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Microphysicalism and Rationality: The Hasker/Reppert Argument from Reason

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by

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Abstract

The Argument from Reason is a name given to what is actually a family of arguments. The common thread is arguing that some philosophical position (usually Naturalism or Physicalism) is incompatible with the (supposed) reality of rational inference. In this thesis I analyze versions of the argument from reason presented by William Hasker and Victor Reppert, ultimately concluding that while their arguments are at best incomplete there is a plausibly sound version of the argument which I go on to defend. After laying some groundwork, I define physicalism and microphysicalism and present the latter as the most plausible target of my version of the argument. I then distill two distinct versions of the argument from reason as found in the works of Hasker and Reppert. The first I call the ontological argument from reason which argues that various features or necessary conditions of an event's being a case of rational inference (intentionality, mental causation, truth, unity of consciousness, or the reliability of our rational faculties) are incompatible with microphysicalism. I conclude that their arguments in each case either add nothing to the ongoing debate on each issue, are wholly misguided (particularly in their understanding of the supervenience relation), or at best incomplete with no clear road forward to resolution. I then consider what I call the epistemological argument from reason by Hasker and argue with him that in order for rational inference to *justify* our beliefs it must be the case that logical relationships between propositions are able to play a causal role in the forming of the inference. I argue that microphysicalism's ontological commitments preclude logical relationships from playing such a role and as such they preclude justification via rational inference. I then consider possible objections and replies, chief of which is the intelligibility of logical relationships playing any causal role. In response I argue that the causation involved is not mechanistic/efficient and then offer as an alternative a brief sketch of a non-reducible conscious linguistically capable agent. I contend that such an agent would be capable of grasping logical relationships in order to make them suitably causally efficacious.

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Contents

Chapter 1

The Argument from Reason

1. A Brief Overview

Relatively recently, William Hasker (1973; 1999, chapter 3) and Victor Reppert (1989b; 2003a,b; 2009) have presented an argument (often called the Argument from Reason, or AfR) against physicalism which has pretty impressive philosophical bloodlines.[1] However, as Hasker notes (1973: 176; 1999: 75fn32), despite the argument's heritage and its potentially decisive nature it has been somewhat neglected in philosophical circles.[2] This work shall be one attempt at working to rectify that situation. However, whereas Hasker and Reppert take AfR to provide a refutation of physicalism, I shall argue that microphysicalism is a more appropriate target for their concerns. But since it is quite common for physicalists to be microphysicalists, the subtle shift will leave many of the same views under threat.

Much of the rest of this thesis shall be devoted to refining, clarifying, and defending the AfR as I shall here present it. To give us a place to start, however, the AfR in its broadest sense argues that some philosophical position or other is incompatible with (some essential aspect of)

[1] The line of argument owes much to, if it was not directly employed in, arguments made by Descartes and Kant (see Henry Allison, 1989). More recent treatments include Warner Wick (1964), James N. Jordan, (1969-1970), and Karl Popper (1972: 206-255). Also, the arguments employed by John Searle in his (2001) and his (2007) are at least amenable to, if not in the same vein as, Hasker and Reppert's, and Eric Marcus's (2012) could certainly be construed as containing its own version of the AfR, particularly in the sixth chapter. And finally C.S. Lewis used the argument in his (1947/2002) which led to an infamous encounter between Lewis and Elizabeth Anscombe (see Reppert (1989) for an insightful commentary). It is worth noting that not everyone cited here saw physicalism as their (immediate) target; some utilized the argument as an attack on determinism or naturalism. However, the line of argument was the same, and, given that physicalism is often thought to entail determinism, the conclusions may not be so different after all.

[2] Some notable exceptions include Peter Glassen and Anthony O' Hear's (1984) discussion on Popper's (op. Cit.) argument, Helen Steward's (2002) review of Hasker's (op. Cit.), and Keith Parsons and Theodore Drange's (2003) critical replies to Reppert's (2003b) presentation of the argument from reason. Barry Loewer also seems to be speaking to arguments in the line of the AfR when he says "While it is not difficult to find philosophers expressing sympathy for this line of thought it is well nigh impossible to find an argument for the conclusion that is sufficiently well articulated to evaluate" (2001).

human rationality, or at least unable to account for it. In Hasker and Reppert's versions of the argument, that philosophical position is physicalism; in mine, it is microphysicalism. Now the potentially decisive nature of the argument comes because if the argument is successful then it is the philosophical position that must go. On pain of absurdity, one simply cannot say, "well, the AfR works, and so I guess we just have to throw out human rationality". To do so would be to undermine *every* epistemic pursuit, including not only those which have led some to microphysicalism (or what have you) but also those which make up the AfR itself. There is no biting of the bullet here for the microphysicalist; there is only a refutation of the argument or a rejection of microphysicalism. This is the potential decisiveness which Hasker alludes to, and it is a powerful reason for why the AfR is worth our attention. Before we give it such, however, some important ground must be cleared concerning precisely what both microphysicalism and rationality amount to, as well some matters regarding the nature of explanation.

2. Microphysicalism

It has oft been noted that physicalism has held the position of orthodoxy in the philosophy of mind for the past half-century or so. Indeed, as Eric Marcus has so aptly put it, there has even been a tendency to act as if "any reason for thinking that one view is somehow more entitled to the label 'physicalism' than another is *ipso facto* a reason for favoring the one over the other" (Marcus, 2012: 222). Hence when it is fairly common (but by no means universal) to consider physicalism to suggest, entail, or even amount to, microphysicalism,[3] it becomes clear that microphysicalism is a major philosophical player. In spite of their popularity,

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[3] See David Papineau (2008) for a discussion of this alleged entailment between physicalism and microphysicalism as well as a presentation of the views of a number of philosophers who maintain the entailment.

however, providing a clear definition of either physicalism or microphysicalism is actually more difficult than one might expect.

To see that this is so, let us first consider the following commonly cited definition of physicalism:

(P) All facts are, or supervene upon, physical facts.[4]

From (P) one may then derive a straightforward definition of microphysicalism:

(M) All facts are, or supervene upon, microphysical facts.

Now perhaps the most obvious cause for complaint in these definitions is their reference to supervenience; after all, a small cottage industry sprung up late last century (continuing into the present one) attempting to clarify just what supervenience amounts to, particularly as applied to a minimalist physicalism.[5] Whether there remains serious difficulty and whether or not this results in a problem with (P) and (M) are both vexed questions which we shall here avoid. Rather where I want to press is in regards to exactly what one means by the term 'physical' in (P), and thus, derivatively, the term 'microphysical' in (M). As we shall see, finding a satisfactory definition is harder than many are likely to assume.

As a number of philosophers have shown, attempts at reductive or analytic definitions of 'physical' have hitherto failed, and no obvious replacements are in the offing.[6] In response to this, some prefer to appeal to theoretical physics for their definition of the term, thus suggesting something along the lines of "some x is physical iff x is an entity posited by, or made

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[4] "Facts" in this definition, and in what follows, may, for our purposes, be interchanged with any of 'events', 'states', or 'properties'.

[5] Jaegwon Kim is perhaps the philosopher most well-known for work on this question; see his (1993). See also the collection of papers in Elias Savellos and Ümit Yalçin (eds.) (1995) for various positions on this issue, and see Murphy and Brown (Op Cit.: 233-236) for a view explicitly opposed to Kim's.

[6] See, for example, Crane and Mellor (1990), Kim (1993: 340), Hasker (1999: 61-62), and Stoljar (2001: 257-258; 2010).

up of entities posited by, theoretical physics".[7] As has oft been noted, however, such a conception of the physical faces the following dilemma: either we are referring to current theoretical physics or some future 'ideal' theoretical physics. The first horn requires that we assume that current theoretical physics is accurate and complete, which is clearly false, while the second horn allows for (if not assumes) the introduction of new entities radically unlike those currently recognized in physics, and so 'physical' becomes a placeholder for something which is we know not what. In other words, definitions of 'physical' appealing to theoretical physics come out to be vacuous or false.[8]

As a different approach to defining 'physicalism', Victor Reppert (2009: 345-346) and Robert Koons (2010: 281-282) have opted for presenting necessary conditions for a position to be considered physicalist without worrying about their sufficiency.[9] This allows one to pull out salient features of physicalism without getting bogged down in these other difficulties. I shall here follow their lead. However, it seems to me that the necessary conditions provided by Reppert and Koons for physicalism are better applied to microphysicalism.[10] Given that our primary concern here has been in defining microphysicalism we may borrow directly from them without alteration. Thus I assert that in order for a position to be considered microphysicalist it

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[7] See, for example, Kim (1993: 340). Stoljar (2001: 256) provides a list of philosophers (including Smart [1978], Lewis [1994], Braddon-Mitchell and Jackson [1996] and Chalmers [1996]) who have defended defining 'physical' in this (or at least a very similar) way, and Alyssa Ney (2008: 1033) goes so far as to call this method of definition for 'physical' 'orthodoxy'.

[8] This dilemma is now known as 'Hempel's Dilemma', and the list of individuals who have argued thusly includes Carl Hempel (1969), Crane and Mellor (1990: esp. 188), Alan Donagan (1990: 107), and William Hasker (1999: 62). See Ney (Op Cit.) and Stoljar (2010) for insightful discussions.

[9] This also seems to be Hasker's (1999: 59-63) strategy for defining 'physicalism', though less explicitly so.

[10] This is likely a manifestation of the tendency to see physicalism as entailing, or even amounting to, microphysicalism. However, I (along with Papineau [Op Cit.] and Murphy and Brown [Op Cit.]) maintain that there is, at least arguably, an important distinction to be made.

must accept at least the following (taken directly from Koons' [Op Cit.] definition of 'physicalism'):

1) Everything that exists and has real causal efficacy or an inductively discoverable nature can be located within space and time. Nature forms a causally closed system.
2) All genuine causal explanation has a factual basis consisting of the spatial and kinematic arrangement of some fundamental particles (or arbitrarily small and homogenous bits of matter) with specific intrinsic natures. All genuine explanation is bottom–up.
3) These intrinsic natures of the fundamental material things (whether particles or homogeneous bits) are non-intentional and non-teleological. The intentional and teleological are ontologically reducible to the non-intentional and non-teleological.
4) The existence, location, persistence-conditions, causal powers, and de re modal properties of the fundamental material things are ontologically independent of the existence or properties of minds, persons or societies and their practices and interests. Ontological and metaphysical realism.

Note that what Koons calls 'fundamental material things or homogeneous bits of matter' need not be limited to particles, but may also include fields, strings, or whatever else might underlie all macrophysical reality. However, for simplicity, we shall hereafter refer to these fundamental entities using the term 'microphysical' plus some cognate of 'entity' or 'particle'.

Some further notes to be made concerning these conditions: first, the place at which I would put the primary point of departure between physicalism and microphysicalism is found in condition 2. Specifically, Murphy and Brown (Op Cit.) have convinced me that a physicalist need not accept that all genuine causation occurs at the microphysical level – that is, a physicalist may reject the claim that all genuine causation is 'bottom-up'.[11]

Second, the combination of all four conditions entails that one need not ever go outside the realm of the microphysical to explain a fact or event at any level of reality – that is, the

[11] Whether or not 'top-down' causation is plausible, or even coherent, need not detain us at this point. The only claims being made here are that one may still be considered a physicalist even if one does accept 'top-down' causation but she may not be considered a microphysicalist.

microphysical realm is both determinative of every other fact and causally closed. When one combines this claim with the claim that microphysical particles operate non-teleologically it follows that, according to microphysicalism, every event must be (at least theoretically) explainable via the non-teleological behaviour of microphysical particles. We may note, however, that this does not mean that one *cannot* explain a fact or event by appeal to a macrophysical, or even teleologically guided, feature of reality. For all that has been said so far there is nothing inconsistent about a microphysicalist appealing to the desires and actions of intentional human agents to explain the behaviour of (e.g.) one's furnace. What microphysical determinacy and causal closure *do* mean in this context is that every explanation of any obtaining fact must be at least *consistent* with a full explanation from the behaviour of the relevant non-teleological microphysical entities.

Finally, for our purposes we shall follow Hasker (1999: 62-63) in using the term 'mechanistic' (and its cognates) to refer to processes which are non-teleological. Thus, 'non-teleological' in 3 could be replaced with 'mechanistic'.

Put very simply, but less accurately and less informatively, microphysicalism is the view that the microphysical constituents of the physical world wholly determine the behaviour of every part of reality. This, then, is the view which I shall argue entails that humans are not rational in a very important sense.

One last note to be made: throughout this thesis I shall be referring to the arguments of other AfR proponents. However, the most common target of these arguments is physicalism (or even naturalism) rather than microphysicalism. The result of this is some awkwardness in presentation; where I wish to say 'microphysicalism' the relevant authors from whom I will be citing are likely to choose to say ‘physicalism’. To resolve this very minor difficulty, I shall (when not quoting directly) opt to use ‘(micro)physicalism’ to indicate the relevant targets of critique.

3. Explanation

Towards the end of the previous section it was noted that our four conditions for microphysicalism entail that any explanation of an event must at least be consistent with a *full explanation* of that event in terms of microphysical particles and their behaviour. However, it is the contention of many (if not all) AfR proponents that an explanation appealing to an individual’s reasons for action is incompatible with the possibility of a full explanation appealing only to the behaviour of (micro)physical objects. This, then, leads to the alleged difficulties for (micro)physicalism brought up by the AfR.

However, in response to C.S. Lewis’s (1947)[12] claim to that effect, Elizabeth Anscombe asks of Lewis just what one could mean by ‘a full explanation of an event’. She says to Lewis,

> Your idea appears to be that ‘*the* explanation’ is everywhere the same one definite requirement; as if there were a fixed place for ‘*the* explanation’, so that we can know, when it is filled, that, if it has been correctly filled, the whole subject of ‘explaining this fact’ has been closed. (1981: 228)

But, Anscombe points out (what is widely recognized), explanations and their success are relative to the interests of the inquirer. Thus, for example (my example, not Anscombe’s), an answer to the question of “why did the furnace turn on?” could include any or all of the following:

> A: “Because the temperature of the room dropped below 20 degrees centigrade”
> B: “Because Tom opened the door”
> C: “Because I was cold”

[12] The first edition of C.S. Lewis’s *Miracles* (in which his presentation of the AfR first occurred) was published in 1947, but (largely in response to Anscombe’s critiques) he revised his argument and published a new edition in 1960. Other than this instance, all other citations of Lewis’s argument shall be to his 1960 version.

> D: “Because of faulty wiring” (presume the furnace’s turning on then is not desired)
> E: “Because ‘Short-Circuits-R-Us’ were responsible for the wiring of the furnace”
> F: “Because a bi-metallic strip in the thermostat bent to a particular angle which caused the completion of an electrical circuit connected to the furnace”
> G: “Because of the laws of electromagnetism”

And so on. Whether the questioner will be satisfied by the given explanation will depend on his background knowledge and present interest. Thus in most relevant everyday situations, F will be considered fairly uninformative but A may be entirely satisfactory. In light of this, Anscombe in effect asks of the AfR proponent, “what could it *mean* to say that an event can be given a ‘full/complete explanation’ in (micro)physical terms? In what sense is any explanation to be considered ‘full’?”.

Reppert’s response to Anscombe comes by way of his introducing the idea of a ‘total causal story’, which he defines in the following:

> [A]n explanation for an event can be complete...if it includes all the past events that are conditions for this event, back to the beginning of the universe, if there was a beginning. (1989: 32)

Thus while an explanation may be considered ‘complete’ from what we may call a ‘subjective’ point of view if it sufficiently satisfies the interests of the inquirer, we shall consider an explanation to be complete in an ‘objective’ sense if and only if that explanation provides the total causal story of the relevant event. Of course, as Reppert also notes, we never ask for (and could never practically give) the total causal story of an event, however it seems entirely uncontroversial that every event will have one, and will have exactly one.

From the concept of a total causal story, it follows that an explanation of an event will be successful if and only if the conditions cited in that explanation are part of the total causal story. If it fails to do so, then, even if the explanation does manage to make the occurrence of the event 'make sense', the explanation will be false and thus unsuccessful. It is important to note that this does *not* mean that there is only one correct *way* of telling a total causal story, as there may be any number of perspectives which one may take when referring to the causal conditions. So, for example, one might explain the shattering of the window by reference to baseballs, missed catches, and the fragility of window panes, or one might explain it by reference to particles and forces (of which gloves and window panes are composed) with no mention whatsoever of baseballs or clumsy catchers.

Now consider an explanation of some event, such as (to borrow again from Dretske) the detonation of a car bomb. One possible explanation of the event would refer to the turning of the key in the ignition, which would explain why the bomb detonated *when* it did. But, since the turning of keys in car ignition does not usually lead to bomb detonation, one could still reasonably ask why the turning of the key led to bomb detonation (rather than, e.g. engine ignition), or why that car had a bomb, or any number of questions seeking to understand why that event, and not some other one, occurred. Thus, one might also explain the event by referral to the wiring of the bomb to the ignition, the fact of the car's being owned by (say) a particular politician (and thus being the target of an assassination attempt), or even the fumbling ineptitude of the would-be assassin (he got the wrong car). Dretske helpfully characterizes conditions of the first kind (the turning of the key) as being a 'triggering' cause, and conditions of the second kind as being 'structuring' causes. Roughly defined, a triggering cause is some condition which explains why the event happened *when it did*, while a structuring cause is a condition (or set of conditions) the obtaining of which is necessary for the triggering cause to have brought about the event in question. In our example, the turning of the key would not have detonated the bomb had the bomb not already been wired to the ignition switch. Similarly, the bomb's being wired to the ignition switch would not have brought about the detonation without the turning of the key. Therefore, explanations referring to either the structuring or triggering cause would refer to conditions which were part of the total causal story of the bomb's being detonated, and so both could (depending on context) provide successful explanations of that event.

