THESIS

THE PROBLEMS OF MENTAL CAUSATION

AND PLURALIST ALTERNATIVES

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ABSTRACT

THE PROBLEMS OF MENTAL CAUSATION
AND PLURALIST ALTERNATIVES

The mental causation literature tends towards certain presuppositions, including the tacit endorsement of physicalism, causal closure, and reductionism. Insofar as justification for these philosophical positions is offered at all, it is typically claimed that they are grounded in actual scientific practice. However, there are good reasons to believe that actual science does not support these philosophical positions. In this work, I consider some reasons to deny physicalism and causal closure, and critically present and evaluate pluralistic alternatives to reductionism. In light of this discussion, the problem of mental causation takes on an interesting and promising new form.

ACKNOWLEDGEMENTS

DEDICATION

I dedicate this work to the memory of my mother, Mary Hoffmann, who always

encouraged me to ask questions without jumping to answers.

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INTRODUCTION: HOW DID MENTAL CAUSATION BECOME A 'PROBLEM'?

Mental causation plays an integral role in our lives. If it isn't the case that my desires cause my actions to happen, then we have to rework most of what we believe about ourselves. Furthermore, if mental causation is all an illusion, i.e., if mental causation is a merely apparent but not actual phenomenon, then our experience would not line up at all with the way the world is. It is a deep and abiding feature of our experience that we are the agent and causal originator of our actions, and our mental states must do some causal work in order to get this agency off the ground.

Physicalists often equate the real and the causal with the entities of fundamental physics, and - since we traditionally have a hard time reducing mental states to fundamental physics - thereby threaten mental causation. Reductive physicalists have tried to reduce mental states to physical states. The thought process behind this is that if we can identify what is important about a particular mental state to a brain state, and we know how that brain state can cause actions to occur, then we have thereby shown that the mental state is causally efficacious (because it is nothing more than the brain state). This is an ambitious project, and it has not fared well for many reasons. People have turned to non-reductive physicalism in an attempt to maintain that there is something more to say about mental states even after we have explained the brain sates. Non-reductive physicalists argue that we cannot *explain* mental states in terms of physics, but still think that mental states supervene on physical states. In Chapter 1, I look at the historical conversations surrounding mental causation. I diagnose the problem with these accounts as an allegiance to physicalism and causal closure. If we are being faithful to empirical findings, then it is not clear that we should have such an allegiance.

Having jettisoned our aforementioned allegiances, and therefore the theories that had depended on them, I consider two pluralistic alternatives. In Chapter 2, I present both John Dupré's deep and abiding pluralism and Steven Horst's more modest pluralism. "Dupréved" [1]pluralism is both an epistemological and ontological pluralism; Horst endorses an epistemological pluralism, but denies that it reflects any deep structures in the way the world is.

In Chapter 3, I consider criticisms of Dupré and Horst, as well as possible responses to these criticisms. I conclude by showing that Dupré can more adequately address the criticisms, and can more adequately give mental causation the credit it deserves. I present John Dupré's epistemological and ontological pluralism, which is deep and abiding, and Steven Horst's more modest epistemological pluralism, but denies that this reflects any deep structures in the way the world is.

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[1] Horst, Steven W. *Beyond Reduction: Philosophy of Mind and Post-reductionist Philosophy of Science.*(Oxford:

CHAPTER 1: MENTAL CAUSATION AND SOLUTIONS

Introduction

The problem of mental causation comes out of two frameworks that at first glance seem to conflict with one another. One framework is physicalism. Physicalism has been cashed out many different ways. Jaegwon Kim takes physicalism to be an ontological claim about the stuff in the world. Physicalism is "the view that bits of matter and their aggregates in space-time exhaust the contents of the world."[2] Although there is a sense in which mental events are obviously not physical in that they don't appear in the theories of fundamental physics, most physicalists will have in mind a broad sense of physical.

Andrew Melnyk has described physicalism as the idea that everything in the universe either shows up in physics or metaphysically supervenes on the entities of physics. To say that an entity supervenes on fundamental physics is to say that there can be no change in the supervening entity without a change in the base entity. According to Melnyk, "if an item, (property-instance or process) either can in principle be defined in the distinctive vocabulary of fundamental physics or is a physically realized item of a functional kind" it can be called broadly physical. [3] Note that this is a claim about explanation – Melnyck thinks that something counts as physical if we can *explain* it in physical terms. However, the notion of supervenience can be cashed out in terms of entities, facts, and structures, among other examples. A physicalist will often claim that the facts of the special sciences supervene on the facts of fundamental physics. In this way, everything in the universe is determined by what happens at the level of physics.

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[2] Kim, Jaegwon. *Physicalism, or Something Near Enough.* (Princeton, N.J.: Princeton University Press, 2008). Page 72.

[3] Melnyck, Andrew. *A Physicalist Manifesto: Thoroughly Modern Materialism.* (Cambridge, UK: Cambridge University Press, 2003).

If the supervenience base of an entity can be defined using the vocabulary of fundamental physics and the supervenience base holds according to physical laws, then that entity can be called physical. Melnyck gives the example of kidneys, which are realized by "vast and unimaginably complex systems of microphysical particles that do the kidney thing by operating in strict accordance with physical laws." [4] So, physicalism about the human mind states that mentality is the kind of thing that depends on fundamental physics, and there is no change in the mental without a change in the physical. If something isn't already physical then it is at least realized by the physical. Physicalists argue that everything in the world is physical in this way, including mental events such as beliefs, thoughts, and intentions.

The problem arises when we try to look at ourselves through this physicalist framework. We have a common sense view that humans, as agents, cause their actions. For example, we make the assumption that when I get up to get a cup of coffee it is because I desire coffee and therefore I make the decision to move my limbs toward the coffee. Mental causation is the idea that our mental states (beliefs, desires, intentions, etc.) can cause actions in the physical (and mental) world. It *feels* in some important way like we are the cause of some of our actions. As Jaegwon Kim puts it, the "possibility of human agency requires that our mental states have causal effects in the physical world." [5] We take responsibility for our actions and we condemn those who do not take responsibility. We also deliberate when we make a choice between coffee and tea - it feels like we are in control of that decision. In fact, people who do not experience agency are considered to be suffering from some sort of pathology. Furthermore,

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[4] Melnyck, *A Physicalist Manifesto: Thoroughly Modern Materialism.*

[5] Kim, *Physicalism or Something Near Enough,* 9.

human reasoning and memory depend on the truth of mental causation. If one thought cannot cause another to follow, then it is not clear how we are able to reason.

Mental causation is also important in the philosophy of psychology. An important subset of psychology is belief-desire psychology, which takes mental states such as beliefs and desires to be causally efficacious. If we are not actually allowed to this claim, then psychology might need to look very different. In fact, many have claimed that in order to be legitimate, psychology needs to get rid of intentional states and instead focus on neural and biochemical states to do all of its explanation.[6] In this chapter I will look at why this problem has come up and what motivations lead us to a tension with mental causation. I will also look at several different approaches: reductive physicalism, non-reductive physicalism, and property dualism. These approaches bring up important problems including supervenience, our notion of causality, and the importance of metaphysics and explanation. I think that a survey of all these approaches, the motivation for the approaches, and how they choose to solve the problem of mental causation will show that most have a fundamental assumption in common: that theory reduction is common in disciplines that do not involve the mind. However, if we reject this assumption, then the framing of the mental causation problem will need to be reworked. I think there is overwhelming evidence that we should get rid of the reductionist assumption in favor of the pluralism approaches advocated by Steven Horst and John Dupré.

1.1 Physicalism

In order to flesh out the problem, we need to understand what is entailed by this physicalist view of the world and why we might want to endorse or reject this view. In the

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[6] Churchland, Paul M. *The Engine of Reason, the Seat of the Soul: A Philosophical Journey into the Brain*. (Cambridge, Mass.: MIT Press, 1995).

seventeenth century, Descartes proposed that there are two separate substances: there is mind and there is matter. Mind is immaterial, and we cannot understand the mental in terms of matter. However, Descartes was then faced with a challenge – he could not explain how two fundamentally different entities could interact. If the mind has none of the same properties as any material entities and is not located in space, it is hard to understand how it could affect the material world. There needs to be something which unifies or coordinates the two different substances, otherwise their interaction remains a mystery. Descartes was never able to give a robust account of this interaction, making it hard to keep the intuition that our mental states can cause things to happen in the physical world. One way philosophers have avoided this problem (sometimes called the problem of interaction) has been to try to align themselves closely with the natural sciences. This has often led philosophers towards physicalism.

