 'a priori micro-macro entailment' reading of these anti-reductive arguments. If my own arguments, along with Block and Stalnaker's, are correct, then the sorts of entailments that Chalmers and Jackson desire can only be justified on empirical grounds. Any attempt to 'factor-out' the a posteriori proves to be a fruitless endeavor. Yet, the anti-reductive arguments may be valid on other grounds. I have already argued against a priori entailment which the argument 'from the absence of analysis' is based on. Thus, I

exclude this argument here. Perhaps, the anti-reductive conclusions can be seen as pertaining to a posteriori conceptual claims. The inverted spectrum argument can possibly be seen in this way. Accepting the conceivability of phenomenal inversion, a posteriori mental state identity claims may be unreliable in precisely mapping brain state X with phenomenal state Y. A functionalist may reply that mental state multiple realizability can handle the objection this argument poses. Whatever the case, I want to remain neutral as to the validity of these arguments when seen as non-a priori entailment anti-reductive objections. It is beyond the scope of this work to gauge the effectiveness of these arguments seen in this way. For my purposes, it suffices to note that the conceivability arguments in question do not demonstrate that consciousness is not a priori micro-macro entailed. In other words, they do not show that consciousness does not logically supervene on the physical.

It is clear that with the rejection of all of the premises in Chalmers' initial claim, the conclusion reached, that materialism is false, is not warranted. The failure of consciousness to be reductively explained via conceptual analysis is not a problem for materialist theory as materialism, itself, is not committed to a priori micro-macro entailments. This is not to say that the microphysical facts are not, in some way, responsible for phenomenal experience. Perhaps, identity claims will help close the explanatory gap (as in the case of life). These identity claims will be a posteriori entailed by the relevant microphysical facts and will be justified on empirical

grounds.[8] Science is an a posteriori enterprise and conditionals entailing micro-macro connections are justified empirically.

Finally, in conjunction with the seven categories described in the first section of chapter one, I would like to tentatively position myself in the debate. It should be immediately noted that what follows is highly speculative. As this thesis is primarily focused on refuting Chalmers' stance on consciousness and materialism, my specific views on the matter may have been only implicitly specified. There are four criteria which I feel must be met in order for a particular position to qualify as a viable analysis of consciousness. First, I take it that consciousness is material in nature. Second and third, I believe that qualia (phenomenal consciousness) are for real and that there is, indeed, some sort of explanatory gap that exists. Finally, I am of the opinion that consciousness will eventually be scientifically understood. Like most parties to this debate, I am assuming the necessity of satisfying these desiderata. Materialism is the predominant view in contemporary philosophy of mind and, as Jaegwon Kim notes, a physical basis for consciousness seems to be more-or-less established:

> We know, from familiar daily experience as well as scientific and clinical observations, that mental phenomena are lawfully correlated with various specific physical processes going on in the body, and neurophysiological research has convincingly shown that our mental life is totally dependent on

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Like Block and Stanaker, I am not suggesting that identity claims will completely close the explanatory gap.

the processes in our central nervous systems (1995b, 576).

Meanwhile, I have argued that qualia do exist (at least in the 'broad' 'what-it-feels-like' sense; see chapter one, section two). The explanatory gap can be seen as a contemporary formulation of the standard 'mind-body' problem — even those who espouse some form of mental state identity theory, such as Block and Stalnaker, are of the opinion that these identities do not completely close the explanatory gap. The last assumption, that science will eventually be able to understand phenomenal consciousness, represents, perhaps, a leap of faith on my part. But I take it that this methodological commitment represents our best chance at resolving the issue if it is to be resolved at all. As I have already argued at length against position seven concerning a priori entailment, I will gauge the tenability of the remaining six distinctions.

Nonnaturalism, eliminativism, and new mysterianism are immediately ruled out. The nonnaturalist believes that consciousness is not material and, thus, is in violation of criterion one. The eliminativist, in contrast, while positing that the 'consciousness' phenomenon is material in nature, believes that the notions of 'qualia' and 'consciousness' ought to be eliminated as they are scientific explanatory deterrents. I have argued against this position above so, it is clear, that I find it untenable. In arguing against qualia and, subsequently, the explanatory gap, the second and third criteria have been transgressed. Finally, the new mysterian has it that

humans are epistemically limited and, thus, an understanding of consciousness will forever evade science. In this case, criterion four has been violated.

The remaining three positions, principled agnosticism, constructive naturalism, and the insignificant gap view, are all in accord with the four criteria. However, there are large differences among these views as to how the criteria relate to one another. The principled agnostic is in conflict with someone who believes that the gap is unremarkable. The agnostic holds that the gap *may or may not* be a major problem. There is the possibility that science may *not* be able to eventually overcome any explanatory difficulties. Meanwhile, the constructive naturalist seems to suggest that the gap is not that remarkable and thus, aligns him or herself with those who espouse this view. In what follows, I will examine these positions in more detail.

Principled agnosticism is a view which suggests that science, in its present state, is unable to account for consciousness. It would seem that we do not have the appropriate scientific concepts to make sense of this phenomenon. Perhaps these concepts will be made available at a later date. However, this is just stipulatory thinking. Therefore, it is best to reserve judgment as to whether or not consciousness will ever be physically explained. A positive aspect of this viewpoint lies in the fact that it leaves room for optimism. Perhaps the 'means' to close the explanatory gap will become manifest in the future. At the same time, maybe consciousness will never be solved. I am not completely comfortable with this view as I feel there ought to be

a way to understand phenomenal experience within the purview of science. We ought to actively pursue the resolution of the debate and not simply sit on the fence.