So the concept of a 'total causal story' provides us with an answer to Anscombe's question concerning the meaningfulness of 'full explanation'. However, the concept also provides us with a response to John Beversluis's (see his 1985: 73-74) objections to Lewis's assumptions about the incompatibility of different explanations. Beversluis objects to Lewis's claim that the two distinct types of full explanation (non-rational and rational) are incompatible, arguing that distinct types of explanation simply explain from the point of view of different interests. Thus an explanation of one's action which appeals to the behaviour of microphysical particles may satisfy the interests of the physicist, while an explanation which appeals to the agent's reasons may satisfy the interests of the psychiatrist, and, says Beversluis, there is no reason why both may not be correct. As Beversluis says, "They are not even in competition" (1985: 74).[13]

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[13] Note also A. I. Melden's remarks on a similar point:

> Where we are concerned with causal explanations, with events of which the happenings in question are effects in accordance with some law of causality, to that extent we are not concerned with human actions at all but, at best, with bodily movements or happenings; and where we are concerned with explanations of human action, there causal factors and causal laws in the sense in which, for example, these terms are employed in the biological sciences are wholly irrelevant to the understanding we seek. The reason is simple, namely, the radically different logical characteristics of the two bodies of discourse we employ in these distinct cases-the different concepts which are applicable to these different orders of inquiry. (Melden, 1961: 184 [cited in Malcolm, 1968: 52])

It is worth noting here that Beversluis does not limit his concerns to rational versus non-rational explanations. Rather, he generalizes the question to a point where he almost seems to be asking how different *types* of explanation of an event could be incompatible *at all*. That being said, it should also be pointed out that Beversluis is probably not making the transparently false claim of *unlimited* explanatory compatibility (if I explained Joe's death via gunshot wound *and* cancer, I would expect Beversluis to reply with "well, which is it?"). Rather, he seems to be challenging the idea that different explanations of an event which have different goals, explananda, and explanans could be incompatible. So while in most cases, explaining Joe's death by appeal to a gunshot wound would be incompatible with explaining it by appeal to cancer,[14] it does not seem to be incompatible with explaining it by appeal to Joe's reneging on a debt to Hitman Harry. In this case, the different explanations have different goals, different conditions of satisfaction, and different explanatory tools to work with. So, asks Beversluis, how could one *type* of explanation be systematically incompatible with another type?

Making use of Reppert's idea of a total causal story, we may respond to Beversluis by saying that two different types of explanation will be incompatible if and only if one of the types of explanation cannot 'fit' within the total causal story of which the other explanation is a part. This could happen if the essential ontological commitments of one explanation are incompatible with the ontological commitments of another. An obvious example would be a (fully) naturalistic versus (literally) miraculous explanation of the onset of an illness; the total

[14] I am hereby ignoring cases in which, for example, Joe's having cancer explains why he was in the cancer ward where the sociopath chose to open fire with Joe's resulting gunshot wound causing his death, as well as cases of genuine overdetermination. Even in cases where a cancer patient is terminally wounded by a gunshot, *either* the wound *or* the disease (and not both) will have *actually* caused the death, even if the other condition *would have* got him had the other not occurred at all (assuming that the one does not exacerbate the other).

causal story of which each is a part includes ontological commitments (say, atheism versus theism) which the other cannot include. Another way explanations could be incompatible is if the total causal story of one explanation precludes any role for the conditions referred to in the other. Thus explaining someone's death by saying it was caused by cancer does not preclude an explanation appealing to the intentional act of smoking cigarettes, but it does preclude explaining the death by appeal to gunshot wound (again, in normal circumstances; see footnote 8 above). This is not because a world in which there are gunshot wounds is incompatible with a world in which there is cancer. Rather, it is because a total causal story which includes a gunshot wound as the cause of death precludes any role for the disease. There are more examples of how different types of explanations can be incompatible, but the foregoing should suffice to show that they can.[15]

4. Inferential Rationality

The type of rationality with which the AfR is concerned is that of which scientific and philosophical reasoning are paradigmatic, and indeed upon which the disciplines of science and philosophy (among many others) rely. That type of rationality is aptly defined by Marcus as

[15] From the preceding it will be clear that I subscribe to explanatory realism as well as what Jaegwon Kim has labelled the 'principle of explanatory exclusion'. The former is the view that an explanation is correct only if the explanatory relation is grounded in an objective relation of dependency between the explanans and explanandum. The latter Kim states as the idea that "No event can be given more than one *complete* and *independent* explanation." (Kim, 1993: 239; emphasis in original; see also his 2005: 17). However, while Kim opts to rely on examples, rather than explicit definition, to express what he means by 'complete and independent explanation', we have such a definition in Reppert's concept of a total causal story. While neither positions (explanatory realism and explanatory exclusion) are here explicitly defended (see, for example, Ibid. for a defense of the latter and Kim's 1988 for a defense of the former), I believe that if one accepts the idea of each event's having a total causal story then intuitively one will accept both explanatory realism and explanatory exclusion.

> A self-conscious ability...to represent a known fact as a proposition whose to-be-believed-ness establishes the to-be-believed-ness of another proposition, which represents a further, thereby known fact. (2012: 14)[16]

To put it in plainer terms: the rationality with which the AfR is concerned is the ability to recognize that the truth of a proposition follows from the truth of another, distinct, proposition, and to adjust one's beliefs and behaviour accordingly. Put a third, and much less informative way, it is simply the ability to perform rational inferences. Let us call this form of rationality 'inferential rationality' and label those who possess the ability as being 'inferentially rational'.[17]

Lest some worry that inferential rationality applies only to theoretical reason it is worth pointing out that I follow Marcus (2012: Chapter 2) in holding that practical reason essentially involves inference just as theoretical reason does. To again quote Marcus,

> [T]he successful practical reasoner (in a central class of cases) recognizes that the already-settled-upon performance-worthiness of an action bears decisively on the performance-worthiness of another action. (2012: 66)

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[16] Marcus refers to the language of the definition as "quasi-technical" language which he develops later in his book. However, his intended meanings are close enough to intuitive understandings of the concepts that we may use his language here without fear of misuse or misunderstanding. Further, Marcus believes that rationality is best understood by consideration of its 'successful application', and thus believes that reasoning from facts and knowledge to new facts and knowledge (rather than mere belief to new belief) is primary to the ability. For our purposes, nothing much hangs on agreeing with Marcus in this, and so one is welcome to adjust the definition to refer to beliefs rather than known facts if one so desires.

[17] It is useful here to point out two different uses of the word 'rational'. One such use is as a normative term giving positive epistemic status to someone's beliefs or behaviour, as in "when playing chess, it is rational to attempt to control the center", and the contrast of which is irrationality (as in "it is irrational to use gasoline to fight a fire"). The other use is in making a distinction between those objects which are capable of rational inference and those that are not, and so the contrast to 'rational' here is simply 'non-rational'. In this sense, one might say that (most) adult humans are rational, whereas my office chair, gnats, and (at least most, though I would argue all) computers are not. Interestingly, Searle (2001) claims (correctly in my opinion) that one must be rational in the second sense in order for one to be capable of being irrational (the contrast to the first sense). In any case, it will generally be the second use of rational which is employed in this thesis, and which is part of our term 'inferentially rational' and its cognates. This is important because to confuse the two would seem to suggest that inferential rationality requires that one make only epistemically permissible inferences, which is not the intended claim at all.

In other words, the practical reasoner infers from her belief that "φ-ing is the thing to do", plus her belief that (say) "ψ-ing is a means to φ-ing" to the belief that "ψ-ing is the thing to do". To use Marcus' example, if Suzie decides that reviewing the restaurant is the thing to do (indexed to a particular time duration t) she may then infer from this (plus certain beliefs about what reviewing a restaurant amounts to) that tasting the restaurant's deserts is the thing to do (indexed to a particular time within t). Thus, Marcus and I assert, both theoretical and practical rationality essentially involve inferences, the difference between the two being that theoretical rationality results in a proposition to be believed while practical rationality results in an action to be performed (which can itself be put as a proposition to be believed – e.g. the belief that "tasting the restaurant's deserts is the thing to do"). I therefore submit that the AfR applies equally to theoretical and practical inferential rationality.[18]

Now it should be obvious that inferential rationality is not only important for our many varied endeavours as a species, but is absolutely essential to them. Without the ability to be inferentially rational virtually all our epistemic pursuits would be impossible: mathematics, science, philosophy, and all their derivatives are utterly dependent on our ability to infer from facts or beliefs to new facts or beliefs, and without it all such practices would be lost to us. Further, our ability to make reasoned choices and decisions, which many believe is necessary for morally significant action and which by all appearances underlies the success of virtually every human undertaking, would similarly be stymied were we not capable of such rationality. Even the most ardent empiricist would have to agree. Indeed, as noted in the introduction, one

[18] Those who remain unconvinced are directed to the further defense provided by Marcus in the rest of the second chapter of his book. If any remain unconvinced then for them the AfR will apply only to theoretical rationality. Given the importance of theoretical rationality for human epistemic endeavours (including coming to believe and defend the supposed truth of microphysicalism itself), such a loss will do little to blunt the overall force of the argument.

simply cannot intelligibly deny that human beings have inferential rationality – one would be undermining oneself even as one made the very assertion. This is why any philosophical position worth considering must be able to at least allow for, if not account for, inferential rationality. And this is why failing to do so (if indeed it does) is not simply problematic for microphysicalism, but utterly decisive against it.

Inferential rationality may seem, and indeed is, entirely commonplace for us. However, in spite of this – or perhaps because of it – it is worth taking the time to lay out some of its salient features. We will begin this task here, and then carry it on in the chapters that follow.

To begin, then, let us draw out something that is merely intimated in our definition of the term, which is: rational inference can be used to *both* explain *and* justify someone's belief in a given proposition.[19] Thus, to borrow again from Marcus (2012: 101-102), I can truthfully explain my taking an umbrella to work by appealing to my inferring from the newscaster's prediction of rain to the appropriateness of taking an umbrella. But it is also the case that if someone asks me why taking the umbrella was a good idea (something that was epistemically obligatory or permissible), I can say, "the newscaster said it was supposed to rain, and so, since I wanted to stay dry today, it follows that taking my umbrella was the (epistemically) right thing to do". Indeed, often times, though not always, the inference which explains also is the one that justifies – I was justified in taking my umbrella (we may presume), and in fact *did* take my

[19] While (as noted previously) I maintain that the AfR applies to both theoretical and practical rationality, I shall hereafter refer only to reasons (or inferences to) beliefs, except where otherwise noted. Thus, when something like, "rational inference can be used to both explain and justify someone's *belief* in a given proposition" is said, an additional clause referring to action (e.g. "belief or action" in the above sentence) will be intended but suppressed.

umbrella, because I inferred the desirability of that action from the fact that the newscaster said it was likely to rain.[20]

Further, not only is it the case that rational inference happens to have this dual nature (as capable of providing explanation and justification), but it must do so in order to make sense of our varied endeavours, epistemic and otherwise. If we could only justify, and not explain, our beliefs via rational inference, then this would mean that such inferences could not play a part in our coming to have said beliefs. Not only would this make the apparent success of our epistemic endeavours entirely mysterious (if not miraculous), it would lead to an odd situation where I could know my belief was not justified, but could do nothing to ensure it was appropriately altered according to the rational evidence. Similarly, if we could only explain, but not justify, our beliefs via rational inference, then I might be able to say that I believe some proposition because of an inference made from reasons, but neither I myself, nor anyone else, could say whether or not that was what I *should* have believed (or had an epistemic right to believe) in my epistemic situation. Thus explanations of our beliefs appealing to rational inferences could only be reports of psychological facts, and not defenses of the inferences made. Thus, I submit, it is essential to the nature of rational inference that it be capable of both explaining the beliefs we have and justifying them.

[20] Of course, this does not mean that rational inference always plays both roles (justifying and explaining). Indeed, it is entirely common for us to make invalid or unsound inferences – in which case the inference fails to justify – or (though somewhat less common) to, say, perform an action without adequate justification only to find out afterward that there were justifying reasons which we had not considered – in which case the inference may justify but not explain. Thus, for example, I could mistakenly infer ‘it is raining’ from ‘if it is raining then the sidewalks will be wet’ and ‘the sidewalks are wet’, in which case it would be true that my inference explains my belief in the current weather conditions but does not justify it. Or, for an example of the latter case, I could buy an expensive painting on a whim only to find out afterward that it was a priceless van Gogh. In that case, if my wife asked me why I bought such an expensive painting, I could defend the purchase by appeal to it being a van Gogh. By such an appeal I thus imply an inference from some beliefs or desires concerning van Gogh paintings to ‘it’s a good thing I bought this painting’ as justification for the purchase, even though such an inference actually played no role in the purchase itself, and thus fails to explain the purchase.

Finally, it is worth pointing out at the outset an interesting feature of the argument from reason, at least as we are here presenting it. Notice that no claim has been made at this point that there must actually be such a thing as inferential rationality. For all that the argument says we may in fact be wildly mistaken about exactly what we are doing when we are inferring – indeed, we may be completely deceived about who and what we are as human beings. What the argument does say is that we cannot coherently deny (or, as is logically equivalent, we must affirm) that we are inferentially rational. That is we must assume that we are inferentially rational regardless of whether we are or not. The argument then moves from this assumption to what it takes to be the logical entailments of this assumption. In other words, the AfR proponent does not argue that we are inferentially rational. Rather, she says that if we assume we are inferentially rational (which we must) then we must also affirm other propositions which are themselves incompatible with (micro)physicalism.

This point is interesting for two reasons. First, and perhaps less importantly, it removes from the AfR proponent the responsibility to actually argue that we are in fact inferentially rational (an arguably inherently and viciously circular task in the first place). This in turn widens the scope of the argument to include all but the most extreme epistemic sceptics. Second, and more interestingly, just as the AfR proponent is not straightforwardly claiming that we *are* inferentially rational, neither is she straightforwardly arguing that (micro)physicalism *is* false. Rather, the AfR proponent is simply arguing that we must *affirm and believe* that (micro)physicalism is false in order for us to maintain the (epistemically necessary) assumption that we are inferentially rational. Thus the argument is that (micro)physicalism is merely untenable, not necessarily that it is (even probably) false.

5. Conclusion

And so we have set the table for our analysis of the argument from reason. We have outlined the position we take the argument to be best suited for attacking, we have discussed conditions on successful explanation, and we have provided an in-depth analysis of the feature of reality the argument takes to be problematic for the view under attack. We have also provided a brief clarification of the precise claims being made in the argument. In the following chapters we will dig much deeper into the argument itself to determine how successful it is in demonstrating the untenability of (micro)physicalism.

Chapter 2:

The Ontological Argument from Reason

In the works of William Hasker on the argument from reason there are, broadly speaking, two distinct types of arguments from the reality of inferential rationality to the conclusion that physicalism must be seen to be false. The first type argues that physicalism is straightforwardly incompatible with the actual reality of inferential rationality – that is, if physicalism were true then rational inferences could not occur. The second type argues that physicalism is incompatible with one's beliefs being *justified* by rational inference – if physicalism were true then rational inferences, even if they did occur, could not justify one's beliefs. In contrast, Victor Reppert explicitly argues exclusively for the claim that physicalism is incompatible with the reality of rational inference. For ease of reference we shall refer to the first type of argument (the one shared by both Reppert and Hasker) as the 'ontological' version of the AfR, and the second type of argument will be known as the 'epistemological' version. In this chapter we will focus on the ontological argument and leave the epistemological worries of Hasker to the next.

1. Inferential Rationality and Explanation

As per our discussion on explanation in the previous chapter, in order for an appeal to rational inference to be a (part of) a true explanation of an event, it must be the case that the rational inference is a part of the total causal story of that event. This means that some event in that total causal story must be, or at least include, a rational inference. However, as we are about to see, in order for a rational inference to be a part of the total causal story of an event, some unique conditions must be met.

To begin, I take the following to be relatively uncontroversial as necessary conditions on an event's being a rational inference:

> **The Principle of Mentality (PM):** The event must be (or at least include) a mental event (or at least admit of a mental description).
>
> **The Principle of Intentionality (PI):** The mental event must include (at least) two intentional mental states with propositional content, one of which containing the ground (the proposition from which the inference was made) and one of which containing the consequent (the proposition inferred from the ground). (For ease of exposition, in what follows M shall stand in for any mental event containing the ground, and M* for any containing the consequent).
>
> **The Principle of Mental Causation (PMC):** The mental state containing the ground must play some role in bringing about the mental state containing the consequent.[21]

Now, there seems to be a general assumption that as long as these conditions can be met within one's philosophical systems there will be no further difficulties with rational explanation. After all, if one's systems allows for one to have a mental life (of some sort) which includes intentional mental states with propositional content, and those mental states are capable of causing further events, including one's coming into a new mental state with propositional content, then what could be missing? Thus much effort in the philosophy of mind recently has been spent attempting to find ways to make mentality, intentionality, and mental causation fit within a physicalist worldview.

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[21] Admittedly, this condition is vaguely stated, but intentionally so. The reason for this is that I agree with Marcus (2012) (and perhaps Searle; see his [2001]) that *if* the reasons featured in the grounding proposition of an inference are causes of some sort (as the standard philosophical account since Davidson's [1963] would have it), they are not (contra the standard account) of what has traditionally been called the 'efficient' type. Since 'efficient cause' is generally what is meant by 'cause', if I were to replace 'must play some role' in the PMC with 'must cause', this would be likely to be read in a way I do not intend. However, as nothing much at this point hangs in agreeing with my unorthodox views on the matter, and since I intend for these conditions to be as broadly acceptable as possible, building my particular position into the PMC would have been counterproductive. Thus, keeping the condition fairly ambiguous serves my present purposes while being informative enough. However, for ease of exposition, for the rest of this section (including the name of the principle) I shall adopt the language of mental causation to refer to an event's fulfilling PMC.

While those pursuits are undeniably worthwhile (both regarding inferential rationality and on their own merit), even if one should find a way to account for all three conditions in a physicalist system, this would not ensure that one would be able to account for inferential rationality. The reason for this is that there are many events which fit these criteria without being a case of rational inference; thus, the conditions are jointly insufficient. For example, consider the following case:

A) Mary believed the smudge on the wall was a spider because she had just been thinking about how scary spiders are.

A describes a mental event in which a mental state with propositional content ('spiders are scary') causes another mental state with propositional content ('that spot on the wall is a spider'), and thus A meets all of the conditions. However, A does not describe the making of a rational inference – Mary did not *infer* that the smudge on the wall was a spider from her thought that spiders are scary. Thus, I submit, the three conditions, while being necessary, are jointly insufficient for an event to be a case of rational inference.

But perhaps we could resolve the issue by the adding the following condition:

The Logical Relationship Principle (LRP): the content of M must have some relevant logical relationship (e.g. entailment) to M*

After all, the LRP leads us to alter A to say something like:

A*) Mary* believed the object on the wall was a spider because she saw that the object had eight legs and she believes that only spiders have eight legs,

and this is naturally read as a case of rational inference, thus suggesting we may have our desired solution.