Someone might also choose to endorse physicalism because it seems to be motivated by empirical scientific findings. For example, the principle of causal closure has convinced many philosophers that physicalism is the best way to understand our world.[7] Causal closure states that all physical events have a sufficient cause by prior physical events. If there is a cause at time t, there is a physical cause at time t. David Papineau traces the causal closure of the physical back to the principle of the conservation of energy, which is an empirical principle. According to the principle of the conservation of energy, energy may change its form, but it cannot be created or destroyed. Losses of kinetic energy are compensated by build ups of potential energy. Note that this empirical finding does **not** necessitate that every physical event has a physical cause, as stated by the principle of causal closure. Still, if we always have to account for energy, it makes sense that we would want to keep it within the realm of the physical domain. Furthermore, many

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[7] Papineau, David. "The Rise of Physicalism." *Physicalism and Its Discontents*. By Carl Gillett and Barry Loewer. (Cambridge: Cambridge UP, 2001). 3-36.

philosophers think that because we do not currently have third-person empirical evidence for vital forces or mental forces we shouldn't try to posit these extraneous entities, especially when another explanation will suffice. [8]

Some physicalists will also claim that physics is explanatorily self-sufficient, and so we do not need to go outside of the physical domain to find a cause or causal explanation.[9] This, combined with the principle of causal exclusion, often leads philosophers to endorse physicalism. The principle of causal exclusion states that if an event has a sufficient cause at a certain time, then there is no event distinct from that cause that can also be the cause of the event unless it is a genuinely causally overdetermined.[10] We also think that our mental events can cause events in the physical world, and not many people are willing to give up on this intuition. If we accept that all physical events have a physical cause and we want to believe that mental events can have physical effects, then one option is to claim that mental events really just are physical events. Otherwise, if mental phenomena is not physical but does affect the physical world, then we have an outside source of energy that has been created. For physicalists, this is not plausible. Instead, physicalists try to incorporate mental events by saying either 1) mental events just are physical events, 2) mental events reduce down to physical events, or 3) mental events are determined by physical events.

Many have argued that reducing mental events to physical events is the most plausible way to understand what is going on. David Papineau has characterized this line of argument as the argument from fundamental forces. According to Papineau, physicists have found that any

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[8] Papineau, "The Rise of Physicalism." In *Physicalism and Its Discontents,* 27.

[9] Kim, *Physicalism or Something Near Enough,* 17.

[10] Some have argued that causal overdetermination is not comprehensible, and thus think that any view that relies on causal overdetermination is automatically incorrect. For more on this, see Kim, 1997.

apparent special forces can be reduced down to more basic physical forces. Because of this, we

can have hope that in the future scientists will find that any special force (like mental causation)

will eventually be reduced down to more basic physical forces.

This line of argument is familiar and at least in part comes from logical positivists in

their quest to find the structure of science. In particular, the project of reducing macro

phenomena to the fundamental phenomena of physics was important to philosophers of science

such as Carnap, Nagel, and Hempel. However, these philosophers wanted to perform a theory

reduction. They were not doing metaphysics and did not want to make claims about reduction or

supervenience of entities. Instead, they hoped to show that we can derive the explanations we

find in the special sciences from the explanations that we find in fundamental physics. For

example, they hoped to show that the laws of biology could be reduced to the laws found in

physics. There is also a further claim that we can derive the facts of biology by way of an inter

theoretic reduction. An intertheoretic reduction occurs when not only do we get the same

predictions from the reduced theory as the target theory, but the reduced theory can also be

generalized.[11] Every phenomenon we find in biology would need to be understood in terms of

its physical structure. Ernest Nagel describes the structure of a reduction as follows:

> A reduction is effected when the experimental laws of the secondary science (and if it has
> an adequate theory, its theory as well) are shown to be the logical consequences of the
> theoretical assumptions (inclusive of the coordinating definitions) of the primary
> science.[12]

Thus, if we can show that the laws of the special sciences follow from the laws of

fundamental physics, then trying to accommodate mental phenomena under the framework of

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[11] Horst, *Beyond Reduction.*

[12] Nagel, Ernest. *The Structure of Science; Problems in the Logic of Scientific Explanation.* (New York: Harcourt, Brace & World, 1961), 352.

basic physics is to view psychology and its relation to physics the same as we view chemistry or biology's relationship to physics. Besides its connection with causal closure, reductionism seems to offer a way to understand how our world works. Philip Kitcher explains what is attractive about reductionism: "We would like to understand and to evaluate the popular claim that the natural sciences do not merely pile up unrelated items of knowledge of more or less practical significance, but that they increase our understanding of the world." [13]

As it pertains to mental causation, a reductionist might make the claim discussed above - that all of the facts of mentality can be derived from facts of physics. If we are looking to do a theory reduction, then we would need to perform a reduction from folk psychology to neurobiology. Any theories in neurobiology would then need to be reduced to the basic theories in physics. Note that this is still a claim about explanation. Many philosophers of mind have taken this idea further and made some metaphysical claims, namely that the mental supervenes on the physical (which is to say, there is no change in the mental without a change in the physical), or, taken even further, that the only "real" entities that exist are the entities of fundamental physics.[14] Anything else can simply be reduced down to microphysics. [15]

The earlier reduction of the logical positivists (specifically Nagel) focused on reducing the target theory of a special science (biology, chemistry, etc.) into a more basic theory. The aim was to derive the laws of the target theory using only the laws of the base theory. For example,

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[13] Kitcher, Philip. "Explanatory Unification." *Introductory Readings in the Philosophy of Science*, By E. D. Klemke Robert Hollinger, David Wyss Rudge, and A. David Kline. (Prometheus Books, 1999), 279.

[14] It is important to note that how far our explanations go in deciding our ontology is a complex issue and I cannot do justice to it in this short space. However, I think it is fairly uncontroversial that there should at least be some connection between the two. Being an austere physicalist in ontology (claiming that only micro physical entities exist while maintaining that we get a lot of explanatory power from consciousness, normativity, etc. so we can continue to talk as if those things exist seems to be inconsistent. I owe this example to Jeff Kasser.

[15] Horst, *Beyond Reduction,* 25.

we might be able to derive a law in chemistry like Faraday's law using the first law of thermodynamics in physics. However, we need bridge laws to go from the vocabulary of the target theory (chemistry) to the vocabulary of the base theory (physics). A bridge law connecting consciousness and a certain neural state would need to show that being in pain is identical to c - fibers firing.[16]

Steven Horst calls the kind of reductions that have motivated many problems in the philosophy of mind broad reductions. Broad reductions are part-whole explanations in that we explain a larger entity in terms of its properties or its parts and explanations without remainder or "conceptually adequate explanations" as Horst puts it. So if we want to reduce the mind, we would have to understand it to be comprised of parts and then explain the mind in terms of these parts. Furthermore, the parts that comprise the mind are the "real" entities, and thus are the entities that do the causal work. In this way, the whole is thought of as no more than the sum of its parts.

However, there is a worry specifically about mental phenomena: that mental phenomena and the theories we have about mental phenomena are not the sort of thing that can be reduced. John Dupré thinks that even if the reduction of one theory to another has worked for other areas of science, it is not clear that any of these reductions are similar in the relevant respects to what would be needed for a replacement of the study of psychology by the study of the brain.[17] He thinks that our folk psychology would not be reduced or replaced by "highly intentional psychological accounts of the cognitive or affective realms, but by an austerely

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[16] Here I am using "c-fibers firing" as a stand-in for some brain state or other.

[17] Dupré, John. *The Disorder of Things: Metaphysical Foundations of the Disunity of Science.* (Cambridge, Mass: Harvard University Press, 1993), Page 150.

physical account of the architecture and chemistry of the brain", and he doubt that this can do justice to our mental states. [18] While some parts of psychology such as pattern recognition seem like they could possibly be reduced (as we might be able to understand pattern recognition in terms of its structures), it is not clear that all parts of psychology would be amenable to such a reduction.

Dupré wishes to emphasize the difference between understanding how an entity does what it does and understanding what an entity does. Reductions of our folk psychology may be helpful in understanding how an entity does what it does, but not in understanding what an entity does. Neurobiology, for example, looks at how brains work, while our folk psychology tries to understand what people actually do. Because these disciplines have different goals, a reduction would not be explanatorily fruitful. The content of folk psychology concerns subjects and their environments, whereas the content of neurobiology concerns internal brain states.

1.2 Reductive Physicalism

Kim thinks that the world as described by modern physics has been relatively stable. He also maintains that our mental phenomena have some causal effect in the physical world. Because he thinks that the physical world must be causally closed, mentality must somehow be part of the physical world. Kim is a physicalist, but he does not just hold that mental states supervene on brain states, he actually wants to identify the relevant parts of mental states with brain states. In this way, there is nothing more to a mental state (or its causal powers) than its

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[18] Ibid.

physical realizers.[19] Kim thinks that physicalism actually saves mental causation, and that we can give a reductive explanation of mentality if we are committed to functionalism about mentality.

Jaegwon Kim thinks that although we cannot perform the kind of reduction Nagel wanted in that we cannot derive the laws of the mental from the laws of fundamental physics, we can perform a functional reduction. In order to perform the kind of reduction Kim wants, we need to define mental properties in terms of their causal roles in behavioral and physical contexts. So, if the internal physical properties are the same, then the physical systems will be the same in terms of causal inputs and output in all physical and behavioral contexts.