Constructive materialism is specifically Flanagan's view. Consciousness can be understood and this understanding will only come when the results of various scientific fields are combined in an effort to reach this goal. This is clearly an endorsement of cognitive science. The results of neurology, biology, phenomenology, and other enterprises must be integrated in order to explain consciousness. I am quite sympathetic with respect to this viewpoint. Interdisciplinary studies may have a dramatic effect on reworking many of our current ideas concerning consciousness. However, I am not ready to embrace Flanagan's views on qualia as including the propositional-attitudes. As mentioned earlier, he claims that all conscious states, even those corresponding to beliefs and desires (the propositional-attitudes) have phenomenal components. At the same time, there is his suggestion that nearly all phenomenal states can elicit some sort of behavioral or bodily response(s) which can be detected in one form or another by one or more of the various cognitive sciences. Skin responses, blood flow in the brain, and verbal responses can all be used to detect when a particular phenomenal feel has occurred. In regards to propositional-attitude phenomenology and detectability, Flanagan states: "The person who believes that life is holy may never show signs to others of this belief. Yet it remains in principle detectable because it will show up in her behavior if we make the right probes (1992,

70)." I counter that while one's beliefs may be detectable in some way, this does not necessarily mean that these beliefs have phenomenal feels. For instance, I doubt that my belief that 2 + 2 = 4 has any phenomenal aspect at all. But if all conscious states have phenomenological aspects, then, according to Flanagan, beliefs must also have an experiential side. I am not willing to go this far. Much as I did when discussing Churchland and Dennett in section two of chapter one, I can dismiss this questionable notion and fall back on Tye's uncontroversial 'broad' sense of qualia. Qualia, then, are simply the 'what-it-feels-like' aspects of conscious experience. It seems doubtful that such 'feels' extend to the propositional-attitudes.

The last position has it that the explanatory gap is insignificant. The explanatory problems confronting the study of consciousness are no different than other scientific explanatory problems. A functional / physical account of consciousness will eventually bridge the gap. I am a wary of this viewpoint as I am unsure exactly how the gap is 'unremarkable' in nature. As indicated above, Block and Stalnaker, who espouse a physicalist identity account of consciousness, suggest that identities will not completely close the gap. If identities are unable to bridge the gap, then it is unclear how a functional / physicalist account will be able to do so since the former position is ontologically more demanding than the latter position. Thus, lacking further information, I see no reason to think that the explanatory gap is insignificant.

In conclusion, my own view lies somewhere among the three positions that satisfy the four criteria mentioned earlier. Perhaps an understanding of phenomenal experience will come through some sort of conceptual revolution. Or, perhaps, an understanding will manifest itself in a more mature cognitive science. Maybe mental state identity claims will help close the gap. It is all rather uncertain at the moment. What is clear, however, is that an understanding of phenomenal consciousness will, most undoubtedly, continue to be a problem for some time.

Conclusion

In this thesis, I have argued that materialism is not committed to a priori conceptual analysis in physical or functional terms. If this is, indeed, the case, then the failure of consciousness to be reductively explainable (the failure of consciousness to logically supervene on the physical) does not lead to the falsity of materialist theory.

I began via a description of the current status of consciousness in the philosophy of mind. Utilizing Flanagan's and Block's overlapping categorical distinctions, a number of viewpoints were described. In section two of the first chapter, a defense of 'consciousness' and 'qualia' was mounted against the eliminativist attack. Both Patricia Churchland and Dennett have argued that 'consciousness' and 'qualia' should be eliminated as they are folk psychological conceptions which are not explanatorily useful in scientific endeavors. Responses from Goldman, Flanagan, and Block were outlined. My overarching response to both Churchland and Dennett was to assert that their arguments do not threaten the existence of qualia (and, subsequently, consciousness) in Tye's 'broad' sense and Flanagan's 'narrow' sense of the term. Both of these senses refer to the 'what-it-feels-like' aspects of conscious experience. I argued that I can retain this sense of the notion while resisting the idea that qualia (and consciousness) are ineffable, incorrigible, and transparent (the orthodox philosophical / scientific reading of

consciousness).

Chapter two was mainly focused on a delineation of Chalmers' view. In section one, a schematic version of Chalmers' central claim was given. I suggested that the crucial premise was the third in which it is claimed that because the phenomenal facts are not entailed by the microphysical facts, consciousness cannot be reductively explained (consciousness is not logically supervenient on the physical). Materialism must, then, be false as the theory in general is committed to a priori conceptual analysis. In sections two and three, I explained these notions in more detail in an attempt to further uncover Chalmers' view. Section four dealt with some implications which result if one adheres to anti-reductive, anti-materialist stances. I briefly suggested that if epiphenomenalism and panpsychism are manifested as a result of endorsing Chalmers' claims, then perhaps his initial ideas deserve more scrutiny.

In chapter three, I criticized Chalmers' argument. After discussing Block and Stalnaker's objections to explicit definitional analysis, and Chalmers' subsequent reply that non-explicit analysis is what he and Jackson have in mind, I argued in section three that non-explicit micro-macro entailments can only be justified on a posteriori grounds. Briefly, a rational agent can not a priori know that 'H2O -> water' without knowing *beforehand* that 'water = H2O'. A posteriori elements cannot be factored-out in order to preserve apriority. In the last section, I examined how

Chalmers' main claim is affected by my argument along with Block and Stalnaker's.

This thesis has primarily been concerned with the denial of a particular viewpoint towards consciousness and materialism. I have attempted to persuade the reader that materialism is not committed to a priori conceptual analysis and the non-reducibility of consciousness does not lead to the falsity of this ontological thesis. If my arguments have been sound, then, it must be concluded, that there are difficulties encountered with an a priori conceptual approach.

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