It turns out, however, that the LRP can offer no such solution, as it is both unnecessary and insufficient for an event to count as a case of rational inference. Its failure as a necessary condition should be fairly obvious, since the entirely commonplace nature of logical fallacies is a straightforward counterexample to the principle. It is a plain and simple truth that we reasoners quite regularly do make inferences from one proposition to another even if those propositions fail to have any relevant logical relationship. And to commit a fallacy is not to fail to infer, it is to fail to infer as one *ought*. Indeed, one simply cannot commit a fallacy *without* performing an inference, for to commit a fallacy is to make an inference when the inferred proposition does not have the requisite logical relationship to the grounding proposition. And so, clearly, the propositional content of M and M* need not have any relevant logical relationship in order for one to have inferred the content of M* from the content of M.

However, that being said, consider the following dialogue:

> **Fallacious Frank:** "If it is raining, then the sidewalks will be wet; the sidewalks are wet, therefore it must be raining."
>
> **Logical Larry:** "That's a fallacy; your conclusion does not logically follow from your premises."
>
> **Frank:** "I know that. However, it still must be raining."
>
> **Larry:** "Why is that?"
>
> **Frank:** "Because if it is raining then the sidewalks will be wet, and the sidewalks are wet."

I think in such a case it is very difficult to know how to take Frank because he seems in the first instance to be asserting something as the case, then in the next instance taking it back, but doing so without any revision to his first assertion.[22] But what precisely is Frank asserting

[22] This exchange bears resemblance to Marcus' (2012: 18-20) variant on the famous Moore Paradox. A Moore Paradox consists of an utterance of the form, "p, but I don't believe that p", and Marcus' variant is of the form, "q,

and then recanting and then reasserting? It is not the claim that the sidewalks are wet, nor the claim that if the sidewalks are wet it must be raining, nor even the claim that it must be raining. Rather, Frank seems to be asserting in the first sentence that "it is raining" logically follows from "the sidewalks will be wet", and then agreeing with Larry that it actually does not, but then asserting again that it does. That is, Frank is affirming, then denying, then affirming a particular logical relationship between propositions. And, since (we may stipulate) the first sentence presents a case of Frank making an inference, this implies that when one makes an inference, one must (at least) believe that the inference is valid – that is, when one infers, one must (at least) *believe* that the content of M has a relevant logical relationship to the content of M*, whether or not such a relationship actually holds.[23]

As to why the LRP is (when conjoined with the accepted necessary conditions) insufficient as a condition, consider that nothing has yet been said to suggest that the fact that M and M* are logically related plays any role in why or how M causes M*. But if the fact that M and M* are logically related plays no role in M's causing M*, then it is hard to see how A and A* are different in any relevant sense. For all that the LRP tells us, the logical relationship between M and M* in A* could simply be a matter of coincidence, and M would have caused M* even if no such relationship existed. But then how does M's causing M* in A* differ from M causing M* in A? In both cases, for all we have been told, we simply have a case of mental causation. But, as we just saw, mental causation on its own is insufficient for an event to be a case of rational inference. Of course, A* *seems* relevantly different from A, but this is because the ubiquity of

so p; but I don't believe that p because I believe that q". As Marcus notes, in both the original and variant versions of the paradox, no contradiction is made, but it would be hard to make any sense of the utterance.

[23] Of course, the one performing the inference does not need to know, or even believe, that the inference falls under a specific recognized type (e.g. a 'modus ponens' inference), they just need to believe that the conclusion follows from the premise(s) in some way.

rational inference in our lives leads us to read the relevant inference into A*. But that is simply an assumption we read into the case and not one that is given to us.

Should these claims require further defense, consider the following:

B) Mary has just heard that her father owed John money. Hearing the words 'John' and 'money' together draw up a repressed memory of John demanding money from her father and her father killing John in response. The recalling of this memory then leads Mary to believe that her father had killed John.

In such a case it would be valid for Mary to infer her father's guilt from his owing John money (provided we filled in further context), but it is clear that no such inference is made. Rather, Mary's belief in her father's guilt comes from her recalling a previously repressed memory of the murder itself, which was caused by her learning that her father owed John money. Thus a mental state with intentional content causes a mental state with logically related mental content, but the content of the second is not inferred from the content of the first. Thus, I submit, the LRP is both unnecessary and insufficient as a condition on an event's being a case of rational inference, and thus fails as such.

Perhaps the most obvious solution to these difficulties would be to integrate the belief condition with an explanatory condition – one must not only believe in a logical connection between the beliefs, but this belief itself must play an explanatory role in why M caused M*. Indeed, not only is this the obvious solution, it is the correct one. Thus I submit as the final necessary condition of an event's being a case of rational inference the following:

> **The Rational Inference Principle (RIP)**: It must be the case that M leads to M* because of the inferer's belief in a relevant logical relationship between the propositional content of M and the propositional content of M*.

I also submit that the four principles – the PM, the PI, the PMC, and the RIP – together form a sufficient condition for an event to be a case of rational inference.[24]

2. The Ontological Argument From Reason

2.1: The Hasker/Reppert Ontological Argument from Reason

Hasker's earliest published expression of the argument from reason that I am aware of is his (1973).[25] This argument is actually of the form of the epistemological argument, but is used by Reppert in his (1989) to defend the ontological argument. We will focus on Hasker's original intentions for the argument in the next chapter, but will turn to Reppert's adaptation for our purposes here.

Hasker's original argument begins by outlining and defending three necessary conditions for one's being rationally justified in a belief. These are:

A) For a person to be rationally justified in accepting a conclusion, his awareness of reasons for the conclusion must be a necessary condition of his accepting it (Ibid: 178)
B) For a person to be rationally justified in accepting a conclusion, both his awareness of reasons for the conclusion and the goodness of those reasons must be a necessary condition of his accepting it (Ibid: 179-180)
C) For a person to be rationally justified in accepting a conclusion, the reasoning process must be guided by rational insight on the basis of principles of sound reasoning (Ibid: 181)

Hasker's original argument then provides a brief analysis of our concept of a 'law'. He points out that our ordinary usage of the word 'law' is ambiguous between laws that are *descriptive* and laws that are *prescriptive*. Descriptive laws tell us how relevant objects *will*

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[24] An interesting consequence of accepting this principle is that one then affirms that it is (at least theoretically) possible for it to be the case that one has the thoughts "If Socrates is a man then he is mortal" and "Socrates is a man" and, *as a consequence of having had those thoughts* one forms the belief that Socrates is mortal, without having performed a rational inference.

[25] It is worth noting that Hasker takes as his direct target of attack in this work to be physical determinism, which he may or may not consider distinguishable from physicalism proper.

behave in a given context, while prescriptive laws say how relevant objects *should* behave; thus, for example, laws of physics are descriptive, while laws of logic are prescriptive. However, notes Hasker, both uses of 'law' have an important similarity, which he draws out as follows:

> Given a sufficient "initial description" of the system to which the law applies, the law serves to "single out" from among the possible subsequent states of the system the "preferred" states which *satisfy* the law....Let us say, then, that a law *applies* to a system if, given a sufficient "initial description" of the system, the law can be used to designate "preferred" subsequent states of the system. And the law will be said to be *satisfied*, if the actual subsequent states of the system coincide with the "preferred" states indicated by the law. (Ibid: 180)

He then postulates the following scenario:

1) There is a system, S, to which two distinct sets of laws, L_1 and L_2 apply.
2) The subsequent states of S which satisfy L_1 coincide with those which satisfy L_2 for some initial description of S, but not for all.
3) The subsequent states of S which satisfy L_1 always occur, without exception.
4) The subsequent states of S which satisfy L_2 occur if and only if they coincide with the states which satisfy L_1. (Ibid.)

In such a case, says Hasker, L_2 is "(epistemologically) superfluous and (ontologically) inoperative with respect to system S" (Ibid.).[26]

The application to Hasker's concept of rationality should be obvious: S is one's mind which, according to physicalism, supervenes on one's (contextualized) brain (or, if one prefers, one's brain which is the supervenience base of one's mind), L_1 is the complete set of physical laws, and L_2 may be considered as the complete set of principles of sound inference. Now, according to microphysicalism, one's brain supervenes on its composite physical particles, and

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[26] As Hasker himself points out, the principles of sound inference will only be epistemologically superfluous to an individual capable of knowing both the complete laws of physics and the complete physical makeup of one's neurophysiological system (and, if she wishes to know or predict one's future mental states, the complete set of psychophysical relations which obtain). Of course, none of us have such capabilities so the principles of sound inference may be epistemically useful to *us* in making sense of current behaviour or predicting future behaviour.

physical particles operate entirely according to, and cannot fail to follow precisely (even if indeterministically), the laws of physics. Thus, whatever states one's brain will come to be in (and thus one's mind will come to be in) must, without exception, be that which is dictated by the relevant laws of physics as applied to the prior states of the composite particles which make up one's brain. Because of this, the principles of sound inference will be satisfied for S if and only if their 'preferred' states (given one's prior mental states) coincide with the 'preferred' states described by the relevant physical laws (given one's prior physical states). Given Hasker's analysis of laws given above, this means that "the principles of sound inference have no power to guide my reasoning – which is to say: they are inoperative" (Ibid). And, given Hasker's analysis of rational justification, this means that no one's beliefs are rationally justified. This, then, entails that if physicalism is true then one could not be justified in believing physicalism (or much else of what one believes) is true.

Reppert borrows this argument virtually whole cloth and applies it to rational inference (Reppert: 1989: 88ff). So he suggests that each of principles A, B, and C be altered to refer to rational inference rather than rational justification (Ibid.: 93), and he concludes that not only does physicalism preclude the rational justification of beliefs, it entails impossibility of rational inference altogether. So, given physicalism, not only are your beliefs incapable of being rationally justified, they are incapable of being rationally inferred at all.

Now, while (as we will see) Hasker's principle A seems to me too strong when applied to rational *justification*, it seems entirely true if altered (as Reppert does) to apply to rational inference. As was noted early in this chapter, it is not only commonplace for the justifying reasons to also *be* the explanation of one's beliefs, it is necessary that they be so if one is to be said to have *inferred* one's belief at all. That is, if I have *inferred* q from p then my awareness of q *must* explain, and thus (given constant background conditions)[27] be a necessary condition for, my inferring that p. So, while Hasker's principle A would appear to be false when applied to rational *justification*, it seems entirely true if we alter it to refer to rational *inference*.

For the ontological argument, however, this is only so helpful since both Hasker (Ibid.: 178-179) and Reppert (1989: 88-89) correctly admit that physicalism can – at least arguably – meet this requirement. All that is required is that the physical supervenience base (P) of the mental state of considering reasons for the belief (M) be a necessary condition (i.e. a cause) of the physical supervenience base (P*) of the mental state of forming the belief (M*). In this case one can say that considering reasons was a necessary condition of forming the belief. This is because if one did not consider the reasons then one would not have been in P. Since P is a necessary condition of P*, if one was not in P then one would not have come to be in P*. But since P* is the supervenience base of forming the belief, this means that one would not have formed the belief. And it is of course no problem for physicalism to maintain that one physical state cause another. And so Hasker's principle A presents no real difficulty for the physicalist.

Conversely to principle A, Hasker's principle B becomes simply false if applied to rational inference. As was argued previously in this chapter, for an event to count as a case of rational inference it is not necessary for the reasons from which one infers the conclusion to actually provide *good* reasons for the conclusion. To assert that it is necessary is to uphold the LRP,

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[27] This caveat regarding constant background conditions is necessary because, as is well-known among philosophers, events (or causes or what have you) rarely (if ever) are sufficient or necessary conditions for other events in some absolute sense, but rather are sufficient or necessary relative to given background conditions. As Hasker points out, "a statement of an 'absolutely sufficient' prior condition for a belief would have to include an exhaustive enumeration of possible interfering factors – and in most cases, no such enumeration can be given....So also with necessary conditions." (1973: 177) The assumption of this caveat will hold for the remainder of the present discussion.

which we have already determined to be false. As was noted in the previous chapter, one's inference being faulty or invalid does not thereby annul one's having made an inference.[28] Thus, for our present purposes, principle B is rejected.

Principle C is a bit harder to assess because the language Hasker uses is somewhat opaque. What exactly he means by "rational insight on the basis of principles of sound reasoning" is not immediately clear, and thus some unpacking is necessary.

To begin, while Hasker does not explicitly define 'principles of sound reasoning' (or 'principles of sound inference – Hasker seems to use the terms interchangeably), Reppert (1989: 94) seems to follow Hasker's intentions when he defines them as similar to the laws of logic, but with normative force. Thus, while the laws of logic tell us what inferences are truth preserving, principles of sound reasoning tell us that we *should* perform inferences that are truth preserving. For example, modus ponens tells us that from A & (A ->B) we can validly deduce B, while the correlating principle of sound reasoning tells us that from A & (A->B) we *should* deduce B. Further, to avoid confusion, both Hasker and Reppert explicitly note that there are principles of sound reasoning for both deductive and inductive forms of reasoning.

What Hasker means by 'rational insight' is less clear. It seems to be some type of ability, perhaps something like either the ability to understand propositions, or the ability to understand principles of sound reasoning and apply them to applicable propositions, or perhaps the ability to see that a conclusion follows (inductively or deductively) from a set of premises. What is clear is that there must be some understanding of how the conclusion

[28] Here we see my disagreement with Reppert which was noted in our discussion of the LRP. In his (1989:93) Reppert asserts that we can (more or less) alter Hasker's principle B to refer to inference without thereby altering its truthfulness or acceptability.

follows from the reasons from which it is inferred, and this understanding must be based in (be explained by) the applicable principles of sound reasoning.

Hasker sums up principle C with the following: “The conclusion drawn must not only be *in accordance with* the evidence but it must be drawn *because* it is seen that the evidence supports it” (1973: 181). Reppert echoes this sentiment when he says, “[principle] C…requires that rationally inferred belief result from some perception by us of the ground-consequent relation” (1989: 93).

These summaries may lead us to believe that Hasker’s principle C is the same as our RIP (if suitably altered to refer to inference rather than rational justification – we will assume such an alteration for the remainder of this section).[29] But there is an important difference between the two. This can be drawn out by noting that ‘perception’ is inherently ambiguous between a term with success conditions and one without. Thus, when I am said to have ‘perceived’ a horse this can either mean that I have seen an actual horse or that I believe myself to have seen a horse whether or not there actually is one. In the former case, I can be said to have actually perceived a horse only if I have met the success conditions of actually having seen the object in question, whereas the latter case has no such conditions. We will call the type of perception with success conditions ‘S-perception’ (and its cognates) and the other type ‘X-perception’ (and its cognates).

Now notice that S-perception has, whereas X-perception does not, a built-in explanatory requirement as well as a success one. This is because I can only be considered to have S-

[29] Of course, this will depend in part on how one understands Hasker’s concept of ‘rational insight’. The RIP contains no requirement of an additional ‘faculty of reason’ or some such which may or may not be what Hasker has in mind here.

perceived a horse if, in some pertinent way, the horse itself actually *explains* (i.e. causes) the event being described as an S-perception. If there happens to be a horse in my visual field in precisely the location I believe a horse to be, but my actual 'sense-data' (or whatever you wish to call it) is caused by a hallucination with purely 'internal' explanations (e.g. brain damage), then I have not S-perceived the actual horse in question, but in fact have X-perceived *a* horse.

This distinction applies to our present concerns as follows: if one wishes to use the word 'perceives' in the RIP in place of 'believes', one must be referring to X-perception[30]. This is because of the success and explanatory conditions built into S-perception: if I am said to have S-perceived a logical relationship between two propositions then my S-perception must be caused by that logical relationship. But this is tantamount to saying that I can infer one proposition from another only if there actually is a logical relationship between those propositions. In other words, it is to assert the LRP, which, I shall repeat, we have already found to be false. And so the RIP, if stated in terms of 'perceiving' a logical relationship, must be referring to X-perception.

What this means for Hasker's principle C is that it can be said to resemble the RIP only if Hasker's and Reppert's summaries of the principle are taken to refer to X-perception rather than S-perception. However, if principle C is taken to refer to X-perception then it is not clear that Reppert's revision of Hasker's argument, at least as stated, goes through. The reason for this is that the argument relies on the premise that principles of sound reasoning must have explanatory efficacy in order for one to be able to infer. But since we have already shown

[30] Here is where I believe the fundamental difference between Reppert and I is to be found: Reppert (1989: 88ff; 2003: 81-82; 2009: 379-381) argues that laws of logic (or principles of sound reasoning) must explain why M* followed M if one is to have inferred M* from M, whereas I argue that this is not the case. This explains why we differ on the success of the ontological AfR.

principle B to be false, and principle A has no explanatory requirement on principles of sound reasoning, principle C is the only defended source from which Reppert/Hasker can draw this crucial premise. However, if C is taken to refer to X-perception then it contains no such explanatory requirement on the principles of sound reasoning because X-perception does not require that what I X-perceive to be a logical relationship be caused by the relevant relationship. All C requires in the case of an inference from p to q is that I have a mental state of believing that p, another mental state of believing that p has a logical relationship to q, and, in virtue of having that second mental state in combination with the first mental state come to the mental state of believing that q. As long as one accepts the possibility of mental-physical supervenience then there has been nothing said thus far that makes it impossible for such a state of affairs to obtain given microphysicalism.

This puts us on the horns of the following dilemma: either Reppert's argument relies on a false principle (which C would be if it were taken to refer to S-perception), or it is, at least as stated, unsuccessful. Either horn leaves us with an argument that is, at best, unsuccessful.

2.2: The Hasker Ontological Argument from Reason

In his (1999: 58-81) William Hasker presents one of his own versions of the ontological argument from reason, which Reppert again relies on heavily in his (2009) presentation. This argument relies entirely upon mental causation worries, but uses the necessity of mental causation for reason, and the necessity of allowing for reason in one's worldview, to attempt to give mental causation worries extra bite. So the basic form of Hasker's argument is:

1. If physicalism were true, mental causation could not occur
2. If mental causation does not occur, then there is no such thing as inferential rationality
3. Thus, if physicalism is true, then there is no such thing as inferential rationality

4. But there is such a thing as inferential rationality
5. Therefore, physicalism is false.[31]

Outside of the eliminativist camp, I believe most of us would accept as relatively unproblematic the claims found in 2 (though we might differ on our understanding of key concepts therein) and 4, and 3 and 5 are conclusion statements which follow logically from the relevant premises. Therefore, and not surprisingly to anyone, the claim found in 1 contains the crux of Hasker's argument. How, then, does Hasker defend it?