> If mental phenomena are neural processes in the brain, there will be no special mystery about mental causation; I believe we already know the neurophysiology involved well enough - how neural excitations in the motor cortex send electro chemical signals down through the efferent nerve channels to the appropriate muscles, causing them to contract, which in turn causes the limbs to move. [20]

Kim's picture of reduction is fairly simple. It requires that we reduce complex properties to the causal task they carry out. We then find the realizers of the causal task- those properties in the base domain that perform the causal task. We can then give an explanation of how the realizers of the property being performed can do the causal work. Kim gives the example of a gene. We can define a gene as an entity that encodes and transports genetic information. If we find the properties in the reduction base domain that perform this causal task, then we have given a reductive explanation of the phenomena of genes. Genes just are the realizers at the base domain that encode and transmit genetic information. We need to incorporate properties into our reduction. Kim also thinks that his functional reductions can give a prediction of what genes will do, for example, based only on information concerning

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[19] Kim, *Physicalism or Something Near Enough,* 125.

[20] Ibid., 153.

fundamental physics. In the same way, if we define mental phenomena in terms of the causal task it performs (raising my hand), and then find the physical realizers of this phenomena, then we have done a reduction. The mental phenomena is constituted by the physical phenomena and nothing more, and so we can say that my mental state caused my hand raising.

While Kim's reduction may avoid the charge of causal inefficacy of the mental, it is at a high cost. It seems like there is a lot that gets left out when we perform this functional reduction. Not only this, but there is widespread doubt that we can even perform this reduction.

Even a functional reduction is dealt a serious blow by the Multiple Realizability objection. Fodor and Putnam claim that there are lots of different ways that human pain can be realized in the brain, and this means that we cannot identify a mental state such as pain with a physical state.[21] Kim states that after we have found the realizers of pain in humans, we can claim that we have reduced human pain to neurophysiology.[22] There are not set realizers of pain in humans, and in the same way, it is doubtful that there are set realizers of beliefs or desires that would allow us to perform a functional reduction.

1.3 Non Reductive Physicalism

Many have challenged the idea that mental phenomena are completely reducible to physical objects and processes. The explanatory gap has focused on the claim that mental phenomena are not explanatorily reducible to the entities found in fundamental physics. That is to say, there might be something more to say about mental phenomena even after we have

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[21] Fodor, Jerry. "Special Sciences (Or: The Disunity of Science as a Working Hypothesis)." *Emergence Contemporary Readings in Philosophy and Science,* 2008, 395-410.

[22] Kim does not think that pain can be reduced to physical states, but he does think that any causally efficacious properties can be reduced to physical states.

explained all of the physical stuff. A demonstration of this principle comes from Jackson.[23] Even

if a scientist studied everything there is to know about the eye and color vision, there is still

something that scientist does not know if she has never actually *experienced* any colors. There is

a gap between our physical explanation and our phenomenal experience. David Chalmers made

this challenge much more explicit with his claim that consciousness, qualia, and intentionality

are not reducible to physical objects and processes, and that this lack of reduction cannot be

solved even in principle. He thinks that experience is not the sort of thing that can be explained

by science because science necessarily studies structures and mechanisms. Any adequate

explanation of our experience has to go beyond structures and mechanisms.[24]

It is important to note that non reductive physicalists will still endorse the metaphysical

claim of mind-body supervenience - which is how non reductive physicalists maintain the

'physicalist' part of the title. Non reductive physicalists agree that the world is composed of the

entities of basic physics, and they also think that mental phenomena depend on physical

mechanisms and are determined by what is going at the physical level. For the mental to

supervene on the physical, the physical must metaphysically necessitate the mental. In

metaphysically possible worlds with all the same physical facts as our world, all the same mental

facts will remain. In this way non reductive physicalists may not deny that physics is really all

there is (this is a claim about the ontology of the world), but they think that we attain important

explanatory power from folk psychology (which is an epistemological claim).

The explanatory gap has important implications for mental causation. If we cannot

explain everything in terms of the physical and the mental requires a different sort of

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[23] Jackson, Frank. "Epiphenomenal Qualia." Philosophical Quarterly, 32, 127–36. 1982

[24] Chalmers, David. *Facing Up to the Problem of Consciousness.*

explanation, then any attempt to explain the mental and how it causally relates to physical phenomena will fail according to a purely physicalist framework. However, there is still an important assumption here – the claim is that there is something unique and special about *mentality* such that it cannot be reduced.

One example of a non-reductive physicalist is Donald Davidson. Davidson rejected the idea that we can totally understand the mental in terms of the physical. In his essay "Mental Events", Davidson maintains that mental phenomena are supervenient on physical phenomena and also wants to argue that mental phenomena can be causally efficacious. Davidson thinks that causality is nomological by nature - any causally related events can be described in a way that instantiates a law of nature.[25] He also claims that there are no strict psychophysical laws, and he notes that we observe mental phenomena interacting with physical phenomena. According to Davidson events are tokens. That is to say, they are one-off, unrepeatable, and dated. He thinks that in order for an event to be physical we must be able to describe it using physical predicates. Davidson's solution is to identify mental events with physical events. His anomalous monism claims that all mental events are also physical. Davidson's thesis is that although the rest of nature works according to these laws, we cannot reduce the mental and its interactions to natural laws. There might be statements that connect the mental and the physical, but they are not law-like. [26]

However, there is a worry that Davidson's solution does not actually give us mental causation. Psychological laws do not exist under Davidson's framework, and so mental events

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[25]Davidson, Donald. "Mental Events." *Essays on Actions and Events*. (Oxford: Clarendon, 1980), 209-210

[26] Ibid., 216.

must instantiate physical laws.[27] So, this seems to make problems for the causal relevance of the mental. If the physical property is that which instantiates the physical law, and we think that whatever does work in the physical law does the work in causal laws, then any mental property is just "along for the ride" so to speak - it is epiphenomenal. Davidson does not deny that the mental property exists, but his anomalous monism seems to deny the mental property any causal efficacy. When we talk about mental causation, what we are looking for is for the mental to be causally efficacious qua the mental properties. If the mental is causally efficacious qua the physical properties, we have something less than mental causation.

Jaegwon Kim argues that within a physicalist scheme, the supervenience claim without the reduction claim will always makes mental properties qua mental inefficacious. Kim has demonstrated this problem with the following example. Suppose one mental event M causes another mental event M*. M* has a physical base P*. Given that P* occurs, M* must occur according to the supervenience hypothesis. Thus, we do not need M to do any causal work. It seems like P* gives us everything we need to get M*. If we say that M caused physical base P*, then we still have a problem. We have assumed that mental to physical causation works, and we need to show *how* this can be the case. It should be noted that this is a problem if we understand causation as found in nomological sufficiency. P qualifies as a cause of P* because it is sufficient for M kinds, and M kinds are sufficient for P*. This is known as the exclusion problem: it seems like we must choose between a physical cause and a mental cause, and in Davidson's case, the physical cause must be given priority because it instantiates a law.

To avoid this problem with supervenience, we could try to explore different understandings of causation. For example, if we think that causation is that which supports

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[27] Kim, *Mind in a Physical World an Essay on the Mind-body Problem and Mental Causation.* (Cambridge, Mass.: MIT Press, 1998), 33.

counterfactuals, then we still have room for mental causation. If M had not occurred, then P*

would not have occurred. However, we still might be tempted to claim that P does the causal

work here. If P has not occurred, then M would not have occurred either, so P* would not have

occurred. Even under this framework, if P has not occurred, then P* would not have

occurred.[28] Kim thinks that the best way to view this situation is that the genuine causal process

is from P to P*, and that M does not do the causal work. So we are left with the idea that if mind-

body supervenience fails, then mental causation is not tenable (as it seems like we are left with

Descartes' problem of separate substances), and if we endorse mind-body supervenience, then

mental causation is still not tenable in the way we want it to be. Even if we abandon the dualism

of Descartes, there remains a problem when we try to make sense of the interaction between

mental properties and physical properties, still within the framework of physicalism. [29] Even

though supervenience seems to be a good way to tie mental properties to the physical world we

know, it also leads to mental properties not being as causally efficacious as we want them to be.

      Non reductive physicalists have taken a few different paths to try to lend efficacy to

mental properties, thereby avoiding epiphenomenalism. Barry Loewer claims that if my bodily

states *depend* on my mental states, then we have mental causation. He thinks that we mistakenly

think of causation as a productive notion, when it makes more sense to look at causation as

dependence. According to Loewer, we can say that my mental state caused my hand to raise in

cases where I have a mental state desiring my hand to raise and my hand raises, and there "is a

chain of events connected by influence from C to E." [30]

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[28] Ibid., 43.

[29] Ibid., 46.

[30] Loewer, Barry. *Mental Causation or Something Near Enough,* 255.

In addition to the amending our view of causation, we can also rely on counterfactuals. Perhaps what is important about causality is that it can support counterfactuals. Terence Horgan writes that "causal properties are ones that figure in robust, objective, patterns of diachronic counterfactual dependence among properties." [31] All other things being equal, if I had not thought about tea, I would not have reached for my cup.

However, many (including Fodor) are not satisfied with these solutions. One problem is that it is still not the *mental* properties doing the work. When we keep the physical properties constant in my thinking about tea, but remove my mental state, then we would still get my reaching for the cup. To add to this worry, it doesn't seem like this quite captures what we care about when it comes to mental causation. We want the mental to be what does the *work* - we want to believe that the content of our mental states actually makes events occur. Ned Hall thinks that when we think about mental causation we want a productive notion of causation. A caused B should be thought of as A brought B about or generated B. [32] Jaegwon Kim has argued that this is the kind of causation that we need to believe that we are agents. So even if we can get counterfactual dependence, we still haven't located the mental as the phenomena that triggers the effect.

One of the biggest contributions of Davidson's anomalous monism is the importance he placed on laws. According to Davidson, physical things act according to physical laws, and causality must be nomological. Things that do not act in accordance with laws do not enter into causal relationships. This assumption that causality must be nomological and that the laws of nature give us the best explanation has stayed with many of the contemporary authors who have

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[31] Kim, *Mind in a Physical World an Essay on the Mind-body Problem and Mental Causation,* 68.

[32] Ned Hall, "Two Concepts of Causation". *Causation and Counterfactuals.* The MIT Press. (2004), 225.

written on this topic. In this way, we are still embracing 'naturalistic' explanations that are (or at least seem to be) in accordance with science.

1.4 Property Dualism

A third approach is the property dualist approach. While non reductive physicalists want to hold on to the mental metaphysically supervening on the physical, property dualists deny this connection. If there is an explanatory gap between the mental and the physical, then a property dualist like David Chalmers sees little reason to believe that the physical *metaphysically necessitates* the mental. For example, we can think of beings with all the same physical facts, but with very different mental facts. For example, we may be able to think of a possible world with all of the same physical facts, but no consciousness. If this is the case, then the mental is not metaphysically necessitated by the physical. Chalmers thinks there is a common assumption with both reductive and non-reductive physicalism that metaphysical supervenience holds, and we don't actually have good grounds for this assumption. However, Chalmers still contends that there is nomological supervenience. Nomological supervenience holds that the laws we find on earth are not "truths of reason" and their denial is not self-contradictory. The laws of nature on earth could have been different. Still, on our planet with all of our natural laws it is the case that the physical facts do necessitate the mental facts. This is a claim less then metaphysical necessitation, but more than material implication. [33] However, this does not cover all possible worlds.

Chalmers holds that mental properties are distinctly different from physical properties. Although physical events cause mental events, he holds that mental events do not cause physical

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[33] Kitcher, Philip. "Explanatory Unification".

events. Chalmers embraces epiphenomenalism (the view that mental events are causally inert) even though he admits that it is deeply counterintuitive. If we take this view, there is no longer a "problem" of mental causation. When we think that mental properties qua mental do causal work, we are simply mistaken. However, not many have wanted to maintain this position because it is so incompatible with our closely held beliefs. Furthermore, if part of the reason why we want to reject supervenience and thus physicalism is to preserve the specialness of mental phenomena, then this epiphenomenalist position is not very satisfying. With epiphenomenalism we have to give up one of the most important and interesting properties of mental phenomena - that it can do causal work in our lives. Thus, this solution has not garnered a lot of favor.

1.5 Dissolving the Problem

Some philosophers have attempted to dissolve the problem. They deny that the mental causation problem is a genuine problem. Those who use this strategy claim that the problem comes from "misplaced philosophical priorities" or too much emphasis on metaphysical problems. [34] Tyler Burge is an example of someone who thinks that we need to change our priorities in order to understand the mental causation problem for what it really is. "The metaphysical grounds that support the worries are vastly less strong than the more ordinary grounds we already have for rejecting them." [35] If we get a lot of explanatory power from understanding ourselves as agents with mental states that causally affect ourselves and our environment, then we should give this explanation more weight than the metaphysical concerns that motivate the problem. Furthermore, the metaphysical problems that motivate the mental

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[34] Kim, *Mind in a Physical World an Essay on the Mind-body Problem and Mental Causation,* 59.

[35] Burge, Tyler. *Foundations of Mind.* (Oxford: Clarendon , 2007).

causation problem are either based on faulty assumptions or just do not have as much evidence behind them as our normal view of ourselves. Lynne Rudder Baker agrees that the metaphysical worry is not as important as the explanations that we have already deemed worthy.

Many philosophers who endorse this view think that this problem is just a subset of a larger type of problems: the efficacy of higher-order states and causality in the special sciences. Tyler Burge notes that the problem we have with mental causation generalizes to the special sciences. Higher order properties need to be causally efficacious to talk about causation at the level of an organism or an ecosystem. If causation occurs only at the level of fundamental physics, then there is no macro level causation. This applies to genetics and organic chemistry just as much as psychology. This approach has been taken by many authors: if biological and chemical properties cannot be reduced down to physical properties, then the mental causation problem is not new or special, and (Burge thinks) we should not be worried about it.

Kim disagrees - he thinks that the mental causation problem does not generalize. The problem in the case of mental causation is that the mental domain is seemingly different from the physical domain. However, in the case of biology, for example, it is part of the physical domain, and thus is not causally closed. Kim also argues that if we do not understand how chemistry and biology fit in with physics, then we should try and figure out how they work together.[36] Furthermore, Kim agrees that those who work on the problems of mental causation do not have "evidential or epistemological worries." [37] We do believe we have mental causation, and Kim does not think that we should understand this worry as metaphysics vs. mentalistic explanation. Instead, we need to choose between different metaphysical frameworks to understand how

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[36] Kim, *Mind in a Physical World: an Essay on the Mind-body Problem and Mental Causation,* 77-79.

[37] Ibid., 61.

physicalism can be consistent with mental causation. Furthermore, just because we are already committed to mental causation does not mean that the discussion won't reveal anything useful.

I think that the approach of Burge and Rudder Baker is in the right vein, although I don't think that these authors have been as explicit about the problems with the presuppositions in the traditional positions on mental causation. Furthermore, when we deny that we should take the metaphysics that grounds the mental causation problem seriously, we need to give an argument as to why. I think that reductions might sometimes be explanatorily useful, but deny that this method of explanation is any more useful than other types of explanation. Furthermore, once we have deflated reductionism as one of the highest explanatory virtues, the metaphysics behind the mental causation problem is radically changed.

Much of the literature on mental causation has implicitly agreed to a certain idea of how our explanations should go. The view is that either a conceptual reduction or inter theoretic reduction will lend legitimacy to a discipline. However, this is not the only way we can theorize or understand. Steven Horst articulates three metatheoretical views: causal, mechanistic, and pragmatic or erotetic accounts. The causal explanation involves understanding an entity in terms of its causal relations. This would be similar to the functional reduction that Jaegwon Kim thinks we should perform with mental operations: the most important part of an explanation is understanding what does the causal work. The mechanistic view seeks to understand an entity through its parts. This would be the closest to a reductionist view: if we can understand the parts of some entity then we have explained all there is to explain. Horst claims that philosophers of mind seem to think that mechanistic and causal explanations are more commonly found in the sciences than is actually the case.

Horst thinks we should instead look at our theories in a pragmatic way: the sciences use a multiplicity of types of explanation and we should evaluate these explanations based on standards internal to the domain in which we are working. In this way, explanation is not beholden to one way of doing things. This view of explanation comes from the supposition that our theory of explanation should be based on how scientific practice actually gets done, not an "a prioristic framework" of an armchair philosopher. He writes that "reductions, in the relevant sense of that word, have proven few and far between, not only in the human sciences, but in the physical sciences as well." [38]

Horst points out that much of philosophy of science today rejects the idea that sources external to the sciences should determine how science should proceed. While derivational reconstructions of theories might seem like a neat and tidy way to describe what is happening in science, they often do not help us understand theories as they are actually used in that particular domain. The history of science shows us that there are many different kinds of explanation employed, not just derivational. Even if we are able to explain some phenomena in the terms of the base theory, we have not shown that a "conceptually adequate explanation without remainder has been given".[39]

Not only should many different types of explanation be embraced, but it is also the case that successful reductions are relatively rare. One reason why successful reductions have been rare is that it is not clear that we maintain the explanatory power of the target theory when we reduce it down to the reducing theory. Michael Silberstein gives examples of intertheoretic reductions that have been attempted, but have not worked in the past, including the attempted

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[38] Horst, *Beyond Reduction,* 47.

[39] Ibid., 49.

reduction of chemistry to quantum mechanics and the attempted reduction of classical mechanics to quantum mechanics.[40] Steven Horst gives the example of molecular biology and classical genetics or evolutionary theory. Although it is often thought that what happens in genetics can be reduced down to molecular biology, this is not actually the case. Genes may factor in to the determination of phenotypes, but genes by themselves do not determine traits. In fact, traits come to fruition by both genetic inheritance and environmental influence through development.