He begins by citing an argument made by Jaegwon Kim against Donald Davidson's anomalous monism. In his (1991) Kim says

> Davidson's anomalous monism fails to do full justice to psychophysical causation in which the mental *qua mental* has any role to play...whether or not a given event has a mental description (optional reading: whether it has a mental characteristic) seems entirely irrelevant to what causal relations it enters into. Its causal powers are wholly determined by the physical description or characteristics that holds for it; for it is under its physical description that it may be subsumed under a causal law. (Kim, 1991: 106 found in Hasker, 1999: 66-67)

Hasker agrees fully with Kim's assessment, but he goes further in asserting that these concerns hold just as forcefully for any physicalist position as it does for Davidson. According to the physicalist, all mental events must have a physical supervenience base, and all physical events have a complete causal explanation in terms of antecedent conditions plus the laws of physics. But this means that what physical supervenience bases come to hold is entirely determined by (or at least as far as it can be determined is determined by) antecedent physical conditions

[31] Hasker explicitly states (1999: 69) that he sees the argument from reason as following the form of an inference to the best explanation style argument. However, in his (2003:61) response to Reppert's (2003), he argues against understanding the argument in this way, arguing instead for understanding it as in the form of a transcendental argument in a "roughly Kantian sense" – by which he means that it lays out necessary conditions for the experience of rational inference and then argues that physicalism cannot meet those conditions. Interestingly, this understanding of the argument also fits Hasker's (1999) presentation of the argument better than his endorsement therein of an inference to the best explanation understanding.

operating according to the laws of physics. But, says Hasker, this seems to leave no role for the mental to play – it cannot impact what causal relations its physical supervenience base comes into. And since the consideration of reasons for or against a proposition is a mental event, this entails that the consideration of such reasons cannot play a role in what beliefs one comes to have. But this means that one does not actually infer new beliefs from currently held beliefs, which means there is no inferential rationality. Thus, physicalism entails that its defendants (and opponents) are not inferentially rational, which is internally incoherent.

To further defend the point, Hasker turns his attention to the distinction between *physical* and *rational* explanations of a person's holding a belief. Hasker then points out that, given physicalism, whenever a person comes to hold a belief the physical causes of that belief are always sufficient, whereas *reasons* for a belief, by themselves, are always insufficient. The question, then, is whether or not the possession of good reasons is "*necessary*, under the given circumstances, for the production of the belief in question" (Ibid: 69). For if the possession of good reasons for a belief is neither necessary nor sufficient for generating the belief, then those reasons do not causally explain the production of that belief. What this means, says Hasker, is that we have to evaluate the following counterfactual conditionals:

a) She would have accepted the belief if she had not seen that it was supported by good reasons
b) She would not have accepted the belief if she had not seen that it was supported by good reasons. (Ibid: 70)

According to Hasker, the physicalist must admit that neither a nor b can be evaluated as true. To defend this, Hasker follows John Pollock in assuming that a counterfactual is true "if and only if the consequent is true in all those worlds minimally changed from the actual world in which the antecedent is true" (Ibid: 70). In the case at hand, says Hasker,

> No doubt there are a number of different ways in which the world could be changed just enough to satisfy the antecedent of the conditional; in some of these she accepts the belief while in others she doesn't. And there is no basis for saying that those in which she doesn't accept it are less changed from the actual world than those in which she does – or *vice versa*. (Ibid.)

And so a and b are both false. Conversely, given the following:

c) She would have accepted the belief if the antecedent conditions were not sufficient (as determined by the laws of physics) for her accepting it
d) She would not have accepted the belief if the antecedent conditions were not sufficient (as determined by the laws of physics) for her accepting it (Ibid.)

c is clearly false and d is clearly true. What this all means, according to Hasker, is that "*In a physicalistic world, principles of sound reasoning have no relevance to determining what actually happens*" (Ibid: 71; emphasis in the original).

To present yet a further defense of the main point, Hasker turns finally to a possible worlds analysis of mental causation and physicalism. To begin this argument, Hasker must determine which possible worlds are the relevantly closest possible worlds to the actual world. Exactly which such worlds it is will depend entirely on how one understands the supervenience of the mental on the physical. If psychophysical supervenience is only a matter of physical necessity, says Hasker, then the relevant closest possible world is one which is physically identical to the actual world but completely lacking in psychophysical laws. In this world, all the physical details are exactly the same to the actual world, but the mental facts could be distributed in an entirely random fashion, or even be non-existent. So in the nearest possible world, all the mental facts are different from the actual world, but all the physical facts carry on with no difference whatsoever. In other words, the mental is utterly causally impotent – leading us to the same conclusion as before.

But what about those positions which maintain that psychophysical supervenience is a matter of metaphysical necessity? According to Hasker, such a position

> [E]mbodies the idea...that the natural laws that obtain are expressions of the essential causal powers of the kinds of objects that exist, so that in no possible world do *those very same objects* exist governed by different natural laws. (Ibid: 71; emphasis in original)

Meaning that we cannot simply alter or remove the psychophysical laws to find the nearest possible world, for there is no such possible world in which the physical facts are the same but the mental facts are different. So it looks like the possible worlds argument is thwarted.

But, says Hasker, that is too quick. Consider a world consisting of objects exactly the same as the objects of the actual world "*except with regard to the psychophysical connections that obtain*" (Ibid; emphasis in the original). Hasker calls this world a 'zombie world', and says that the zombie world consists not of things like protons, neutrons, and electrons, but of zombie-protons, zombie-neutrons, and zombie-electrons. Similarly, the properties of these objects will be zombie-properties rather than the actual properties of the objects in the actual world. Now while it is true that the zombie world will contain objects that are different from the objects in the actual world, the zombie world will be entirely physically equivalent to the actual world – both worlds are "identical in all physically observable respects" (Ibid: 72). And this, says Hasker, "is a dramatic demonstration that...in the actual world...the principles of inference play no role, given causal closure and supervenience, in determining what beliefs people come to accept" (Ibid).

Hasker presents the counterfactual and possible worlds analyses of the argument as further defenses of his point concerning physicalism and mental causation, but it seems to me that those additional arguments are substantially weaker or less interesting than the original. To begin with, the possible worlds argument against merely physically necessary supervenience merely picks low hanging fruit – the position it applies to is quite broadly considered implausible, often on separate grounds. So that particular argument, even if successful, is fairly irrelevant and thus uninteresting.

Conversely, the possible worlds argument against metaphysically necessary supervenience physicalism would be very important and interesting if it indeed proved the conclusion it claims to support. Unfortunately, the argument is entirely misguided. If psychophysical supervenience is metaphysically necessary, then there is *no possible world* in which the physical is equivalent to the actual world but the mental is different (e.g. non-existent). Thus, given the assumption of metaphysically necessary psychophysical supervenience, Hasker's zombie world is simply impossible. Put another way, to say that there is a possible world in which the objects all had the exact same physical characteristics as the actual world but lacked the mental characteristics is just to assume that psychophysical supervenience is not metaphysically necessary. One can invent whatever physically identical 'zombie' worlds one wants, but in doing so one must be assuming that psychophysical supervenience is not metaphysically necessary. So Hasker's argument here is guilty of a simple and crucial – not to mention puzzling – misunderstanding.

The counterfactual argument also fails due to similar concerns. To see this, consider the ways in which the world could change for the antecedent of the counterfactual conditional (the individual lacking possession of good reasons for the belief in question) to obtain, assuming physicalism. If we assume physicalism, there seems only three broad possibilities:

1) The physical facts, but not the psychophysical laws, about the situation in question are altered so that the mental states supervening on the physical states no longer have the content of considering reasons for the belief in question (or of seeing that content as providing good reasons for the belief in question).

2) The psychophysical laws, but not the physical facts, pertaining to the event in question are altered so that the physical supervenience base no longer has the mental content of considering reasons for the belief in question (or of seeing that content as providing good reasons for the belief in question) even though the physical facts remain unchanged.

3) Both the physical facts and the psychophysical laws are altered in relevant ways.

Now, 2 and 3 both require that it be possible for the psychophysical laws to be different than they actually are – that is, they assume that psychophysical supervenience is, at most, merely physically necessary. But, as already noted, arguments against merely physically necessary psychophysical supervenience need not concern us. As for 1, in such a case the physical facts pertaining to the antecedent are changed and so, presuming physical laws remain the same, it seems plausible to assume that the physical facts pertaining to the consequent will change. And, because we are assuming the psychophysical laws remain invariant, this means that the mental facts pertaining to the consequent will change. But this means that the individual in question will not come to accept the belief. And so it seems as though the physicalist can plausibly assert that a is false and b is true. But this means that the counterfactual argument is dead in the water.

2.3: The Reppert Ontological Arguments from Reason

In his (2003:72-85) and his (2009:363ff), Reppert presents or mentions six different arguments which fall under the umbrella of what we are calling the ontological argument from reason, each of which he claims to be successful. Most of these are either poorly defended, entirely derivative of other's arguments, or rely on positions that are by no means uncontroversial or even broadly accepted. So while we will consider these here for the sake of being thorough, our analysis will be brief.

Reppert begins the argument by providing and defending a list of conditions that must be met in order for there to be inferential rationality. From this list he then pulls out six conditions which are considered to pose a difficulty for physicalism and presents an argument for each to show how they present such a difficulty. Reppert then names these arguments according to the condition that causes the trouble. The six arguments are:

1) The argument from intentionality
2) The argument from truth
3) The argument from mental causation in virtue of propositional content
4) The argument from the psychological relevance of logical laws
5) The argument from the unity of consciousness
6) The argument from the reliability of our rational faculties

As explicitly admitted by Reppert, three of these arguments are merely referrals to (or repetitions of) arguments made by others: 3 and 4 are Hasker’s arguments as already considered (3 is Hasker’s 1999 argument, 4 is Hasker’s 1973) and 6 is more or less Alvin Plantinga’s now well-known Evolutionary Argument Against Naturalism (also known as the "EAAN"; see Plantinga 1993, as well as Beilby 2002 for an engaging discussion between defenders and detractors of the argument). Since we’ve already considered 3 and 4 in detail, and the EAAN has been the topic of numerous dissertations, books, and published papers and is well beyond our scope, we shall leave those discussions alone here.

Two of the remaining arguments – 2 and 5 – are only defended very briefly in his (2003) and not at all in his (2009) and as such receive very little in the way of principled arguments for one to engage with. 2 amounts to the claim that physicalism entails the elimination of the concepts of truth or falsehood, concepts which are necessary for the act of rationally inferring. I accept that we cannot eliminate the concept of truth as essential to rational inference, but the connection between physicalism and such eliminativism requires much in the way of defense. But Reppert's defense of the claim amounts to nothing more than a short quote each from Paul and Patricia Churchland, neither of whom could be considered legitimate spokespersons for the majority of physicalists. Without a more robust defense of these claims I contend Reppert has far from made his case, and I do not intend to make it for him here.

5, or the Argument From The Unity Of Consciousness, makes the claim that rational inference requires the same single entity to be aware of the premises, the conclusion, and the logical connection between the two. However, Reppert claims, physicalism entails that there is no such "metaphysically unified" entity. Again, it must be admitted that rational inference does require a single entity to perform the entirety of the inference, but exactly what this entity must amount to, and whether or not physicalism is able to provide such an entity, is a complicated matter that touches a variety of major disciplines within philosophy. Since Reppert gives us little to nothing to address these issues we have to again deny his claim to having successfully defeated physicalism with this argument. And, again, given the thorny nature of the variety of issues such an argument raises, that is a briar patch I am not interested in wandering into here.

Finally we turn to 1. Much like Hasker's (1999) mental causation argument, Reppert's argument from intentionality raises familiar concerns about intentionality within a physicalist system, but uses requirements of inferential rationality to give those concerns extra bite. However, the arguments presented by Reppert provide very little in the way of original material to engage with, and indeed does little to confront the sophisticated theories of intentionality that have been offered by various physicalist philosophers. His attack on reductive theories of intentionality are very basic and offer nothing new, so that anyone not already convinced by those standard arguments will find little to be moved by here. And his attack on non-reductive theories amounts to the question of how physicalists can explain the supervenience relation (essentially, "why do mental states supervene on physical states?"). As we saw in our analysis of Hasker's mental causation argument, this question is either uninteresting (confronts merely physically necessary supervenience claims) or misguided (misunderstands metaphysically necessary supervenience).

And so Reppert's six ontological arguments from reason really are, at best, little more than spectators who offer little help in the contest itself, and at worst simply unsuccessful. Some may be cheering on contestants still involved in the game, but they themselves have little or nothing to add to the eventual outcome.

3. Conclusion:

So in the end, while there may be some hope left in the ontological AfR it is not to be found here. As Hasker and Reppert have gone about presenting and defending it as examined here it has proven unsuccessful, and (micro)physicalism can be considered to move on perhaps a bit refined but more or less unscathed.

Chapter 3:
The Epistemological Argument from Reason

1. The Conditions Reconsidered:

So let's return to Hasker's (1973) argument from reason as applied by Hasker himself – that is, in its epistemological guise.

As a brief refresher, here are the three principles appealed to in that argument:

A) For a person to be rationally justified in accepting a conclusion, his awareness of reasons for the conclusion must be a necessary condition of his accepting it (Ibid: 178)[32]
B) For a person to be rationally justified in accepting a conclusion, both his awareness of reasons for the conclusion and the goodness of those reasons must be a necessary condition of his accepting it (Ibid: 179-180)
C) For a person to be rationally justified in accepting a conclusion, the reasoning process must be guided by rational insight on the basis of principles of sound reasoning (Ibid: 181)

It seems to me that principle A, when applied to rational justification, is too strong and perhaps simply false.[33] It does not seem to me to be the case that the reasons one uses to justify one's belief *must* also be what actually *explains* one's belief in order for one's belief to be justified. There does not seem to be anything wrong with the idea that (whether or not one knows it) the actual explanation of one's belief in God's existence is one's religious upbringing,

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[32] Remember that 'necessary condition' here refers to 'necessary relative to given background conditions' and not 'necessary' in some absolute sense. See note 27 from chapter 2.

[33] It is worth pointing out here that principle A, at least as intended by Hasker, is not making the simple and obvious claim that in order for one to be rationally justified in a belief one must be aware (in at least some sense of aware) of reasons for the belief. That seems fairly incontrovertible. Rather, what Hasker is saying is that one is only justified in a belief if one would not hold that belief had one not been aware of the particular reasons for the belief that one is aware of. In other words, in order for one to be justified in holding a belief, the reasons which *justify* one's belief must also be the reasons which *explain* one's belief. That this is Hasker's intention is apparent when he says, "If my awareness of evidence is not necessary to the belief, this is as much to say that I would believe just the same *whether or not* I knew of any supporting evidence – and how could a belief held in this manner be rationally justified?" (Ibid.: 178) While I do accept that explaining reasons and justifying reasons are often identical, I do not agree that they *must* be in order for one to be justified in one's belief.

even though one actually has (let us assume) reasons which justify that belief.[34] In such a case, one could be justified in one's theism even though the justifying reasons do not explain the belief. Indeed, I submit that such a case is not entirely uncommon, in regards to both specifically religious beliefs as well as many others.[35] So it seems safe to say we can discard A as a condition for rational justification.[36]

That being said, as argued in chapter 1, what is the case is that there are cases in which what justifies one's belief and what explains one's belief are one and the same. Indeed, this is very commonplace. And so one's worldview must account for the possibility (and commonality) of explaining and justifying reasons being identical. However, just as it was in chapter 2, this is not terribly helpful to the cause of the AfR as physicalism arguably remains capable of accounting for this for the same reasons as discussed in the previous chapter – it simply requires that P (the supervenience base of M) cause P* (the supervenience base of M*) in some relevant context, and the content of M to justify the content of M*.

Now, since we've concluded that one's awareness of reasons for the conclusion need not be a necessary condition of one's accepting the conclusion, this logically entails that it is not the case that *both* one's awareness of reasons for the conclusion *and* the goodness of those reasons must be necessary conditions of one's accepting the conclusion. This means that B is

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[34] By this I mean that, in this case, even though one happens to have (again, let us assume) reasons for believing in God's existence which fully justify that belief, one would continue to hold such a belief whether or not one actually had those reasons. In this case, while those reasons might *justify* the belief, they do not *explain* why one holds the belief.

[35] This is not to say, however, that such cases do not warrant increased suspicion about the strength of one's justification in that case; indeed, without further information, I believe it does. But while this may warrant increased scrutiny of someone's coming to hold a belief, it does not thereby rule out the possibility of one's actually being justified in that belief. Each of Lewis (2002:315), Reppert (2009: 359), and Hasker (Op. Cit.) seem to mistake the fact that we are right to be more *suspicious* of one's justification in such cases for the claim that one's belief *cannot* be justified in such cases.

[36] To be sure, in order for one to be justified in one's belief one must be aware both of reasons which do justify the belief as well as the fact that those reasons justify that belief.

(somewhat superficially) false as stated. However, even if we alter B to remove its reference to the content of principal A it remains false, and for very similar reasons. Consider the following: Mary believes that Tim has three dollars in his pocket because Tim just told her he does and she knows Tim to be a very honest person. Let us assume (as seems entirely plausible) that in this case Mary is justified in her belief by the combination of Tim's report and her knowledge of his honesty. Let us also assume that Mary would have believed Tim even if she had known Tim had a tendency to lie (she happens to be a very gullible and trusting person, regardless of the situation). In this case, Mary has a good reason for her belief but, it turns out, she would have held that belief even if the reasons she had turned out to be poor reasons. It seems plainly false to me to claim that this fact (that Mary *would have* believed even if her reasons were not good reasons) thereby takes away Mary's being justified in her belief in the original case. But this means that Mary (and anyone else) can be rationally justified even if she would have believed had her justifying reasons actually turned out to be non-justifying (poor). And this in turn means that principle B, even if adjusted to remove reference to A, is false.

That leaves the still somewhat opaque principle C for us to consider. We shall again turn to Hasker's summarizing statement: "The conclusion drawn must not only be *in accordance with* the evidence but it must be drawn *because* it is seen that the evidence supports it" (1973: 181; emphasis his). As we saw in the previous chapter, Hasker is here referring to s-perception, or the sense of perception that has a success condition, requiring that the object perceived actually is causing the perception. In other words, Hasker is saying that in order for one to be rationally justified, one must draw the conclusion because one s-perceives the logical relationship between the grounding proposition and the consequent proposition. And since s-perceiving means that one is caused by the object in question to perceive the object in question, this means that there must in fact be such a logical relationship and the relationship must cause one's perception of the relationship. And, it would seem, for Hasker what allows one to s-perceive logical relationships between propositions is one's 'rational insight'.

To accept C, then, is to accept each of the following propositions:

1) In order for one to be inferentially justified in believing proposition P, one must accept a proposition or set of propositions Q which bear a relevant logical connection to P.[37]
2) In order for one to be inferentially justified in believing P, one must *believe* (perceive, grasp) that Q bears the logical connection to P that in fact holds between P and Q.
3) In order for one to be inferentially justified in believing a proposition, the logical connection which holds between P and Q must *cause* one's belief in the logical connection between P and Q – that is, one must believe such a connection exists *because* such a connection exists.

1 strikes me as true, or at least close enough for us to consider it as true for our purposes.[38]

2 is likely slightly more controversial than 1, but I still believe most would accept it as true. To borrow an example from Hilary Kornblith (1980), suppose Mary believes some set of propositions P which logically entail Q, and suppose Mary comes to believe that Q. Suppose further that Mary does not recognize (and thus does not believe) that Q follows from P (she's

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[37] This may seem like a repetition of our already rejected principle A, but it is importantly different. A, at least as Hasker intends it, tells us that one cannot be rationally justified in believing a proposition unless one would not believe in that proposition if one was not aware of the reasons for that proposition that one is in fact aware of – in other words, the reasons that explain one's belief and the reasons that justify one's belief must be identical. What 1 is saying is that one cannot be justified in believing a proposition unless there is a reason which one is aware of and considers to provide support for the proposition, whether or not that reason itself is actually what explains one's acceptance of the proposition.

[38] The added caveat is because it seems plausible to me that one can be justified in a belief if one's (mis)*understanding* of the propositions in question have the relevant logical relationship, even if it turns out that the propositions themselves (if there is such a thing) don't actually have such a relationship. But this turns on a particular understanding of the relationship between propositions and beliefs, and even if true, would only require a fairly simple adjustment to the principle itself. So, for our purposes, 1 shall be accepted as true.

never considered them together), but in fact believes that Q solely because she wishes Q were true. In such a case it seems clear that Mary is not justified in her belief that Q, and it seems as though the most likely reason for her lack of justification is her failing to recognize (and thus believe) that Q follows from P. And so I submit that 2 should be considered true as well.

However, once again, microphysicalism will (at least arguably) have little trouble accounting for the truth of 1 and 2. 1 simply requires that one accept (at least) two propositions that bear a logical relationship to each other. But if we concede that mental states can supersede on physical states – a basic assumption of microphysicalism – and that the content of mental states can bear a logical connection to each other then there is no reason why, given microphysicalism, one cannot be in mental states (beliefs) the contents of which bear a logical relationship to each other. And for one to believe that P bears a relevant logical relationship to Q according to microphysicalism amounts to one being in a physical state that that mental state supervenes on. Again, given the assumption of psychophysical supervenience, there seems to be no reason why one couldn't be in that particular mental state. The only way it seems that 2 could be a problem for the microphysicalist is if there is a particular difficulty accounting for mental states which happen to be beliefs about logical relationships between propositions. In a sense, one may see 3 as essentially such a claim. But outside of that, there is no reason given by Hasker to consider such beliefs as providing particular difficulties for the microphysicalist.

So now we look at 3, which seems to me to also be true. After all, if the fact that P and Q are logically related plays no role in why I believe that P and Q are logically related, then it would seem that my having this true belief would be a matter of chance. If I just so happened to be lucky enough that a belief I hold bears a logical connection to other beliefs that I hold, and the actual logical relationship between those beliefs does not play any causal role in how I formed that belief, then it seems clear that the belief I hold is not *inferentially rationally* justified. In such cases I will hold the correct belief only by luck, and it is with good reason that epistemologists generally hold that beliefs that happen to be true only by luck are not justified at all. Indeed, the famous Gettier problem in epistemology hinges on just this point.

However, for the current argument, principle 3 may be unnecessarily strong. For even if one wishes to argue that it need not be the case that for *every* rationally justifying inference it be the case that the actual logical relationship between relevant propositions cause one's belief in said logical relationship, the argument will still go through if we just allow that generally it must be at least *possible* for logical relationships to cause at least *some* of our beliefs regarding which propositions are logically related. For if logical relationships are cut off from even the possibility of causing us to believe there are such logical relationships, then *all* of our beliefs concerning the existence of those logical relationships will be true only by luck. This would mean that our entire rational faculty stumbles upon truth entirely by luck, which seems to me to obviously undermine the justifying power of that faculty. It also makes it entirely *miraculous* that our rational faculties stumble on truth more than just extremely rarely.

It is interesting to note (and in fact becomes important later on in the argument) that if one accepts principle 3 then one must also accept that it is true that the following conditions could all obtain and it still be true that I am not rationally justified in my belief that Q:

i) I believe that P

ii) I believe that Q

iii) I believe that Q follows from P

iv) I believe that Q because I believe that P and that Q follows from P

and

v) It is true that Q follows from P.

For if my belief that Q follows from P is not explained by the fact that Q does in fact follow from P (or at least could possibly have been explained by that fact) then that belief itself will be true only by luck.

And so it strikes me as undeniable that any coherent picture of the world must allow for logical relationships between propositions to have explanatory power concerning our beliefs – in particular our beliefs concerning logical relationships between propositions.[39]

2. The Epistemological AfR

So in accepting all of 1, 2, and (at least a modified) 3 we have in effect accepted Hasker's principle C. The question before us now, then, is if we accept C then does the rest of Hasker's argument go through. To review that argument, he asks us to consider a law as applying to a system if

> [g]iven a sufficient "initial description" of the system, the law can be used to designate "preferred" subsequent states of the system. And the law will be said to be *satisfied*, if the actual subsequent states of the system coincide with the "preferred" states indicated by the law. (Hasker, 1973: 180; emphasis in original)

Then he asks us to consider the following:

[39] It's worth noting that my argument is here diverging from one of Reppert's lines of arguments which may on its face seem similar. I am here arguing for the causal potency of logical relationships between propositions, whereas Reppert argues for the causal potency of laws of logic or "principles of rational inference" (which, as we noted previously, are just laws of logic but with normative force). Reppert's version is what he calls "The Argument from the Psychological Relevance of Logical Laws", and can be found in his 2003: 81-82 and 94-98 and his 2009: 379-381. This also seems to be his primary argument in his 1989, though that is more open to debate. For an interesting discussion of this particular argument see Gordon Hawkes' (2019) thesis on the AfR. My personal position is that laws of logic arise out of the logical relationships between propositions rather than the other way around, and that one is able to be justified by one's rational inference without recognizing, perceiving, or being acted on in any way by laws of logic. And so we have an important difference between his argument and mine.

5) There is a system, S, to which two distinct sets of laws, L_1 and L_2 apply.
6) The subsequent states of S which satisfy L_1 coincide with those which satisfy L_2 for some initial description of S, but not for all.
7) The subsequent states of S which satisfy L_1 always occur, without exception.
8) The subsequent states of S which satisfy L_2 occur if and only if they coincide with the states which satisfy L_1. (Ibid.)

and argues that in such a case L_2 is "(epistemologically) superfluous and (ontologically) inoperative with respect to system S" (Ibid.).[40] He then applies the scenario to physical laws applying to one's brain (L_1)(or, perhaps more accurately for our discussion, physical laws applying to the microphysical particles that make up one's brain) and principles of sound reasoning applying to one's inferences (L_2). The conclusion Hasker draws, then, is that principles of sound reasoning are epistemologically superfluous and ontologically inoperative.

I believe Hasker's has erred in his use of "law" here in attempting to bring his point across, because doing so raises all sorts of questions and difficulties around how one defines law, exactly what the "principles of sound reasoning" amount to, and how they can be usefully compared to strict microphysical laws. However, I do believe his intended point is correct - or at least becomes correct when we apply it to our lessons already learned. The crucial points that I take Hasker to be making, when applied to our argument thus far, are that

i) As argued for up until now, logical relationships between propositions must be an essential part of the full explanation (what we called the "total causal story" in chapter 1) of our rational inferences in order for those inferences to be justifying.

ii) Microphysicalism entails that any given event (including events we call acts of rational inference) will have a complete total causal story that refers only to microphysical particles and the physical laws that apply to them.

[40] Again as noted in the previous chapter, Hasker himself admits that L_2 would not be epistemologically superfluous if the system being referred to is sufficiently complex to make the laws and objects referred to in L_1 beyond the grasp of relevant observers.

iii) Therefore, in order for logical relationships between propositions to be a part of the total causal story given microphysicalism, logical relationships between propositions must be either a) identical to microphysical particles or the physical laws that apply to them, b) a subset of the physical laws that apply to microphysical particles or c) reducible to either microphysical states of affairs or the physical laws that apply to microphysical particles or a combination thereof.

iv) Logical relationships between propositions are not identical to microphysical particles or the physical laws that apply to them, nor a subset of the laws applying to the behaviour of microphysical particles, nor are they reducible to either microphysical states of affairs or the physical laws that apply to microphysical particles or a combination thereof.

v) Therefore, microphysicalism does not allow for logical relationships between propositions to be a part of the total causal story of any event, including events we call acts of rational inference.

vi) Therefore, microphysicalism entails that our beliefs cannot be justified via rational inference.

Premise i has been defended in the first part of this chapter. Premise ii is an essential tenet of microphysicalism as presented in chapter 1. Premises v and vi follow logically from the preceding premises. And so we are left with premises iii and iv to defend further.

Admittedly, premise iii is not a completely exhaustive list of the proposed relationships a property or event could have with a microphysical state or event. Indeed, the one relationship premise iii does not address - supervenience - is perhaps the one most likely to be appealed to by a modern microphysicalist as solving the problems raised by Hasker. However we will address supervenience later in this chapter and so, with that one caveat, suggest the list of premise 3 is exhaustive of the means by which logical relationships could play a role in the total causal story of an event given microphysicalism.

So for the moment we are left to consider premise iv with the promise of revisiting premise iii later. However, assaulting premise iv seems a fairly tough charge. For logical relationships between propositions are abstract objects which, as necessary truths, obtain in all possible worlds. Conversely, microphysical states of affairs and the laws that hold between them are concrete states of affairs obtaining only at particular times in the actual world. As such it seems entirely implausible for logical relationships to be either identical to or reducible to microphysical states or laws. Indeed, I hardly know how to begin furthering such an argument for premise iv because it seems entirely self-evident.

In fact, I believe this is exactly where the AfR has its sharpest bite. We saw in the previous chapter that many other versions of the AfR simply reduce to familiar concerns around intentionality and mental causation. As such, those arguments *may* ultimately be sound, but the AfR adds little to the argument that wasn't already being considered elsewhere. However, while it may be the case that mental events are identical or reducible to microphysical states or events, it is entirely implausible for logical relationships between propositions to be considered similarly identical or reducible. Thus the AfR, in demonstrating the necessity of affirming the causal potency of logical relationships between propositions (as we've tried to do earlier in this chapter), cuts off identity and reduction - two of the most common solutions to intentionality and mental causation worries - as actual solutions to the proposed worry. As such the AfR can already be seen to have done important work.

But now we must turn to the supervenience caveat. For those known as 'non-reductive (micro)physicalists', supervenience is the standard way to get out of messes like those the AfR has gotten microphysicalism into here. For these non-reductionists, if a state or event is part of the causal nexus but are neither identical to nor reducible to microphysical states or events, then they will be supervenient upon them. In this way they hope to save the causal relevance of, for example, higher level properties, while maintaining at least a 'miniminal' (micro)physicalism.

Now a fairly large cottage industry has grown over the past few decades discussing the concept of supervenience and exactly what it amounts to. What is important for our discussion, however, is to recognize that for the non-reductive (micro)physicalist, causally effective non-microphysical states, properties, events, etcetera (we'll call these non-microphysical features, or NMF for short) are not identical or reducible to microphysical laws, properties, events, etcetera. This means that, in some sense (and for different non-reductionists this will be spelt out differently), NMF have causal powers over and above the causal powers they inherit from the purely microphysical constituents of which the NMF are composed. However, in order for these non-reductionists to remain even minimally microphysicalist they must accept that i) NMF cannot make a causal difference at the microphysical level (i.e. all causation is "bottom-up" as per chapter 1) and ii) there is no NMF change without a microphysical change (supervenience of the higher level on the microphysical).

But is such a move available to microphysicalists? Jaegwon Kim and Barry Loewer (among others) say no. In response to non-reductionist positions both Kim and Loewer have put forward what are known as Causal Exclusion arguments which are intended to demonstrate that the non-reductionist position is at best extremely implausible. Kim's Exclusion argument is perhaps the more famous, but I favour Loewer's which can be found in his “Why Is There Anything Except Physics?” (2009). Loewer argues that the non-reductionist position implies that there are two possible worlds which are exactly alike in their microphysical facts and laws but with different higher level laws[41]. But since these two worlds are exactly alike in their microphysical facts and laws, and since NMF supervene on physical facts and laws (essential tenet of microphysicalism), these two worlds will be exactly alike in their NMF facts and in the chronological progression of non-microphysical events. In other words, even though they differ with regards to their non-microphysical laws, they will be exactly the same in regards to every other fact. Indeed, in regards to counterfactual truths (if there are any), true generalizations, explanations, and projections, both worlds will be exactly alike[42]. But if every other fact is exactly the same between the two worlds except for facts about non-microphysical features, then those non-microphysical laws cannot be said to make any difference. And if those laws cannot be said to make any difference then there seems to be no plausible way to continue to claim that they are in fact operative in any given case. As many have suspected and accused concerning non-reductionism, it attempts to have its cake and eat it too. But these entirely redundant higher level laws seem entirely superfluous and without defense other than a means to avoid objections like the AfR. But this means that even if supervenience were a plausible relationship for logical relationships to have with the microphysical (and it's not) it would offer no means of allowing logical relationships to play a causal role in a microphysicalist ontology. And so, I submit, non-reductionist solutions to the AfR's claims are unsuccessful.

But perhaps this is all too quick. Perhaps there is another option we have not yet considered for the microphysicalist. The first question to ask in trying to determine what that option might be is to determine what remains available for the microphysicalist in terms of

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[41] Loewer speaks of special science laws specifically, but the point applies to all NMF generally.

[42] Loewer is apparently concerned that the NRP proponent will disagree with his (and my) claim that both worlds will be exactly alike in regards to counterfactuals, explanations, and projection, because he goes on to defend this claim in more detail (see Ibid.:230-232).

plausible positions regarding the relationship between microphysical and NMF. Now because we have ruled out the plausibility of non-microphysical laws being metaphysically basic in the way microphysical laws are, and because microphysicalism rules out the possibility of NMF being metaphysically basic, it seems as though we can rule out basic NMF causation of any type. That is, it is not the case that non-microphysical events cause other non-microphysical events in a metaphysically basic way. Rather, non-microphysical causation must be considered only and entirely derivative of microphysical laws and events. But then what could those higher level events that we generally describe using the language of, say, higher level laws possibly be? It seems to me the only thing they can be is just what Loewer (2008), Dennett (1987), and others have claimed them to be: regularities or patterns in the behaviour of microphysical particles.

For this type of reductive microphysicalist, higher level features of reality just are discernible patterns and regularities in the behaviour of microphysical particles. Thus microphysical particles operating according to the laws of physics come to form patterns in their behaviour that follow more or less lawful regularity. So, for example, quarks and electrons behaving as the laws of quarks and electrons tell them to will come to form relatively stable patterns in their behaviour, patterns which we have given the name "atoms". These patterns in microphysical activity that we call atoms then, purely due to the behaviour of their constituent parts operating according to physical laws, also come to form recognizable patterns which we call "molecules". These patterns in microphysical activity that we call atoms that form patterns in atomic activity that we call molecules (all of which still entirely derivative on the behaviour of the ultimate or "base-level" constituent microphysical particles acting according to the relevant laws) then form recognizable patterns that we call "cells". This concept is then repeated all the way up until you have the patterns upon patterns upon patterns upon patterns that we call biology, psychology, social science, economics, etc. All such regularities or patterns are true, existing, discernible regularities and patterns[43], but ultimately every event and property at each higher level is entirely derivative of the behaviour of the "bottom" level microphysical particles acting according to the relevant physical laws. That is, while observers are able to find objective patterns that do exist at higher levels, those patterns are not metaphysically basic but in all cases are derivative of the behaviour and laws applying to the only metaphysically basic level of reality - the microphysical. Perhaps in this way the reductionist could explain how it is that we come to behave in ways that follow the patterns of behaviour that we would expect a creature to behave if it were somehow able to be causally effected by logical relationships between propositions.

The problem these reductionist explanations of higher level reality have as responses to the AfR is that NMF still simply do not have any means of actual causation - to use the language established in chapter 1, they do not actually fit in the total causal story (the true complete explanation) of any event. This is because while it may be true that higher level event B tends to follow higher level event A - indeed it could even be true that they do so with such regularity that we call the pattern of B following A a "law" - the view simply rules out saying that A *caused* B in any ontologically meaningful way.[44] So, under this type of response, the logical relationship between considered propositions cannot explain - cannot be a part of the total causal story of -

[43] See especially Dennett (1991) for a detailed explanation and defense of the claim that these patterns are true and real patterns. For Dennett this is an important distinction between himself and eliminativists.
[44] See Timothy O'Connor's (2005) for more on the inadequacy of Dennett's position to account for important causal relationships, albeit with a concern to moral agency rather than rationality.

any particular event, because the logical relationship between considered propositions is not found in the only metaphysically basic realm the view admits to.

Now Dennett, Loewer, et al. are likely at this point to turn to an evolutionary explanation to defend how their positions can allow for rational justification.[45] So they would present a complex story which ultimately explains how the relatively stable patterns of particles we call people have evolved to be as we are because when these patterns (people) behave in ways that are in line with the principles of sound reasoning they have an increased chance at survival and reproduction. Over the eons of evolution, natural selection has caused these patterns of behaviour to follow the dictates of the principles of sound reasoning closer and closer until we have the finely tuned inferentially rational creature we are today. True, the actual logical relationships between propositions we consider play no causal role, but the closer we come to behaviour that looks as if those logical relationships were causally potent the better we survive. And thus the principles of sound reasoning do explain why we have evolved as we have and thus do explain in a Dretskeian "structuring cause" (rather than a "triggering" one) why we infer as we do.

If we put aside the plausibility of such an account,[46] it unfortunately still fails to address the concerns of the AfR, and for a few different reasons. First, it is not clear that the actual story they are trying to tell is even coherent in a microphysicalist world. If all macrophysical events are entirely derivative of the behaviour of microphysical events, then it is at least not obviously true that macro-properties (such as the survival value of particular behaviours) are able to play an explanatory role - the constituent microphysical particles and the laws applied to them care

[45] Indeed, this is just what Dennett does. See his 1987 and his 1991a for examples.
[46] See, for example, Alvin Plantinga's 1993 or Angus Menuge's 2003 as arguments against said plausibility.

nothing for whether a particular pattern in a collection of their particles continues to exist, survive, or reproduce.