John Dupré also takes an antireductionist stance toward genetics. According to Dupré, the reduction of classical mendelian genetics to molecular genetics has been explained in terms of hypothetical genes arranged on chromosomes. However, there is reason to believe that the genes that the molecular geneticist refers to structurally are not the same as the genes referred to in population genetics or classical transmission genetics.[41] According to the reductionist view of genetics, DNA is a biomolecule, and so we can classify DNA in terms of chemical formulas and their arrangement. Every gene, then, "should be defined as a certain sequence of base pairs". John Dupré thinks that this reductionist view of genes has been helpful in allowing us to understand gene replication and mutation. However, antireductionists do not think that we can identify the genes referred to by molecular descriptions of stretches of DNA with the genes referred to in transmission genetics. Genes characterized in molecular terms (chemical formulas) are not the same as the genes distinguished by their relation to the phenotype. A phenotypic trait is produced by many different genes. In addition, for any molecular gene, it will contribute a

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[40] Michael Silberstein, "Reduction, Emergence and Explanation." *A Companion to the Philosophy of Science,* edited by W. Smith. (Malden, Mass.: Blackwell Publishers, 2000), 94.

[41] Dupré, John. *The Disorder of Things,* 122.

"range of phenotypic traits". This is known as the "many-many" problem.[42] In order to perform a reduction, molecular and mendelian geneticists would have to agree on what counts as a gene. This is not to say that we will never be able to perform a reduction; it just means that as of yet we have not been able to successfully understand the theories of classical genetics in the terms of molecular genetics.

John Bickle gives examples of reductions that we do find in science, and he thinks that these are legitimate ways of gaining understanding in some circumstances. Bickle gives the example of intervening neurally and then observing the behavior that changes after the intervention. While Horst admires that Bickle discusses these reductions in a way that shows he has closely worked with case studies, these reductions are not the kind of broad reductions that are often desired in philosophy of mind. Instead, Bickle discusses reductions that are not "metaphysically necessary type-identities or even necessary one-way type implications." [43] Bickle's example of intervening neurally only shows that stimulation of neurons can cause behavior. It does not show that neurons must determine behavior, or even that neurons usually determine behavior. Hence, Bickle's reductions do not support identity claims nor supervenience claims.

Instead, the reductions he discusses are those that involve contingent identities. In this way, we do not get the robust supervenience claim that physicalists and non-reductive physicalists endorse in philosophy of mind. According to Horst, Bickle thinks that "the fact that

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[42] It is important to note that not everyone thinks this is a devastating problem for reduction. The point remains, however, that reductions are not *common* in biology. Even if they exist, they are not the only way we explain, nor are they even the most common way that we provide explanations.

[43] Horst, *Beyond Reduction,* 73.

something is an A-instance does not make it metaphysically necessary that it be a B-instance, even if the identification of the two is useful for purposes of scientific theory." [44]

The importance of Bickle's work to an antireductionist view is that there is an important difference between the successful reductions we have found in science and the kind of reductions that seem to be sought in philosophy of mind. Bickle may have explicated some successful reductions in that parts of a theory A can be explained in terms of theory B, but this only shows that there are some cases in which a reduction is explanatorily useful. In the reductions Bickle mentions, there is no part-whole explanation without remainder. This is to say that Bickle's reductions do not support the allegiance to theory reduction that philosophers of mind have operated with. Even if it is the case that we get mileage out of some reductionist assumptions when we do science, this does not mean science is filled with reductionist assumptions everywhere. Furthermore, even if it is methodologically useful to assume that genomes reduce to chemicals in certain arrangements in order to get some scientific work done, this does not mean that a failure to reduce psychology to neuroscience means that psychology lacks legitimacy. Reduction is just one of many ways we can explain scientific phenomena.

Horst characterizes two arguments that rely on reductionism in the sciences: the inductive argument and the normative argument. The normative argument states that the sciences should operate according to the rational norm that the "claims of the special sciences must be such that they could in principle be derived by a kind of axiomatic reconstruction whose axiomatic base consists entirely of assertions cast at the level of basic physics." [45] As long as mental phenomena are postulates of the special sciences, then they are also beholden to this

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[44] Horst, *Beyond Reduction,* 74.

[45] Ibid., 70.

rational norm. If mental phenomena cannot reduce, then we might go the way of Paul and Patricia Churchland and say so much the worse for beliefs and desires.

The inductive argument states that the phenomena of the special sciences should be unified through broad reductions. If we expect the mature sciences to be reduced, then we should also expect this of the sciences of the mind. Horst points out that the mistaken assumption here is to take reductions as common in sciences other than the mind sciences. The entities in special sciences are not usually given broadly reductive explanations, even if some sort of reductive explanation may be at play. Furthermore, even if we did find reduction common in one scientific discipline, this does not mean that all other scientific discipline should also try to explain through reduction. In this way, Horst thinks that we should endorse a scientific pluralism.[46]

A proponent of the inductive or the normative argument may concede that reductions are not as common as we thought, but would argue that a lack of successful reductions is a result of our science not being mature enough. It might be the case that few inter theoretic reductions have been successful in the sciences, but this does not necessarily allow us to make any claims about future possibilities. We may not be able to reductively explain mental states through physics, but this does not mean that we will never be able to reductively explain mental states, nor does it mean that mental states do not depend on physics. Given more information, we might still be able to show that there is no change in mental states without a change in the base physical state. Even if we do not currently find these claims in science, a world where things fit together neatly and everything depends on physics seems more believable than a chaotic world in which causation is a bit more unpredictable.

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[46] Ibid., 73.

However, Horst thinks that once we separate the inductive and the normative arguments from actual scientific practice, then the arguments have lost much of the persuasion they might have originally had. Historically, the reason why the frameworks of reductionism, physicalism, and causal closure have been popular is that they were believed to be ideas that will keep us closely aligned with the natural sciences. If the reason why we wanted to endorse physicalism is that we would then be well-aligned with the sciences, and the sciences do not necessitate physicalism, then we should rethink our commitment to physicalism. The claim that everything in the world is at base physical, and even the claim that the physical realm is causally closed is extra scientific. While many have made these inferences from genuine empirical evidence, the inferences are questionable. Furthermore, we need to be careful in distinguishing between methodological assumptions we make because they help us create experiments or test data, and actual theories that have been proven by science.

Horst thinks that we can either choose to try to work with science as it is actually practiced, or we can hold on to a rational norm that describes how we think science should be. Insofar as we still have a commitment to the beliefs and methods of science as it is actually practiced, then we might want to at least be skeptical about our reliance on reductionism, physicalism, and causal closure. We can be open to these claims being true in the future, but not assume that these claims must be true now.

Horst's arguments against a reductionist approach look to be quite convincing as long as one was committed to reductionism insofar as it is actually practiced in the sciences. If we have some other motivation for looking for a reductionist approach in philosophy of mind, then Horst's explanation may not have been convincing enough to give up the reduction. One reason why we might not be convinced by Horst's argument is if we think that reduction should be a

regulative ideal. Even if the cases of successful reduction are few and far between, we might still think that a good explanation often looks like a reduction. Horst notes that part of the allure of reductionism comes from the deductive explanations found in mathematics. Horst describes this as "math envy". This led to the logical positivist view that saw explanations as logical syllogisms, and wanted to reconstruct them as such. [47] For this reason, the deductive-nomological model of explanation was endorsed as a "rational norm for good science". Part of the reason why these models gained popularity is that "at least a significant set of the features of the higher-level system can be understood as consequences of, and derivable from, the features of the proper parts of the system." [48] Horst gives the examples of explanation of valences from charged particles and gas laws from particle collisions.

If we want to judge the legitimacy of philosophical accounts of science according to actual scientific success, then we cannot endorse the claim that the special sciences must be derivable "by a kind of axiomatic reconstruction whose axiomatic base consists entirely of assumptions cast at the level of basic physics." [49] If we don't accept the normative ideal of scientific explanations as derivational, then it is not clear why we should still consider mental phenomena beholden to reductionism.

Perhaps another reason why we might want reductionism to do work with mental causation is because we can better understand causality at the fundamental physical level. It might be the case that other explanations cannot be reduced to fundamental physics, but if they are not directly related to causality then this has no bearing on our project. For example, Kim

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[47] Ibid., 68.

[48] Ibid., 68.

[49] Ibid., 71.

thinks we have a pretty good idea of what goes on in the brain and how causes are enacted in the brain, but understanding how macro level entities can enact causation is more difficult.

It is important to note that physics at the fundamental level has often been used to argue against determinism - as the Copenhagen interpretation of quantum mechanics states that physics is probabilistic. Even if this interpretation turns out to lose favor, I think that Horst's objection still stands. Any notion of causality that we have seems to be in peril if we are looking to reduce to fundamental physics. We will have a hard time explaining any macro-level causation, whether it's in biology, economics, sociology, or psychology. Psychology and mental states are not the only place where causality is important.

All of this is to say that we don't have much reason for thinking that we need to perform a *theory reduction* of folk psychology to neuroscience. Theory reductions are rare, and when they do occur, they are often contingently true or methodologically useful, and thus do not carry metaphysical necessity along with them. Furthermore, there are many good ways to explain a phenomenon, and science employs many different types of explanation. Acknowledging this fact leads us to a scientific pluralism. Scientific pluralism just states that there are many legitimate ways to give a scientific explanation.