Second, the inferential rationality that would arise from such a process would be entirely externalist in its justification. That is, since the actual logical relationships between considered propositions are causally impotent (if considered propositions could even arise in such a situation - but we'll avoid the land mines of philosophical zombies here), the only thing that would justify inferences made would be that they arose from this evolutionary process that produced creatures that *tended* to behave in ways that lined up with the dictates of principles of sound reasoning. Whatever extent externalist accounts of justification are true, it seems implausible that *all* accounts of rational inference are justified in a purely externalist way. The engineer doesn't trust that her bridge won't collapse simply because people with her training tend to design bridges that don't collapse. No, the engineer trusts that her bridge won't collapse because she has done that math and seen that it checks out - she has determined via mathematical inference and seen with certainty that the structure will support the necessary weight. This is a feature of inferential rationality noted earlier that Dennett and Loewer's evolutionary account cannot meet - to borrow from C.S. Lewis (2002: 316), we *know* that if A = B and B = C then A = C not because we've never seen them behave differently, and not because we tend to believe that A = C follows from the other two propositions, but because we see that by the terms involved it cannot be otherwise.

But ultimately such evolutionary accounts fail in a microphysicalist framework because it fails to allow for what we have already argued it must allow for - that is, the real, literal causal potency of logical relationship between propositions. The account falls to an "as-if" problem - it only allows for relatively stable patterns of particles ("people") to behave "as-if" they are performing logical inferences on the basis of logical relationships between considered propositions. But if the logical relationships involved do not actually explain the mental behaviour - if they are not part of the total causal story - then, as argued above, the ultimate results of that "as-if" behaviour is not a truly inferentially justified belief.

A final attempt to avoid these difficulties for the microphysicalist is related to a concern raised by Noa Latham in the process of discussing this work. The concern I took him to raise was that perhaps the means of allowing logical relationships to play the requisite causal role is by referring to one's *belief* that the relevant propositions have the relevant logical relationship.[47] Thus, what explains my inferring "Q" from "P & if P then Q" is my belief that those two propositions have the relevant logical relationship. Provided one grants (as I have done for the sake of argument thus far) that mental states like belief are reducible to microphysical states then the microphysicalist will have no problem accounting for one's belief in the grounding propositions or one's belief that those propositions have the relevant logical relationship. But if this is the case then perhaps we have a means of allowing logical relationships between propositions to play a sufficient explanatory role and thus the AfR as I've presented it is defeated.

To begin addressing this objection it is worth noting that, as per Loewer's argument given above, non-reductive approaches to this strategy will not work, because they continue to leave the higher level properties (in this case, the mental properties) of the event causally

[47] Latham has clarified his concerns to be more accurately considered to be an appeal to a non-causal role for logical relationships. I address this concern in chapter 4 section 1, but thought the material given here worth keeping.

impotent. And so this argument will really only be available if one pairs it with a thoroughly reductionist microphysicalism. Given that many (including myself) consider a thoroughgoing reductionist microphysicalism to be entirely implausible due to concerns like multiple realizability this is a significant consideration that will leave this approach unavailable to many who might wish to take it.

But even if we ignore this difficulty the objection still does not succeed, and the primary reason it does not is that the best it can give us is X-perception of a logical relationship and not true S-perception.[48] Remember that we argued that justification via rational inference requires that one S-perceive a logical relationship between propositions - that is, one's belief in the existence of that relationship must be explained by the relationship itself - otherwise one's belief concerning that relationship will be true only by luck. One might believe such a relationship exists, and this belief might explain one's mental behaviour when one performs a rational inference, but if the actual existence of a logical relationship between propositions does not (or even *cannot*) explain why one believes that relationship exists then the belief that there is such a relationship is insufficient to justify the resulting rational inference.

Put another way, if logical relationships between propositions are causally impotent (which they are given microphysicalism) then there is no way that those relationships can explain one's belief in those relationships. But if those relationships cannot explain one's belief in those relationships then one's belief regarding those relationships becomes entirely mysterious and - more importantly - will be true only by luck. If the horse in the field does not

[48] As a reminder: we used the term "S-perception" to refer to a situation in which one's perception of an object is actually caused by that object (e.g. an actual horse in the field causes my perception of a horse in the field), whereas we used the term "X-perception" to refer to cases where one's perception of an object may or may not have been caused by that object (e.g. a blow to the head causes me to perceive a horse in the field).

literally cause my belief that there is a horse in the field then my belief that there is a horse in the field will be true only by luck. And if my cognitive system is such that horses *cannot* cause beliefs in me at all, then such a belief will be true by a very unlikely and unjustifying stroke of luck indeed.

3. Causal Drainage?

As previously noted, laws of the so-called 'special sciences' (pretty much anything other than physics) are generally considered higher level , and laws of basic physics are considered strict. When we put it that way, however, it appears as though if Loewer's argument goes through then, given microphysicalism, not only would logical relationships between propositions be entirely ontologically inoperative, and not only would mental events/properties be completely causally impotent, but so to would be any non-fundamental physical law or event. So laws of biology and chemistry and economics and astronomy and sociology are all on the outs - they are, at best, discernible patterns in the behaviour of particles. Indeed, if (as many believe) there actually is no fundamental or "bottom" level then this would seem to imply that there is no level at which causation could occur, which is absurd. So something must be wrong in the preceding argument.

Jaegwon Kim has faced this issue as a *reductio* to his 'causal exclusion' argument (see, e.g. his 2008: 52ff) and calls the hypothetical effect of higher level causal powers giving way to the infinite regress of levels 'causal drainage'.[49] It is perhaps worthwhile, then, to consider how these worries might apply to our argument as presented here.

[49] In the various discussions around this issue the language tends to alternate between talk of laws and talk of causation. Since they are broadly considered to (at least) go hand-in-hand, this alternation does little to affect the outcomes of the arguments. Essentially what is at stake is what relationship do higher level laws, objects, properties, etc. have to lower level laws, objects, properties, etc..

The first concern to consider, then, is the attempt to use causal drainage as a *reductio* to the arguments here. “Surely you don’t think microphysicalism necessarily entails that all higher level laws are explanatorily impotent, do you?” someone might ask. Fortunately the answer for me here is a simple one: yes, I do. In the case of a *reductio* it is always an option to bite the bullet, and for reasons discussed in this chapter, I do not feel this a particularly difficult one to bite. It seems to me as though the very tenets of microphysicalism fairly straightforwardly imply the impotence of higher level laws and events. Again, this does not mean that microphysicalism rules out the emergence of patterns within collections of microphysical particles which can then be subsumed under higher level laws. But it does mean that those higher level laws are actually explanatorily impotent - they describe regularities that happen to hold, not what causes them to come about.[50] And so causal drainage as a *reductio* argument holds little concern for me.

But then what makes rational inference, or the principles of rational inference, unique? Why focus on reason alone? Why not call it the argument from mitosis, or the argument from disease, or the argument from hockey playing, or shoplifting, or Keynes' law, or any countless other higher level events or laws that we appeal to in both our everyday and scientific explanations?

The answer here is primarily twofold. First, the argument is the argument from *reason* because of the irrefutable nature of what inferential rationality is and what it does for us. As has been mentioned many times in this work, one simply cannot claim that we are systematically failing to do what we take ourselves to be doing when we rationally infer or the

[50] For more on this see Kim (1993) as well as McLaughlin and Bennet's (2018) SEP article on Supervenience, particularly section 3.7 entitled "Supervenience and Causation".

efficacy of those inferences to help us get to the truth. To do so undercuts one's own ability to even speak intelligibly about the matters at hand – or virtually any matters for that matter. The moment one attempts to argue for the inefficacy of reason to help one attain the truth is the moment everyone else is given permission to completely ignore whatever they might say in defense of the claim – because they are trying to reason that reason is useless. So while perhaps one might find a way to intelligibly claim that what is actually happening (or what is causally responsible) when what we call mitosis occurs, or when someone shoplifts, or when we discover Keynes' law, is actually radically different from what we *think* is happening, one simply cannot claim that rational inference is not exactly what it claims to be (at least generally speaking).

Second, the argument is the argument from *reason* because of the very strict causal requirements placed on rational inference for it to actually be useful for one to get to the truth. As argued in this chapter, logical relationships between propositions *must* play a suitable causal role in the course of one's making an inference in order for that inference to help one in getting to the truth. It is not clear to me that other higher level events have the same causal requirement on them. I do not have an argument as to why one could not (with, e.g., Dennett) consistently claim that for most higher level events they really are nothing more than observable regularities or patterns in the behaviour of collections of microphysical particles. Whatever the reason or explanation is for the rise of such regularities, for all I've said one could claim that they do exist and are real and legitimate patterns. If you ding your neighbor's car door your neighbor will likely utter various curse words directed at you; but whether or not the door ding actually explains the curse words or if it is merely the behaviour of microphysical particles happening to form a pattern that makes it look like the ding explains the cursing does not really change anything about the practical facts of the exchange. Whether you call it a ding-caused-curse or a pattern that, from the macro-level, merely *seems* to be a ding-caused-curse is pretty much irrelevant. However the same cannot be said for rational inference – it cannot be the case that one's behaviour merely *seems* to be explained by logical relationships between propositions, one's behaviour in making the inference *must* be explained by those principles or it is, to borrow from Jerry Fodor, "the end of the world" (1990: 156).

4. Ontological vs Epistemelogical AfR

Before concluding this chapter it is perhaps worthwhile to address the primary difference as to why the Epistemelogical AfR succeeds while the Ontological AfR fails. Ultimately, the difference is in the irreducibility of the essential causal components of the particular features of a rational inference. For Reppert's argument to go through he needs to demonstrate that essential components of rational inference are irreducible to microphysical states. For as long as intentional states are reducible to microphysical states, then all of the necessary causal components of rational inference can be admitted into the causal structure of the microphysicalists world. Thus, if one's belief that "A", and one's belief that "if A the B", *and* one's belief that "B" follows from "A and if A then B" are all reducible to microphysical states then, as we've seen, the microphysicalist can incorporate all the necessary components of rational inference into her worldview. So, since Reppert has, in spite of attempts to the contrary, failed to demonstrate the irreducibility of intentional states his ontological argument ultimately fails to go through.

In contrast, for Hasker's epistemological argument to go through what we need is the irreducibility of logical relationships between propositions to microphysical states. Logical relationships are relationships between abstract objects and hold true in all possible worlds and thus simply are irreducible to microphysical states, which are concrete objects in particular worlds. Therefore, these logical relationships between propositions are irreducible just as Hasker needs them to be.

5. Conclusion

As we've seen in chapter 1, that we are inferentially rational is a claim that we cannot deny upon pain of complete incoherence. And as we've seen in this chapter, to be inferentially rational requires the possibility of having logical relationships between propositions play a causal explanatory role in our belief formations. As we've also seen in this chapter, because logical relationships are not part of the features, descriptions, or laws that apply to the microphysical world, microphysicalism cannot account or allow for logical relationships between propositions to play such a role. Therefore, we may conclude, microphysicalism cannot rationally be asserted as true.

There seems to me to be some likely objections outstanding, perhaps chief of which is a type of reductio that argues that the idea of logical relationships playing the causal role I require is absurd. How would abstract objects actually cause anything? We will consider this objection and a few others in the next concluding chapter.

Chapter 4:

Objections and Replies

1) Logical Relationships and Causation:

The argument from reason as presented in the previous chapter has three essential premises:

> 1) Logical relationships between propositions must play a causal role in the action of one's making an inference in order for that inference to be justified or useful in determining true statements about the world;
>
> 2) Logical relationships between propositions are not features, properties, or members of the descriptive laws of the fundamental microphysical particles of the physical world;
>
> 3) Microphysicalism precludes the causal efficacy of anything that is not a feature, property, or member of the descriptive laws of the fundamental microphysical particles of the physical world.

I take premise 2 to be uncontroversial, and premise 3 was discussed at length in the previous chapter. However, premise 1 may remain a stumbling block and so perhaps worth pursuing further here.

The concern or objection based on premise 1 is a challenge to the plausibility or even sense of the idea that logical relationships between propositions could play a causal role in any events whatsoever. After all, these logical relationships are abstract, necessary and non-spatiotemporal – how could they come to causally influence *anything*? Indeed, we may have here a problem at least as difficult as the problem of interaction is for the substance dualist. At least for the dualist there is a mind that wants and intends to interact with its body – logical relationships have no such ability to want, intend, or try to do *anything*. To respond to this challenge it will first be necessary to consider how it is possible for logical relationships to play this causal role.

Before we begin, however, I should note that in what follows I in no way intend to provide a full fledged and uncontroversial account of how logical relationships between propositions might play the requisite causal roles in our belief formation. Given the wide array of long-standing philosophical issues that must be addressed to do so any such account is well beyond the scope of this work. Rather my intention is to lay out one potential avenue by which such a thing might be made intelligible. Indeed, this is the model that I happen to believe is most likely how inferential rationality works. While I do believe what I offer here suggests potentially profitable lines of investigation, I approach this fully aware that what follows will of necessity be extremely scant on details and leave much that is yet to be done to offer a full bodied account of interaction between persons and logical relationships. With that in mind, let us proceed in attempting to sketch the beginnings of an answer to the question of "how could logical relationships between propositions play the requisite causal role in rational inference?"

C.S. Lewis in his version of the AfR ponders a very similar question when he says

> But even if grounds do exist, what exactly have they got to do with the actual occurrence of the belief as a psychological event? If it is an event it must be caused. It must in fact be simply one link in a causal chain which stretches back to the beginning and forward to the end of time. How could such a trifle as a lack of logical grounds prevent the belief's occurrence or how could the existence of grounds promote it? (2003: 315)

First Lewis considers that perhaps logical relationships between propositions just are a part of the causal nexus to which all things are subject. In other words, maybe there is a literal 'force of logic' or literal descriptive (as opposed to normative) 'laws of logic' which directly influence or determine the behaviour of particular existent objects (such as brains or minds). But this can't be right, says Lewis, for

> We know by experience that a thought does not necessarily cause all, or even any, of the thoughts which logically stand to it as Consequents to Ground. We should be in a pretty pickle if we could never think "This is glass" without drawing all of the inferences which could be drawn. It is impossible to draw them all; quite often we draw none. (Ibid.)

Maybe Lewis is right to reject the idea, but his argument to that effect is not very convincing. Of course it's true that we do not draw all of the inferences that can be drawn from each proposition we consider, but this hardly seems a necessary consequence of the idea of logical relationships being a part of descriptive causal laws. Without further argument it's not obvious that in each case of considering propositions there aren't particular contextual features that determine which, if any, inferences are drawn by a person. At the very least Lewis has more work to do here.

But I do believe Lewis was right to reject the idea, and a better argument to his conclusion would be an argument from fallacy. If laws of logic were part of the causal nexus logical fallacies would be utterly mysterious – how would you explain someone's inferring "A" from "B and if A then B"? Did the relevant law of logic just have a momentary glitch? A metaphysical oops? The universe forgot the exact details of *modus ponens*? Or are there maybe laws of fallacy similar to the laws of logic? This last option seems not only implausible but a gross violation of Occam's razor. Surely it is metaphysical excess to posit laws of fallacy and laws of poor reasoning for every type of unsound or invalid argument that is made. So while Lewis' argument was flawed, his conclusion denying that laws of logic are just another set of the natural laws seems correct.

But then our question remains for us as well as for Lewis; how could laws of logic play the requisite causal role? So Lewis offers another possible answer: "One thought can cause another not by *being*, but by being *seen to be*, a ground for it" (Ibid.). In other words, the mere fact that a proposition logically follows from the content of one's occurrent thought is not sufficient for that thought to cause one to think about that proposition, but one's *seeing* (grasping, noticing) that the proposition follows from the thought is. I've come to infer B from A not because B follows from A but because I *see that* B follows from A.

So, for Lewis, not only are the two propositions (the ones that Lewis calls "ground" and "consequent") properly considered the intentional objects involved in a rational inference, so too is the logical relationship between the two propositions. This logical relationship is not causally effective on its own, rather it requires the intentional activity of an intentional subject acting on perceived propositions and their perceived logical relationship. Interestingly, this fits very well with our considerations of rational inference in chapter 2 where we demonstrated that rational inference is an inherently intentional activity involving the belief/perception of a logical relationship between propositions as an intentional object.

So logical relationships must be intentional objects in the minds of rational inferrers. But how do these relationships become intentional objects? How do I come to perceive the logical relationship between "all men are mortal" and "Socrates is a man"? And then how does my perception then explain future mental states or physical behaviour? In the case of vision we have physical objects - say a horse - reflecting (physical) rays of light which are then absorbed by my eyes and transmitted along optical nerves to my brain to (somehow) create a belief that a horse is in front of me, as well as (even more mysteriously) the phenomenological experience of the appearance of the horse. But in the case of logical relationships there is no obvious replacement for the horse, light rays, or optical nerves to explain our perception of those relationships.

One potential answer is to directly infer a mind of a different substance than the physical - a substance whose very nature it is to interact with abstract objects like numbers, concepts, and logical relationships between propositions. This is of course the broadly Cartesian strategy of a Substance Dualism which, while fairly unpopular in philosophical circles today, does still have its followers. Indeed, as I will touch on below, I believe the arguments in opposition to substance dualism are massively overblown and that it should be considered a more plausible alternative than it is generally given credit for. That being said, the mere conjecture of a distinct substance is likely to strike many as simply *ad hoc* and ultimately an appeal to mystery, and thus remain an unappealing option. So let us try to further analyze the question of how logical relationships can become intentional objects to see if we can offer any more insight on viable options.

To get to the analog of the horse/light rays let's start very simply by noting that logical relationships between propositions result in a very straightforward manner from the meanings of those propositions. If I understand the propositions expressed in the statements "all men are mortal" and "Socrates is a man" then I also see that if those propositions are true then so too must the proposition "Socrates is mortal" be true. If I assert the first two statements to be true and then assert the negation of the third the most natural assumption is not that I do not understand laws of logic but rather that I do not understand the meanings of the words themselves. Having a logician on hand to point out the fallacy is hardly necessary for any capable English speaker to know that I have erred in such a case. And so if one understands a proposition then one is able to grasp - that is, have as an intentional object - the logical relationship that that proposition bears to at least some of the propositions it logically relates to.[51][52]

But we need to pause here to further analyze what it means to understand a proposition. First, it is important to note that "understanding a proposition" (at least in the sense pertinent to rational inference – in what follows this clarification is assumed) must mean more than just an apt or correct behavioural response – whether mental or bodily behaviour - to a given verbal or mental stimulus (including generating an appropriate mental "image" or "picture"). My calculator is programmed to display a 4 whenever I input "2+2" but this does not mean that it understands, even in some very basic manner, the relevant propositions or concepts involved. Second, it's also worth noting that one cannot understand a proposition in isolation. As implied in the final sentence of the previous paragraph, for one to understand a proposition means that one also understands at least some other propositions that are logically related to the original proposition. And so if I understand the proposition "Socrates is a man" I will likely understand relevant other propositions such as "Socrates is not a not-man" or perhaps "Socrates is not a god" or some other such. Furthermore, in inferring rationally I must be able to hold at least two related propositions in my mind and consider the relationship they

[51] Obviously understanding a proposition does not require grasping all of the other propositions it bears a logical relationship to. Such a condition may be practically impossible to meet for *any* proposition for finite minds such as ours. But if one understands a proposition one must also grasp it's logical relationship to at least *some* other propositions.

[52] Note that I am not hereby staking any particular position in debates surrounding conventionalism or linguistic theories of logical truth, nor arguments around nativism regarding language. One could hold to many variants of those views or their opposite and still accept the general picture here presented. So those concerns are quite outside of the present argument.

bear to one another, and then on behalf of that consideration infer from the premises to the conclusion.

So to be able to perceive logical relationships between propositions is to be able to understand propositions, and to be able to understand propositions is to be able to perceive logical relationships between propositions. Now the way in which we understand propositions is via our ability to understand and use words in combinations which express those propositions in token statements or sentences - in other words, language.

How language evolved is certainly an extremely complex story, and it seems safe to say at this point that nobody knows how we came to develop it (for a good overview see Botha, 2003). In either case, a full account of how it may have arisen is entirely beyond the scope of this work. However it did happen, what we know has happened is that by some means we have gained the ability to use words to refer to virtually anything our minds can conceive. It seems as though human infants are somehow trained through listening to their older fellow humans speak to attach meanings to sounds (words). Those meanings are rudimentary understandings of the complex meanings that those words contain, but the infant's understanding of those meanings grows and is honed through trial and error throughout its life. Eventually the human comes to his or her own personal grasp of the meanings of the words being used, and then via that understanding gains the ability to reason from their understood meanings of certain words to their understood meanings of others. And the more carefully they have refined their understanding of particular words to the cultural understanding of those words the more they will be able to express those ideas to others.[53]

It is worth pointing out here that while the concept of the meanings of words presented above is extremely subjective, there is always an objective fact as to whether or not someone's subjective understanding of one collection of words has a logical relationship to that person's subjective understanding of another collection of words. And, in the case of truly justifying rational inferences, the objective truth of this relationship must play an inextricable explanatory role in the rational inferrer's inference. They have to have inferred because they can see that the grounding proposition has the requisite logical relationship to the consequent proposition. And the ability to see this fact comes from the ability to understand the subjective meaning behind the words one uses.

A second point worth making here is that while the beginning of learning a language may be a matter of conditioned responses to certain sounds, *genuine* language must be something much more than that. The infant may be conditioned to say "green" whenever her mother points to an object with a certain general phenomelogical feature, but eventually the child comes to grasp the concept of "green-ness" which allows her to use the word "green" in a wide variety of uses and contexts widely variant from the original situations in which she first encountered the word. And so too with every word we learn - eventually we gain the ability to use these words in a potential infinity of meaningful combinations to express thoughts and ideas - including thoughts and ideas no person (or at least no human) has ever had before.

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[53] Obviously I am here ignoring numerous arguments regarding the details of such a story. Again, my goal in this chapter is not to provide a full-fledged and uncontroversial account of how logical relationships do (or even can) play a causal role in belief formation, but rather to provide an at least *prima facie* plausible account that points in the direction of a more full fledged and defensible response to the objection here considered.

Indeed our ability to gain knowledge and insight relies on this ability. And such an ability would be utterly impossible if language use was nothing more than conditioned responses to words heard, read, or thought.[54] Genuine language use entails that we are able to grasp the semantic content (meaning) of particular words, use that grasping of those meanings to form, understand, and express sentences which themselves express propositions, and then use that understanding to infer from accepted propositions to then come to accept other propositions. And so, as will also be argued further below in section 1.1, genuine language of the sort I am talking about requires that language is a fundamental causal ability, and not merely supervenient on more fundamental, non-linguistic states or events.

So, very roughly stated and missing much of the details, the way in which logical relationships between propositions come to influence our beliefs and behaviour is by our coming to understand the meaning of words which allows us to combine those words into sentences which express propositions, and then being able to grasp and understand those propositions. Once we grasp and understand those propositions we are able to perceive the objective logical relationships which exist between the propositions we understand. Or, to put it another way, the way in which logical relationships come to play the requisite causal role argued for in chapter 3 is by an inferrer's understanding of the propositions themselves - via their grasp of a language - leading the inferrer to s-perceive the logical relationship that holds between them.

But how then could one's understanding of propositions become causally effective in the requisite way? In chapter 3 I argued that it doesn't come about by supervening on

[54] See Thomas Nagel (2012:79ff) for a further defense of this claim.

microphysical particles and law. With Lewis we have come to see that it also does not come about by the actual meanings themselves mechanistically causing us to infer from a grounding proposition to a logically justified consequent proposition - we *still* infer in ways that are not logically justified. And finally we have just shown that it is not a matter of a conditioned response to external stimuli (such as heard words). In other words, inferential rationality is not a matter of purely mechanistic causation at the fundamental microphysical level; it is also not a matter of purely mechanistic causation at the behavioural level; and it is not a matter of purely mechanistic causation at the linguistic or mental level – it is more than just a progression of one mental state with propositional content causing another mental state with propositional content. It seems reasonable to me, therefore, to infer that inferential rationality is not a matter of mechanistic causation *at all*. Rather, I contend that inferential rationality requires an entirely separate, inherently teleological, type of causation.

So as a necessary requirement for inferential rationality we must have a type of causation which is non-microphysical, non-mechanistic, and teleological. Furthermore, essential features of this causal chain will involve the understanding of propositions via language, the ability to consider a number of propositions at the same time and consider potential logical relationships between the propositions, be able to perceive actual logical relationships that hold between those propositions, and, as a result of that consideration and perception, come to alter one's belief set. But not only all of that, as we have seen it must also have the ability to get those inferences *wrong*.[55]

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[55] At the risk of overstating, this last point is important because it rules out the logical relationships *mechanistically and deterministically* causing a resultant belief. Rational inference – at least as we practice it – just doesn't work that way.

It seems to me the best candidate to meet all these requirements is a type of agent causation resulting from the intentional action of an irreducible linguistically-capable conscious agent. An irreducible linguistically-capable conscious agent is capable of having a higher level mental state that has as it's intentional object other mental states with propositional content, reflecting on the meanings of the relevant propositions, thereby coming to s-perceive a logical relationship between the propositions, and then making that logical relationship causally effective by making the choice to alter one's beliefs accordingly. [56] But that agent will also have the possibility of misperception leading to her inferring as she ought not – she may take herself to s-perceive a logical relationship when in reality she merely x-perceives a relationship that doesn't happen to exist (common causes of such x-perception being such things as inattentiveness or imprecision in regards to logical details or propositional meanings and willful ignorance due to unwillingness to reject a cherished belief). To put it another way – logical relationships do not cause rationally justified inferences by acting upon the inferrer, but rather by an irreducible linguistically-capable conscious agent *choosing* to act upon the logical relationship that her linguistically-capable mind is capable of perceiving.[57] It is the agent's freedom from the purely mechanist causation of (micro)physicalism that allows her to perceive

[56] I am not hereby arguing for the very controversial doctrine of voluntarism. While I do believe we have some control over the beliefs we come to form given the evidence we are presented (via such mechanisms as our ability to choose what to direct our attention to, how intensely to consider what we believe is a logical relationship, how strongly to base our beliefs on reason or evidence above desire or other factors, etc.), my argument in no way requires that we have full control over any of our beliefs at all.

[57] For a more detailed defense of the claims made in this paragraph see Thomas Nagel's (2003), John Searle's (2001, 2004), and David Hodgson's (2011). Hodgson in particular makes a very interesting case for the essential role of irreducible consciousness in cases of inferential rationality (see especially pages 68-74).

logical relationships and then act upon that perception to make them a part of the total causal story of her inference.[58]

Put yet another way, rather than the logical relationship somehow reaching into space/time and mechanistically causing a person to make an inference – or causing someone to perceive the relationship and thereby make an inference – the agent through her irreducible linguistic conscious ability is able to reflect on the meaning of propositions, use that reflection to s-perceive logical relationships, and on behalf of that s-perception make the appropriate justified inference. An irreducible agent is able to do this when a merely reducible microphysical person is not because the agent's mind is free from the mechanistic non-rational to-ing and fro-ing of particles that are entirely causally separated from propositions and logical relationships. The agent's mind can directly grasp the meaning of propositions, and that grasping (and the choices the agent makes in light of that grasping) can be causally basic for the agent – it is not fully determined by or fully supervenient on those non-rational particles. And because the inference is reliant on an agent's choice and not purely mechanistic microphysical causation we can also explain how she fails to infer as she ought – inattention to logical detail, wishful thinking, and any other number of factors can cause her logical perception to go awry. How exactly an agent is able to do all of this is well beyond the scope of this thesis, and is still a very open question with much mystery around it. [59] But it seems to me one – and perhaps the

[58] Obviously the above account largely ignores crucial questions that simply cannot be addressed in this work. Questions such as how agents can come to be linguistically-capable, what consciousness is and how it interacts with physical reality such as our brains, and a whole host of other significant questions are not addressed or are at best merely hinted at. My goal here is to provide a bare sketch of a position that meets the essential requirements raised in the AfR and leave aside the important work of filling in those details.

[59] See the various works of Timothy O'Connor, in particular his (2000), for an interesting take on the metaphysics and ontology of agents and agent causation.

only - plausible way to explain how it is that human inferrers are able to have access to logical relationships between propositions.

And so, I contend, at least one way to explain the existence of rationally inferential beings - which we must believe ourselves to be – is to accept agent causation. But this would mean we need radically different concepts of the mind and indeed ontology and metaphysics from those which are currently mainstream in philosophy. I would argue that we need views that either allow for a metaphysically basic mind to emerge from particular complex arrangements of microphysical particles which has capabilities not entirely reducible to the behaviour of those particles (what is known as Emergentism) or that allow for the mind as an entirely separate irreducible substance capable of influencing and being influenced by the physical (or what is known as Substance Dualism).[60]

1.1. Latham's Dilemma

In response to the AfR as I've presented it, Noa Latham has in personal correspondence objected that I have placed myself squarely on the horns of a dilemma. For if language or understanding propositions is all that is required for logical relationships to play the requisite causal role in one's inferences then either there is a simple solution to the AfR or the AfR is superfluous. On the one hand, he argues that I have failed to demonstrate that either language or the understanding of propositions is incompatible with microphysicalism and so the

[60] At the risk of being repetitive, I freely admit that the argument in this section opposing potential "mechanistic" explanations of the causal potency of logical relationships, as well as the argument in support of emergentism/dualism, is far from air tight, and that the attempted teleological account of how logical relationships could play the requisite causal role is a bare bones account at very best. My goal in this section is neither to provide a knock down argument against the possibility of a mechanistic causation account nor to provide anything like a full-fledged account of a teleological or agent causal account of rationally inferential creatures. Rather my goal is to provide an outline of a potential account – indeed, what I take to be the most plausible account – that could coherently resolve the problems raised by the argument from reason as presented in chapter 3.

argument is at best incomplete. But on the other hand, if I do manage to demonstrate that either language or understanding of propositions is incompatible with microphysicalism then why not just argue *that* and leave the AfR out of it altogether. We'll call this potential problem "Latham's Dilemma".

We'll address the first horn first and consider if the microphysicalist has a simple response to the AfR via arguing that it hasn't sufficiently demonstrated that language or understanding propositions is incompatible with their worldview. The difficulty with any attempt on their part to make this argument is that both language and the understanding of propositions are higher level features of reality – that is, they are not among the features of microphysical particles or the laws that define their behaviour. Therefore, language *qua* language and the understanding of propositions *qua* the understanding of propositions cannot, for the microphysicalist, play a genuine explanatory role – they are causally effete. At best those higher level mental states will supervene upon relevant microphysical states. But in the account above, *genuine* language and the understanding of propositions are the means by which inferrers are able to perceive the logical relationships between propositions – they are the tools by which inferrers are able to grasp those relationships. This means that they must be explanatorily potent in themselves – they cannot merely supervene upon the causal powers of something more basic which itself knows nothing of propositions, meanings, or language.

To put this reply in a different way, in the account above the mental state of understanding a proposition does not straightforwardly cause (in Dretske's "triggering" sense) us to then infer to a concluding proposition. As we argued above, fallacious reasoning proves that is not how rational inference works. Rather, the mental state of understanding a proposition is the looking glass *through which* we perceive that proposition's relationship to another proposition. And then via that perception we then make the inference from the premise proposition to the conclusion proposition. But in the case where understanding a proposition supervenes on microphysical particles/events those microphysical particles cannot *use* higher level states/events to do anything – they can only progress in their behavioural timeline as the laws of physics determine they will based on their current situation.

To put this in yet another way, the particles on which the microphysicalist insists your mind supervenes progress from one state to another based entirely on the laws of physics and their contextual situation at any given time. As argued in chapter 3, this means that the supervenience of higher level states on those microphysical states plays no role whatsoever in how those microphysical states will progress. But this means that higher level states will progress in the order they do entirely and only because of the progression of the microphysical states on which they supervene. Therefore, whatever the nature of the higher level state might be, it cannot play an explanatory role in why the higher level state progressed from state A to state B. You will have a simple progression of higher level states based not on their relation to each other as higher level states but based solely on their supervenience to the specific microphysical states.

Now, as Loewer (2008), Dennett (see especially his 1987 and his 1991), and others have argued, the microphysical world may (and, according to their arguments, does) progress in ways that cause certain very stable macro-level patterns to arise so that higher level states of type B do follow higher level states of type A with sufficient regularity to allow for the *appearance* of higher level state A's causing higher level state B. And in this way, through various extremely complicated mechanisms, it may be that one will tend to move from higher level mental state of considering "A and if A then B" to higher level mental state accepting that "B", or perhaps even progressing from the mental state of *understanding* "A and if A then B" (whatever that might mean in a microphysicalist context) to the mental state of accepting that "B". But this does not allow that one's understanding of the relevant proposition *allowed* one to perceive the relevant logical relationships as laid out above (microphysical particles cannot adopt the causal powers of higher level states/abilities) nor does it allow that one's understanding of the proposition *qua* understanding of a proposition *explains* why one progressed from one mental state to another mental state.

And so I conclude that microphysicalism is not compatible with language or the understanding of propositions *in the way required for inferential rationality*, and therefore I reject the first horn of Latham's dilemma.

But then haven't we just thrown ourselves on the second horn? For if microphysicalism is incompatible with language or the understanding of propositions surely we should focus on those concerns rather than the ability for reason or inferential rationality. Ultimately this concern would require that language or the understanding of propositions is more basic or the arguments to their incompatibility to microphyiscalism is more simply defended than that of inferential rationality's, and I deny each of these claims.

First, inferential rationality does not only rely on genuine language and understanding propositions in a one-way reliance relationship, rather they are all three bound up together and all three require a mind that is not merely supervenient on microphysical particles/events. If one has any one of these abilities they will thereby have the other two. And so arguing from any one of them to the implausibility of a worldview with which they are incompatible is sufficient, because the other two will follow.

Second, the difficulty with arguing from the incompatibility of language or understanding propositions with microphysicalism is a matter of semantics. It seems to me as though reasonable analyses of those concepts as they are generally used could be given that are at least potentially compatible with microphysicalism but which are not sufficient for inferential rationality. If this is true, then the argument would have to run through an additional argument for the necessity of a particular understanding of those concepts for inferential rationality, as well as the necessity for accepting we are inferentially rational in the way I argue we must believe ourselves to be. But this just means I'd have to run through most if not all of the argument from reason as I've defended it in chapters 1, 3, and 4. In other words, the incompatibility of language and the understanding of propositions with microphysicalism only appears if we accept the necessity of understanding those terms in the specific ways required for inferential rationality. And so, ultimately, the argument from reason is still more fundamental than the argument from language or the argument from understanding propositions.[61]

Ultimately, being capable of understanding a proposition in the way necessary for inferential rationality means having the ability for abstract objects such as propositions and the relationships they bear to each other to be intentional objects in the mind of the inferrer. And in order for those objects to be intentional objects in the mind of the language user the mind of

[61] Some of what might be motivating these concerns might be the same as what motivated the concerns addressed in section 3 of chapter 3, wherein I considered worries about why use the Argument from Reason as opposed to the Argument from [insert any particular type of higher level phenomena].

that language user must have some means of *grasping* or *perceiving* those abstract objects. But if - as argued in chapter 3 via Loewer's argument - microphysicalism entails that the only *real* causation (and thus only true total causal story) occurs at the level of microphsyical particles, and if - as also argued in chapter 3 - abstract objects like propositions and their relationships to each other are *not* members of the microphysical realm or the fundamental physical laws that apply to them, then microphysicalism has no means of allowing a mind that can grasp those abstract objects - they simply have no means of "latching on" to those abstract objects, no feature by which the microphysical particles that make up our brain could be causally related to them. And so, if one is to have the capability of understanding propositions *such that it allows the perception of logical relationships between propositions* then one's understanding of those propositions must be fundamentally causally basic and not merely supervenient on a microphysical state of affairs.

And so, I contend, neither horn of Latham's dilemma is sufficient to provide a means of refuting the thrust of the Argument from Reason as I have presented it.

1.2 Hawkes' " Argument from Logical Principles Against Materialism"

In his own (2019) master's thesis on a version of the argument from reason, Gordon Hawkes has provided an in-depth analysis of what may on the surface seem relevant considerations to the AfR as I've presented it. In his thesis, Hawkes analyzes what he calls the "Argument from Logical Principles Against Materialism" – particularly as presented by Victor Reppert and Karl Popper – with the ultimate conclusion that while the argument is plausibly sound, the contentiousness of many of its essential premises makes it unlikely to be considered successful by many proponents of Materialism. Because of significant overlap between the argument Hawkes considers and the argument found herein, as well as the potential for conflation between the two arguments, it is worth considering how his analyses and findings might impact our present considerations.

To begin, Hawkes isolates what he considers five key premises in the version of the AfR he's considering (2019: i). They are:

1. The laws of logic are objectively real
2. The laws of logic are abstract entities
3. Materialism entails that we cannot have knowledge of abstract entities
4. Knowledge of logical principles is essential for justified rational inferences
5. We have knowledge of logical principles

Hawkes then goes on to provide a highly detailed consideration of each of these, and ultimately comes to the conclusion laid out above. What's more, after having read Hawkes' arguments I have come to similar conclusions on each of these premises myself. So does this mean I have rethought my own conclusions in light of this? While Hawkes certainly has provided an insightful and useful analysis, and his considerations have caused me to reconsider some of the assumptions I made in the presentation of my argument, ultimately his thesis has not caused me to have a change of heart in regards to my conclusions.