However, this does not necessarily say anything about the actual reduction of *entities*. It might be the case that our theories about macro-level phenomena are incredibly fruitful and so we cannot get rid of them, but this does not necessitate that we aren't living in a world that really is all microphysics at bottom. Still, the mental causation landscape will look very different if we rethink our allegiances to physicalism and causal closure. Even though non reductive physicalists think that we cannot explain everything reductively, they often still have physicalist assumptions.

Similarly with property dualists, there is still an assumption of nomological supervenience - they have not given up on the idea that the mental needs to be (somehow) dependent on the physical.

The conclusion I wish to draw here is that after we have let go of the assumption that reductionism is common in the sciences, the traditional positions in philosophy of mind do not fare well. Physicalism, non-reductive physicalism, and even property dualism rely on the assumption that non-mental properties can easily be reduced. However, both the normative and inductive arguments for reductionism cannot be held if it is the case that intertheoretic reductions are not commonplace at the junctures between the natural sciences. "Thus, scientific pluralism would seem to deal a mortal blow to both reductionism and eliminativism in philosophy of mind." [50]

Conclusion

I have given some reasons for thinking that even if intertheoretic reductions exist in the sciences, they have not historically been the norm. If we think that psychology or mental phenomena should be beholden to the practice of reduction, we need a good explanation why the discipline of psychology in particular needs to prove its legitimacy through reduction. If we reject reduction as the sign of a legitimate science or a legitimate causal transaction, then the way we look at mental causation changes.

From here, we could look to pluralist alternatives to vindicate mental causation. John Dupré thinks that the fact that we have found explanatory gaps within the sciences shows us that the world itself is gappy. According to Dupré's Promiscuous Realism, we do not necessarily have to search for one real truth -whether in science or otherwise. For example, the fact that we

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[50] Ibid., 70.

have many different definitions of species does not show that species does not exist. Rather, it

shows that there are many legitimate natural kinds. Dupré endorses realism because of the

success of scientific explanation, but denies that the only real entities are the entities of physics.

In contrast, Steven Horst endorses Cognitive Pluralism. Horst thinks that the ways in

which we understand the world are shaped by both our "cognitive architecture" and our interests

and interactions with the world. He claims "we relate to the world through an irreducible

plurality of special-purpose models that are not reducible to a single common denominator or

unifiable into a single axiomatic system".[51] In the next chapter I will explicate how these

pluralisms change the problems historically surrounding mental causation and new problems that

arise when we endorse a pluralistic view of either explanations or of the world at bottom.

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[51] Ibid., 128.

CHAPTER TWO: PLURALIST ALTERNATIVES

Introduction

John Dupré writes that our concerns about human autonomy (including mental causation)

are not obviously resolved when we move from a reductionist framework to a pluralist

framework.[52] Even if we decide to endorse a pluralistic approach, how exactly this helps us with

mental causation, human freedom and the vindication of special sciences like psychology needs

to be further explicated. Furthermore, once we take pluralism seriously as an option, we are

faced with new issues to be explained and resolved.

In this chapter I will first explain a principle that Steven Horst calls the Negative

Epistemology to Metaphysics Connection. Whether we endorse this principle will have a huge

impact on what kind of pluralism makes the most sense. I will then present two different types of

pluralism: John Dupré's Promiscuous Realism (also referred to as ontological pluralism) and

Steven Horst's Cognitive Pluralism. Finally, I will explain how each of these pluralist

approaches allows us to deal with the problem of mental causation as well as some drawbacks of

the two approaches.

2.1 Epistemology to Metaphysics

One of the biggest issues that might inform our decision to be Cognitive Pluralists,

Promiscuous Realists, or some other kind of pluralist is the Negative Epistemology to

Metaphysics Connection, which dictates how our epistemology should instruct our metaphysics

and/or our ontology. According to Horst, the Negative Epistemology to Metaphysics Connection

(Negative EMC) is the idea that if our epistemology cannot explain something, then this should

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[52] Dupré, *Human Nature and the Limits of Science*, 155.

inform our metaphysics. In other words, a failure of explanation indicates some gap in the way the world is. If we endorse Negative EMC, this will change the landscape of mental causation. If there is a failure of reductive explanation of mental properties, then not only are there some mental properties (possibly causal) that cannot be reduced and explained in terms of nonmental physical properties (this is the explanatory gap), but it is also the case that this failure of reduction means that the physical does not metaphysically necessitate the mental. Thus, if we endorse Negative EMC, we would deny the metaphysical supervenience claim.

Horst thinks that the idea that a failure of explanation leads to a metaphysical conclusion is tenuous. He cites Kripke and Putnam's new semantics, which argues that there may be necessity claims that are true but that we cannot necessarily claim that they are true based on the sense of the terms. [53] Simply because our concepts line up one way does not demonstrate that the world actually maps onto those concepts. One reason is because of human fallibility. A competent speaker may still not be able to understand everything about a concept. Furthermore, we have encountered this in the past. Heliocentric predictions didn't line up with our actual calculations for a while. This does not mean that the heliocentric view of our solar system was incorrect; we just needed to gain a better understanding of how things fit together. Following this reasoning, if we cannot figure out how to adjudicate mental causation and physicalism, this may be because one of these assumptions is incorrect, but it might also be because as humans, we are not able to easily understand ourselves and our world.

Horst concludes that Negative EMC is credible only if we think that "reasoning based on our concepts is a good way to investigate the real and fundamental natures of things in

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[53] Horst, *Beyond Reduction,* 39.

themselves, and hence to uncover deep metaphysical truths." [54] However, this assertion depends

on both the idea that there is a world that exists regardless of our evidence for it, and the

assumption that we can reason about this world and get to some sort of truth about it. Steven

Horst thinks that we do not have good supporting evidence for either of the two aforementioned

beliefs. We do not have a reason to think that our minds are capable of understanding the

fundamental way the world is. In fact, Horst thinks that it makes more sense that our minds

would *not* be constructed such that we could figure out the fundamental nature of the universe

solely through our reasoning. Instead, we are always modeling, and these models are always

idealized. He does not think that this modeling necessarily indicates anything about the

fundamental nature of the universe.

On the other hand, if we are in the business of doing metaphysics, then it makes sense to

look to epistemology to help us sort out what exists. For example, if there is something that

seems to not be even *in principle* explainable by physics, it is hard to see why we would want to

leave open the possibility that it is determined by or could be explained by physics. For example,

if we were to continue to endorse an outdated theory of Phlogiston, despite principled reasons

why it doesn't actually explain combustion, then it seems like we have made a mistake. Instead

of holding onto an idea that doesn't explain much, we should try to find a framework that fits

with what we actually experience.

2.2 Epistemological Pluralism

Dupré thinks that in the absence of scientific unity, we should embrace epistemological

pluralism, and eventually ontological pluralism. Dupré's epistemological pluralism makes the

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[54] Ibid.

claim that there are "paths to knowledge very different from those currently sanctioned by the leading scientific academies." [55] Whether a statement is scientific does not tell us whether that statement is of epistemological value and/or whether that statement will lead us toward the truth in some important way. If we want to discern whether a statement or model is valuable or legitimate, we should look to epistemic virtues. Dupré thinks that some candidate virtues include "sensitivity to empirical fact, plausible background assumptions, coherence with other things we know, exposure to criticism from the widest variety of sources, and no doubt others." [56] He also thinks that more straightforward values such as egalitarian involvement in epistemic projects will help to weed out biases (whether androcentric, ethnocentric, etc.). Whether our theories demonstrate these virtues and how much they demonstrate these virtues will help us determine whether they are worth calling true or not.

Dupré thinks that the current scientific methods do not capture everything that is epistemologically valuable. In fact, these methods are not well-suited to the human sciences.[57] If we think that there are a lot of ways that a theory or a discipline can have merit, then this opens up doors for the special sciences to not be reliant on fundamental physics. One consequence of Dupré's epistemological pluralism is that "many works of philosophy or literary criticism, even,

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[55] Dupré, John. *The Disorder of Things,* 11.

[56] Ibid., 243.

[57] Dupré notes that current scientific methods look for patterns, whereas human sciences cannot always find patterns in the way prescribed. I will not argue for or against this claim, but I do think that even if this claim fails, there are other important ways in which current scientific methods are not conducive to the human sciences, especially psychology.

will be more closely connected to empirical fact, coherent with other things we know." [58] Dupré

thinks that this restructuring of epistemic merit will lead to a wider acceptance of disciplines.

2.3 Ontological Pluralism

One example of ontological pluralism lies in the philosophy of biology and the definition

of species. Philip Kitcher endorses a view in the philosophy of biology that the special sciences

can give explanations that are not given by the sciences that study just the component parts.

Horst points out that Kitcher thus makes use of Negative EMC, as it argues from a failure of

explanation to a metaphysical conclusion.[59] Both Philip Kitcher and John Dupré think that are a

number of good ways we can divide up the biological world into species, and that some of these

distinctions pick out legitimate kinds in nature. What it means to be a legitimate kind might just

be that it is useful to us and is empirically grounded. For example, species could be defined using

ecology to mean a lineage that inhabits a certain niche in nature. This definition relies on what

we actually find in the world: The eastern grey squirrel actually does live exclusively in the

eastern part of North America, and this is a feature not shared with other species of squirrels.