To see why, we'll address each premise above individually and see how they compare to premises (whether assumed or explicitly presented) in my argument.

Whether or not "laws of logic" are identical to "logical relationships between propositions" is perhaps one question we could ask to differentiate between Hawkes' argument and my own. Indeed I believe some of the difference in conclusions between he and I rests on this very consideration. And similarly it may be worth asking whether or not what he means by "Materialism" is identical to what I mean by "Microphysicalism". However, I believe the answer to these questions involves significant weed trimming in regards to semantics and interpretation and that is a garden I simply do not wish to tend here.

Rather than dig into those weeds, what I will say in response to Hawkes' considerations regarding premise 1 is that my argument *does* assume (rather than explicitly argue for) the objectivity of logical relationships between propositions. And I feel fairly confident in my footing on this point given that denial of the claim seems to me to entail the impotence of rational inference for attaining truth. The moment you assert "All men are mortal and Socrates is a man" and *then* assert "Socrates is immortal" is the moment I will assume arguing with you is useless (at least once I've clarified that we're using the relevant terms to express the same propositions). Or to put it another way, if you tell me that my belief that "Socrates is mortal" follows from the first assertion is merely my opinion then I'm free to tell you all about the square circles I discovered in my backyard yesterday and you can have no meaningful objection. Either propositions do indeed bear objective relationships to each other or not only will rational inference be impotent at obtaining truth but our very ability to communicate meaningfully will break down. And exactly what explains that objectivity is entirely besides the point for my argument.

In regards to Hawkes' premise 2, again it seems not only eminently plausible that laws of logic are abstract entities, but obvious truth. However, whether or not this is the case is fairly irrelevant to my presentation of the AfR. The reason for this is that the premise from my argument is not that "laws of logic are abstract entities" but that logical relationships between propositions cannot be found among nor reducible to the fundamental particles of physical reality nor the laws that describe or determine their behaviour. Granted, that this is the case was more assumed than argued in the previous chapter, but I do assert that the plausibility of this claim is so strong that the burden of proof is on the microphysicalist. I wish any interlocutor on this point luck in her endeavours.

Hawkes' third premise again seems correct to me[62], but referring as it does to "knowledge" opens up further rabbit trails, and the reference to "logical principles" again risks creating a significantly disanalogy between Hawkes' argument and my own. What my argument does assert is that one must be able to s-perceive logical relationships, and because s-perception requires a causal relationship with the object perceived, this then entails that one must have a causal relationship with said object. The necessity of the causal relationship was explicitly argued for in chapter 3 of this work, and did so while (I believe) sidestepping concerns of what knowledge amounts to and how it is acquired.

Now in his thesis, a crucial argument raised by Hawkes (see especially 289ff) is that it is not clear that non-materialists (or non-microphysicalists in my language) are any better able to account for causal relationships with abstract objects (such as logical relationships), and so the superiority of non-materialist accounts to materialist is at least dubious. I have attempted in this chapter to outline at least the beginnings of a response to such a claim. Yet it must be admitted that my account leaves much to mystery, such as how linguistic capabilities are acquired, what consciousness amounts to, what exactly agent causation is, and how the mind

[62] If you cannot have a mental change without a microphysical change (basic tenet of microphysicalism), and non-microphysical features cannot causally impact microphysical reality (claim argued for in chapter 3), then anything that is not itself microphysical or reducible to the microphysical (as abstract objects are) cannot make a difference to what we come to think or believe. But if this is the case then how could we possibly gain knowledge of such objects? I can see no possible way.

(of the agent) causally interacts with physical reality. However, that non-microphysicalist ontologies contain mysteries on these matters is entirely different from the basic tenets of those ontologies being *demonstrably inconsistent with* essential requirements of inferential rationality. The former leave questions – perhaps insoluble questions – to be answered, whereas the latter – if the argument is sound – leaves a worldview as untenable.

One final point I'll make in regards to Hawkes' discussion around premise 3 is concerning his discussion on whether abstract objects (in our case, logical relationships between propositions) are to be considered to be causal or acausal. While Hawkes provides a useful and interesting examination of the question, I intend more to take the opportunity here to clarify my position rather than analyze Hawkes' take. On first blush it may appear obvious that I take a causal approach, but I believe this chapter will help clarify that I do not take a *mechanistic* (or what might be called purely *efficient*) causal approach to logical relationships. Rather, I argue that the type of causation occurring in a rationally justifying inference is an inherently non-mechanistic, teleological form of causation that relies on the irreducible intentional (as in having the intention/purpose) activities of an agent operating on her mental states which allow her to s-perceive logical relationships. Unfortunately for the microphysicalist that *all* causation is mechanistic is a basic tenet of their ontology (as per chapter 1) and therefore it cannot allow for the type of causation I argue is operant in the case of justifying rational inference. This clarification is important because in our (micro)physicalist dominated milieu when one speaks of causation one is likely to be read as referring to mechanistic or efficient causation. So while I do maintain a type of causal position regarding logical relationships it is not what many would mean by that term.

Hawkes' fourth premise (knowledge of logical principles is essential for justified rational inferences) also makes use of the term "knowledge", which is similarly problematic here as it was in premise three. And once again my own premise (causal interaction with logical relationships between propositions is essential for justified rational inferences) avoids those controversies. As argued in this chapter, one must be able to s-perceive logical relationships between propositions in order for one's inferences to be rationally justified. Whether or not this amounts to *knowledge* of *logical principles* is really an aside for my argument and so I believe my argument sidesteps Hawkes' concern on this point.

And finally, for Hawkes' fifth premise – that we actually do have knowledge of logical principles – I personally prefer my argument not that we *do* have knowledge of said principles, nor even that we *do* causally interact with logical relationships between propositions, but rather that we must – for the sake of coherence and faith in our reasoning faculties – *believe* ourselves to be *inferentially rational*, and then argue that the causal interaction with logical relationships is essential for one to be inferentially rational. So the argument ultimately is not that we *do* causally interact with logical relationships but that we must *believe ourselves to be capable of* causal interaction with said relationships. This avoids the thorny issue of having to argue that we actually in fact are capable of rational inference, which is likely a viciously circular task anyway. This was addressed as well in chapter 1.

Ultimately, while Hawkes' thesis does provide a very thorough and useful analysis of one version of the AfR, and his conclusions in regards to that version seem correct, I believe the version presented in this thesis sidesteps many of Hawkes' concerns. Certainly some of the philosophical issues he has considered do apply to my argument, and a fuller defense of this version of the AfR would require further engagement with those issues. However I submit the positions I have briefly defended in this chapter have at least initial plausibility (and have been defended elsewhere by others more capable) and a further analysis is beyond the scope of the present work.

2. Indirect Objections:

Other objections to the AfR include indirect objections to its conclusion. These objections attempt to demonstrate the implausibility of the conclusion and leave discernment of where the argument goes wrong to others. We shall consider three such arguments here: first (briefly), arguments to the implausibility of alternative ontologies; second, arguments for the truth of microphysicalism; and finally arguments from the reality of computers.

2.1. The Implausibility of the Alternatives

On the implausibility of alternative ontologies much could be said. The two ontologies mentioned above - Emergentism and Substance Dualism - have each come under substantial scrutiny both historically and in current philosophy. Indeed, Substance Dualism in particular is widely considered an essentially dead option among many due to famous objections such as the interaction problem and the pairing problem. While a full-blown consideration and defense of one or both of these alternative ontologies would be useful in defense of the AfR, such is well beyond the scope of the current work and the reader is directed to others currently involved in such defense providing a much more capable case than I can here.

2.2. In Defense of Microphysicalism

Perhaps the most cited argument for microphysicalism is reference to belief in the causal closure of the microphysical realm - that is, the belief that no microphysical event can have a non-microphysical cause.[63] Since all of physical reality is generally assumed to be made up of microphysical particles, if those particles are not susceptible to non-microphysical causes then non-microphysical causation cannot be causally effective in the physical realm. This leads to either epiphenomenalism of all non-microphysical entities or denial in their existence (or higher level causation that just so happens [coincidentally as it were] to fall in line with microphysical processes - a claim I find entirely implausible and as argued against in Chapter 3). So, if microphysical causal closure is true, the conclusion of the AfR must be false.

Given the widely cited nature of this principle in defense of such a major position in philosophy, perhaps the most puzzling thing about it is the fact that so few provide anything by way of arguments in support of it.[64] Indeed, hand-waving in the direction of the "completeability of physics" or lack of evidence of the failure of causal closure tends to be the most that is said on the topic. I for one find no concern with claiming that while Physics has much to tell us about the nature of our world it cannot subsume everything there is to say - and I am far from the only one. Admitting this does nothing for me in the way of diminishing the importance or vitality of the study of the microphysical world.

On the lack of evidence for the failure of causal closure of the microphysical, this too is a puzzling claim for me. First of all, we shouldn't be surprised that when we isolate particles from broader structures to study them that they show evidence of being isolated from the broader structures they are usually a part of. Second, the claim is not that whenever we see microphysical particles imbedded in collections of such particles they will exhibit behaviour that

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[63] The exact statement of causal closure principles tend to be a matter of some debate, but this quick statement will do for our purposes here as not much will hang on any one preferred account of closure.

[64] See Peter King's (2013) for further defense of this claim.

requires reference to non-microphysical properties. Rather, these particles must be imbedded in very particular, incredibly complex structures. To my knowledge, nobody has ever observed the microphysical particles in a functioning brain and demonstrated that every event was entirely explicable by appeal to microphysical laws and properties alone. But if we haven't done that where are we supposed to have been able to observe this failing of closure that we have not yet been able to do? To turn a famous phrase from G.K. Chesterton, "irreducibility has not been empirically tested and found wanting. It has been found difficult to test empirically; and left untested". [65] Third, various philosophers, physicists, and individuals from a wide variety of other disciplines have asserted that evidence of the failure of causal closure is not just available, but indeed ubiquitous (see for example Murphy and Brown's [2009] and the various contributions to Murphy, Ellis, and O'Connor's (eds) [2009]). While perhaps there is much debate to be had to settle those claims, there seems no reason for the microphysicalist to simply dismiss them out of hand. And so the two most prominent arguments for the causal closure of the microphysical hold little weight for me, as it does for others.

A perhaps more widespread, though less often explicitly stated, reason for the popularity of microphysicalism among philosophers and scientists is what Daniel Stoljars has called the "Argument from Methodological Naturalism" (Stoljar, 2017). This argument has the following two premises:

> 1) One's metaphysical commitments should be guided by the methods of natural science.
> 2) The methods of natural science lead to a microphysicalist metaphysical picture of the world.

[65] The original phrase was "The Christian ideal has not been tried and found wanting. It has been found difficult; and left untried" (Chesterton, 61).

The conclusion of which is straightforwardly that one should commit to a microphysicalist metaphysical picture of the world. Generally speaking there seems to be a common idea that science strongly suggests that microphysicalism is the correct picture of the world, and since science is our best means of determining what the world is like, we should therefore all be microphysicalists.

This argument is multiply flawed. First, the premises are imprecisely stated which make principled evaluation difficult. What does it mean for one's metaphysical commitments to be "guided" by the methods of natural science? Does it mean our beliefs should be *informed* by the methods of natural science? This seems clearly true. Or does it mean that our beliefs should be *determined* by the methods of natural science? This is far more debatable. And there are enough open questions on what is meant by the methods of natural science in the first place to create their own brands of concern.

Second, it is likely inherently circular. Whatever the advocate of the argument means by "the methods of natural science", what is often assumed is a means of investigation that generally operates by first assuming of any phenomena that it has a mechanistic explanation capable of being subsumed under a discernible regularity or law, and then pursuing just such an explanation. But this really just is an assumption of physicalism, which, as noted in Chapter 1, is often practically worked out as an assumption of microphysicalism. But this just means that science assumes (micro)physicalism and then sets out trying to subsume everything under a (micro)physicalist explanation. So it should come as no surprise that science will generally seem to suggest a physicalist - if not explicitly microphysicalist - ontology; it is heavily biased in that direction.

It's worth noting that the circularity is not entirely vicious nor is it completely fatal to the argument. It may be the case that science eventually does subsume everything under a microphysicalist explanation and manages to demonstrate to substantial probability that the microphysicalist ontology is the correct one, in which case we would perhaps be well justified in accepting it (and consequently rejecting the AfR). However, science is a far cry from having succeeded in this. And until it does succeed, saying that science suggests a (micro)physicalist ontology is really just stating a starting assumption of modern scientific investigation (or at least of those most likely to find the argument from methodological naturalism convincing).

Third, the first premise is entirely controversial - and with good reason. The premise itself is hard to defend because it is a statement regarding our metaphysical commitments that itself cannot be defended by reference to evidence from natural sciences. Science cannot demonstrate that our metaphysical commitments should be guided by the methods of natural science. The most likely reply is to defend premise 1 by reference to the success of the natural sciences in helping us explain and manipulate the world. However, an inference from the success of the natural sciences to the claim that the methods of natural science should inform our metaphysics is not itself a scientific claim. So while it would seem fairly uncontroversial to allow that science should *inform* our metaphysics it is less obviously true that it should go so far as to guide or determine our metaphysics.

Fourth, the second premise is also very debatable. Indeed, a growing number of individuals have used the methods of the natural sciences (again depending on what one actually means by that) to argue for the reality of emergent phenomena in our world, and thus the falsity of microphysicalism.[66] Again, while there is much controversy around the success of this enterprise it cannot be dismissed out of hand.

Finally, the argument contained in this work itself serves as a counterargument which may be seen to argue against either one of the premises of this argument or against both of them.

And so, I contend, the arguments in favour of microphysicalism are far from convincing enough to, on their own, provide sufficient justification for rejecting the Argument From Reason as it was defended in this work.

2.3. Computers:

In the modern technological landscape it is difficult to make any sceptical arguments regarding (micro)physicalism and the philosophy of mind without talking about computers. After all, we have already accomplished much with computer technology that would have seemed impossible even just decades ago. Who's to say we won't eventually develop a computer capable of inferential rationality? And would anyone wish to argue that a computer has a soul, or represents a form of emergent causation not reducible to the fundamental particles that make up that computer?

The first thing I will say is that it does seem plausible that computers may eventually exhibit - if they haven't already - activity that requires an emergent-type explanation. I can't say much on this because this goes well beyond my understanding of subtler details of Emergentism and even more so beyond my understanding of computer science. But at the very heart I am not certain one couldn't bite the bullet and claim that computers that do infer

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[66] Again one example is the collection of writings in *Downward Causation and the Neurobiology of Free Will* edited by Nancy Murphy, George F.R. Ellis, and Timothy O'Connor (2009).

rationally (if they ever do) will (if they don't already) actually represent a type of emergent causation not fully reducible to microphysical explanation.

More to the point, however, is the computer will either be in some ways causally effected by logical relationships between propositions or they will not. If they are the former, then, by the arguments made in chapter 3, they cannot be purely collections of microphysical particles acting only according to microphysical laws - again, logical relationships are not found in the descriptions of microphysical particles or the laws that determine their behaviour. If they are the latter, then they will not be inferentially rational. To whatever extent they do behave as if they are inferentially rational it will be just that - "as if" behaviour, not actually inferring but seeming to do so. In this case, whatever rational inference is occurring will be entirely derivative of the (agential) programmer's rationality and not that of the computer itself. And so at least prima facie there does not seem to be any way for computers to present counterexamples against the conclusion of the Argument from Reason.[67]

3. Conclusion:

While it seems clear that the Arguments from Reason presented by both Hasker and Reppert are at best inconclusive, I have tried to demonstrate in this work that there is a plausibly successful version of the AfR to be found. To be sure, this argument hinges on a number of controversial points. Most crucially, my version relies heavily on following Loewer, Kim, and others in rejecting the plausibility of non-reductive (micro)physicalism and insisting that the microphysicalist must be a reductionist. This is obviously a very contentious point and

[67] Searle's famous "Chinese Room" (1980) Argument could also play a role in these considerations, for if his argument to the effect that computers cannot understand propositions is correct then this presents an important counterargument to any claim of computers being inferentially rational. However, Searle's argument is its own rabbit trail with its own entire library of refutations and defenses that I felt it best to avoid.

likely to be rejected by many. But Loewer's argument seems sound to me, and so at the very least if one considers his argument plausible then one likely has something to chew on and consider from what I've said. If at the very least my AfR is seen as demonstrating the truth of a conditional (if Loewer is right, then...) then some progress has been made.

As to the outcome of accepting the AfR as successful, it would in many ways represent a radical shift regarding metaphysics, ontology, and the philosophy of mind, among other areas. This would have extremely important implications and open many doors for consideration which at the moment many consider closed. In some ways little would change - Physics would (and should) go on trying to explain everything it possibly could in terms of the behaviour of microphysical particles and their laws; Neuroscience would (and should) continue trying to subsume as much of its explanations regarding the mind under the mechanistic physics and chemistry of the brain as it can (perhaps while seeking what evidence it can of non-mechanistic behaviour); and Psychology and Sociology would (and should) continue to try to find whatever patterns there might be in the individual and collective behaviour of creatures like us and subsume those under whatever CP laws would be beneficial for explaining and projecting future behaviour. None of these academic pursuits would need be significantly changed or ended.

However, while those disciplines would continue those pursuits, new avenues of investigation would likely be added should this new view of the human person be provided which would be more friendly to non-reductionist and non-mechanistic explanations of phenomena, particularly those related to human persons and behavior. This would in turn have incredibly meaningful and far-reaching implications for everything from academic study to personal health (particularly mental health) to views on general ontology and worldview.

Reppert takes the conclusion of his AfR another few steps further, claiming that it refutes Naturalism and provides evidence for the existence of God (demonstrating a rather puzzling misunderstanding of how probability works in the process[68]). I certainly would not go so far. Hasker's conclusion is not so ambitious, using his AfR to argue for an Emergentist picture of human persons more similar to my conclusions. Regardless, the shift in perspective of what the universe is like and what makes someone a person would be radical should one accept the conclusion of the Argument from Reason.

[68] He argues that the two most prominent ontologies in philosophy today are Naturalism and Theism. Since he takes the AfR to refute Naturalism, he then suggests that since Theism is the next most prominent it will be seen by many as the next most likely. I dare say most Naturalist are not likely to directly jump ship to Theism even if their Naturalism is refuted.

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