This definition is also useful for biologists who wish to look at certain factors (diseases, etc.) that

may affect the eastern grey squirrel but no other squirrel species.

Kitcher's pluralistic realism proposes that we have a diverse range of interests that

we may seek in biological inquiries, and that these various interests require different kinds of

explanation. "The patterning of nature generated in different areas of biology may cross-classify

the constituents of nature." [60] Dupré agrees with Kitcher, but his Promiscuous Realism goes

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[58] Dupré, *The Disorder of Things,* 11.

[59] Horst, *Beyond Reduction,* 125.

[60] Ibid., 128.

beyond biology and beyond science itself.[61] There is not just a claim that different kinds of explanation are important, but that there really are things out there that map onto our different explanations. We are not merely constructing the distinctions between different species of squirrels; the grey squirrel really is a kind in nature that is different from other squirrels.

Dupré applies this pluralism to everything, not just biology. One of Dupré's primary concerns is staying true to empiricism in that our beliefs are answerable to what we actually experience in the world. He thinks this leads us to see a plurality of distinctions we can make. He thinks that this is especially important when it comes to understanding human behavior. There are many factors at play when we try to understand human behavior, thus, he thinks that this means that we need many different perspectives in order to give a thorough explanation of human behavior.

2.4 Ontological Pluralism and Mental Causation

In the following section I will first explain Dupré's view regarding causal closure and physicalism, and then explicate his reasons for holding this view. Dupré explains the worry associated with causal closure and mental causation thus:

> The real issue is whether all these arm-particles are moving as part of a much wider set of microphysical events (photons bouncing off the glass, hitting my brain, stimulating my retina, etc.) of which my intention to drink the water is ultimately a mere epiphenomenon, or whether, rather, the fundamental explanation for all those particles pushing one another in a certain direction is that I am thirsty and see a glass of water I plan to drink. [62]

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[61] Ibid., 124.

[62] Dupré, *Human Nature and the Limits of Science,* 162.

When we endorse causal completeness along with reductionism, then all physical events must be caused by prior physical events. So, for any given physical event, the component parts can and often do explain what is happening. If we endorse causal completeness, then this is not just a claim about an event being explained by the component parts and processes, it is the claim that the event is actually *determined* by the component parts and processes. For example, while genomes may seem to cause events to occur, this would not be the whole story, or even an accurate picture. Causal processes must happen according to physical laws, and these deal with the basic entities of physics. Thus, a genome may cause something to happen, but a genome is really just a biomolecule, which is made up of chemicals, which are really just different arrangements of atoms. We can explain everything that the genome does according to its constituent parts, so the atoms are really doing all of the causal work. However, Dupré has not been able to find anything in our empirical interaction with the world that would suggest it is causally complete in the sense outlined in the first chapter. If we give up the idea of causal completeness and in addition give up the idea that we should identify the "real" with that which can be reduced to physics or is the basic entities of physics, then we will allow many entities to have causal powers.

Dupré denies that physical laws govern causal processes. Instead, he thinks that entities within many different levels can exercise causal powers. When atoms come together in a certain arrangement, they acquire new properties, and that new entity (whether it's a biomolecule or something else) can do things that just the constituent parts could not do. In other words, the whole is more than the sum of its parts. Under this view, physics has no "uniquely privileged position" in our epistemology or our ontology. The laws of physics are no more important than

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any other laws or explanations, and there are many sets of kinds that have legitimacy.[63]

However, Dupré concedes that causal powers at higher levels may not be displayed in laws.

Dupré claims that this is because "objects at other levels often interfere with the characteristic

exercise of these powers." [64] This is not a problem, however. Dupré would rather revise our idea

of laws then exclude higher level phenomena from doing any causal work.

Endorsing an ontological pluralism (contra essentialism) allows Dupré to claim that

when parts come to be integrated wholes, different causal properties can be acquired. So, macro

level properties, structures and entities have causal powers just as real as those of lower level

parts out of which they are constructed. Thus, there is no problem with causality occurring at the

fundamental physics level as well as at the human organism level.

Dupré thinks that we are allowed to claim that humans can and do have causal power

in the physical world.[65] The fact that humans are complex, highly-organized organisms gives us

a "vast array of causal powers". These causal powers depend on the agent's decision making

process. In this way, we should not and cannot think of human behavior as just movements.

Human behavior consists of actions that occur within a certain context and macro level

explanations and entities are important in understanding this behavior.

One reason why we might think that human organisms acquire new causal properties is

that we need to explain and understand events with mental causation. (Horst calls this the

Epistemology to Metaphysics Connection). When asking why someone picked up a glass to

drink water, we can ask about the microphysical entities that are involved, but this will not give

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[63] Dupré. *Human Nature and the Limits of Science,* 162.

[64] Dupré, John. Human Nature and the Limits of Science, 162.

[65] Ibid., 159.

us a complete view of what happened. Instead, we need to appeal to a larger context, the state of the human being and the context she is in. Asking whether the human was thirsty or nervous, for example, will help us better understand why she reached for the glass. While a non-reductive physicalist might agree with this assertion, Dupré thinks that a failure of explanation indicates a problem with our metaphysics. If we cannot explain everything according to microphysics, then it is unreasonable to assume that the entities of microphysics are any more real than other levels of entities.

In addition to properties emerging from integrated wholes, Dupré also wants to claim that there are various kinds of entities that exist. His ontological pluralism denies that in order to count as real, some entity must be able to be explained by physics. Instead, we have a lot of real entities in the world, in part because we have many different important and useful explanations. He states that "a certain entity might be a real whale, a real mammal, a real top predator in the food chain".[66] This pluralism does not threaten the reality of anything we currently believe to exist - Dupré takes the realism part of promiscuous realism very seriously.

According to Dupré's pluralism, there are a number of entities that exist in the world, each with different properties, and these entities do not necessarily form a coherent whole. It is not the case that the macro-level phenomena (psychology, economics) are entirely dependent on micro level phenomena (fundamental physics). Instead we have a patchwork of different entities that sometimes interact with each other, but not necessarily in any neat pattern like dependence or even supervenience.

Dupré once again thinks that our experience should drive our theories about what is going on. Dupré notes that much of our scientific explanation leads to successful practice. He

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[66] Ibid., 243.

thinks that this shows that we are interacting with a "real and sometimes recalcitrant world".[67]

We get a lot of mileage out of the work done by chemistry, biology, psychology, and even economics sometimes. Thus, he relies heavily on the work that our explanations can do.

When we want to assess whether something is real, we can look to our theory about it. If the theory displays certain epistemic virtues (such as coherence with other things we know, etc.), then we can consider it real. Using this criteria, John Dupré thinks that we have many convincing reasons to consider mental causation (and agent causation more broadly) as real processes. One reason is that mental causation fits with the way we understand ourselves and those around us. We often explain people's behavior in terms of their beliefs and desires rather than simply their neural states. If a student believes they will do poorly on a test, this will impact their behavior. Because of the epistemic virtues displayed by our theory that an agent can cause actions by way of mental states, we are allowed to call mental causation a real phenomenon. Dupré has then tried to dissolve the problem of mental causation: he thinks that there is no rival causality between entities at the fundamental physical level and larger wholes. Complex beings like humans can cause events to occur, and mental states are the main way that this happens.

According to Promiscuous Realism there will always be gaps in our epistemology because the world is full of disorder, but Dupré still maintains that there is something importantly different about mentality and psychology. Dupré thinks that reductive approaches may be helpful in understanding how something does what it does, but does not help us understand what an entity does. He cites human neurobiology, which he thinks looks at how people do what they do but does not seek to understand what humans do. As explained in Chapter 1, Dupré looks at the relation between folk psychology and neurobiology in terms of a

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[67] Ibid.

theory reduction, and he concludes that a reduction is not even possible in principle. Folk

psychology treats humans as subjects that interact with their environment. They make changes to

their environment and also get feedback from that environment. However, neurobiology cannot

account for these relationships because it primarily looks at the internal state of the subject.[68]

"Beliefs, often at least, explain actions. Actions, again often, take place in social contexts that

have much to do with determining what kinds of actions they are".[69]

A reductionist could possibly accommodate the social within her view by saying that the

social is a conglomerate of individuals and their neural states. Dupré thinks it makes much more

sense to think of psychology and neurobiology as "each constituting partially autonomous,

causally efficacious, domains." [70] Dupré also claims that folk psychology is more successful than

scientific psychology, precisely because it has the tools of language to explain human behavior

much better than technical language. So if we have to choose between the two, we should be

hesitant to get rid of the theory that has more explanatory success.

2.5 Concern's with Dupré's Promiscuous Realism and Negative EMC

One problem with Dupré's Promiscuous Realism is that at first blush he seems to rush to

some conclusions. For example, the fact that reductionism has not been favorable in philosophy

of science together with the fact that we get useful explanations from different fields of study

does not necessarily permit us to make a claim about the ontology of the world. There may be

many other things in our lives that are very useful for us, but we are completely deluded about.

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[68] I take it that this assumption is fairly uncontroversial. I do think that neurobiology often makes use of social contexts, but that it primarily *explains* in terms of the internal state of the agent.

[69] Dupré, John. *The Disorder of Things,* 157.

[70] Ibid.

The Ptolemaic view of the universe was very useful, and even had useful calculations, but this fact does not seem like it allows us to consider the Ptolemaic view of the universe legitimate. Similarly, the steam engine was successful, even though we had an incorrect explanation of why it was successful.[71] Dupré may have overstepped his bounds when he went from epistemological pluralism to ontological pluralism.

Thus, one could object to Dupré's Promiscuous Realism by taking a quietist stance. This objector would agree with Dupré that perhaps reductionism is only rarely useful in the sciences and so we should not use it as a litmus test for legitimacy, but still would deny that any useful framework should be thought of as real. We may have models that are useful for us, but that explanatory usefulness does not show that these frameworks are real in any robust sense. For example, an objector might think that everything really does reduce down to physics, and the only entities that do any causal work are the entities that figure in fundamental physics. However, it might be the case that it is more useful for us to believe that causality occurs at many different structural levels. In this way, our explanations might not line up with what actually exists in the world. So, we should remain neutral as to what our explanations mean about the inventory of the world - they might be very useful, or they may not give us any clue at all into what actually exists. In this way, one would deny epistemic transparency. In order to answer this objection, Dupré needs to give another reason why we should endorse his pluralism besides the fact that it does good explanatory work.

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[71] This example comes from Jeffrey Kasser.

2.6 Cognitive Pluralism

John Dupré thinks that there are many different kinds of entities in the world that cannot be reduced to anything fundamental (whether that is microphysics or anything else). This is a thesis about the ontology of the world. Steven Horst agrees that reductionism and causal closure are not well-founded, and if we abandon these assumptions then the traditional positions in philosophy of mind do not fare well. However, Steven Horst does not want to be an ontological pluralist like Dupré. He instead thinks that we should endorse Cognitive Pluralism. He is still a pluralist in that Horst thinks there are lots of ways we can view the world, but Horst denies that a plurality of ways of viewing the world should tell us anything about metaphysics.

Horst is sympathetic to a mysterian view in philosophy of mind. A mysterian claims that explanatory gaps (whether between mind and physics or in/between the sciences) is just what happens when "minds like ours turn their attention to understanding themselves."[72] Some mysterians have endorsed the idea that these gaps are a result of our current ignorance and that they will be solved with further advancements in physics. An ontological pluralist like Dupré thinks that our explanatory gaps reflect the way the world really is. The world is a patchwork with many different sorts of things; there is a plurality in the ontology of the world. A Cognitive Pluralist like Horst argues that the explanatory gaps are due to the way we "represent and intervene in the world." [73] Whether this reflects something deep about the world is unknown.

Horst's Cognitive Pluralism does not necessarily makes claims about the ontology of the world, and for the most part Horst does not think we should spend time asking questions about the inventory of the universe. Instead, he wants to focus on claims about humans, our capacity

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[72] Horst, Steven. *Beyond Reduction*, 122.

[73] Ibid.

for knowledge, and the way we are built. He suggests that our epistemology has gaps because of our cognitive architecture. Horst thinks that Cognitive Pluralism can be described as naturalistic in that it makes use of scientific explanations (his view of our cognitive architecture relies heavily on scientific explanation), but he denies that the scientific explanations provide any complete picture. Cognitive Pluralism denies that everything about the mind can be explained in non-mental terms, so it would not say that the mind can be accommodated into the framework of nature as understood by the natural sciences. In fact, Horst is suspicious of the claim that there is **one** framework of the natural sciences. In this way, he is an epistemological pluralist, but is cautious about extending this pluralism to ontology.

Horst points out some problems with a realist pluralism position like that of Dupré. One problem is that it seems highly counterintuitive. Dupré thinks that to the extent that humans are composed of anything they are composed of the particles of basic physics, which is a common and intuitive view according to Horst. Many have made the move from this claim to the further claim that the components (basic physics particles) of a human being then determine the behavior of the human being. Even if we do not endorse reductionism, our belief that physics is the most general science might seem to support the idea that physics determines everything. This would lead us to believe that the physical laws themselves must entail everything covered by the special sciences, even if we cannot understand why or how they do so.[74] However, John Dupré does not endorse this view. Instead he thinks that composite kinds can have emergent properties or explanations. Horst calls this emergent realism, where composite wholes are not completely dependent on their component parts. When the parts come together, the larger whole might attain additional causal powers.

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[74] Ibid., 125.

Not only does Horst think that Dupré's pluralism is counterintuitive, he also thinks that his Cognitive Pluralism can give a better explanation than Promiscuous Realism as to why we encounter explanatory gaps. Cognitive Pluralism "traces features of our understanding of the world to features of our cognitive architecture, that is, to empirical facts about how minds like ours model features of the world." [75] His view is also pragmatist in that our models (in science and otherwise) are to some extent determined by what we are interested in explaining and the way we interact with the world.[76] We have many models of the world and they do not necessarily have a common denominator or are unifiable into one system. Horst does not think we have any reason to think that our minds would be built such that we could understand things reductively. [77]

Horst's Cognitive Pluralism comes from his view about scientific theories. According to him, scientific theories model particular aspects of the world, and they do this job well. Our scientific models happen as a result of the way that we process and model the world around us - focusing on one aspect allows us to gain deeper insight. He also makes the further claim that "empirical facts about human cognitive architecture will constrain the type of models we can conceive, understand, and employ." [78] The disunities we find in science (and in other disciplines) reflect these empirical facts.

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[75] Ibid., 127.

[76] Horst uses a model in a very general sense. Thus, we can have scientific models which use controlled experimentation to hopefully gain a deeper understanding of some phenomena, but Horst does not think this is the only way we use models. Instead, he thinks that science is *always* using models. We have a model of gravity that picks out important factors that have to do with gravity and ignores other facts. This is just a way of viewing a phenomenon, or even a way of viewing the world as a whole. So, we are also using models when we make our way through the world.

[77] Ibid.,128.

[78] Ibid., 128.

Scientific models are idealized in that they do not necessarily demonstrate "real-world kinematics," as Horst puts it. Instead of looking at an event in a richer context, idealized scientific models hone in on one important aspect of some situation and ignore other aspects. One example is Galileo's explanation of free fall. Galileo ignored friction in understanding how objects fall to the ground. Though friction is indeed a factor, the absence of this factor did not render his explanation meaningless. Far from it - ignoring certain aspects of a given situation allows us to gain insight we would not otherwise attain. Thus, the fact that scientific models idealize and abstract away from the actual situation is not a negative reflection on science. On the contrary, this ability allows us to find important insights and then make predictions. Horst also claims that each scientific model must employ some representational system fitted for the subject matter. However, the idealizations of models and different representational systems can sometimes make it difficult for us to figure out how these different models fit together into a unified whole. Because of this, we end up with a partial rather than comprehensive understanding.

Cognitive Pluralism relies heavily on modularity and cognitive divisions of labor. Horst thinks that this modularity is an extensive and pervasive process in brains like ours. This is demonstrated in the way we model the organism, its environment, and the relations between the two. For example, we seem to be able to understand small parts pretty well, and we also might be able to understand larger parts well, but once we try to figure out how the two fit together, we run into issues. This is exemplified by our attempts to fit both quantum mechanics and general relativity into one framework. We understand both of these models quite well separately, but we do not yet know how to integrate them together.

Modeling allows us to isolate certain factors and ignore others, and it is the primary way we get around in the world. He states that our cognitive division of labor "can be realized in a number of different ways, including but not limited to the localization of cognitive function in neural areas and layers." [79] Horst notes that a cognitive division of labor may not always show itself through localized brain areas, but he does think that localized divisions of labor will support his argument.

Horst gives additional reasons why he thinks Cognitive Pluralism demonstrates more plausibility than Dupré's Promiscuous Realism. Horst thinks that we are always representing the world, and that to represent the world is to understand it in terms of concepts. Concepts "are abstractions from the rich and noisy mix that is the real world."[80] Horst's pluralism allows for this abstraction, while Dupré might (naively) think that our explanations reflect something about the world.

Furthermore, Horst thinks that evolutionary biology shows us that "organisms are not endowed with cognitive systems optimized for reflecting the world exactly as it is, in all its detail, for pragmatic purposes." Instead, he thinks that special-purpose systems and mechanisms have been selected for because they are "good enough". Any changes that occurred that made humans vastly different from other animals would not completely eliminate these systems and mechanisms in other organisms in favor of innate ideas in the mind that reflect real essences.[81]

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[79] Ibid., 154.

[80] Ibid., 176.

[81] Ibid., 177.

2.7 Cognitive Pluralism and Mental Causation

When we apply Cognitive Pluralism to mental causation we find that the fact that we have a hard time unifying a physicalist metaphysics with mental causation is not surprising or even problematic in Horst's view. When the mind encounters different problems, it will use different strategies to resolve these problems. Each strategy has its own model, representational system, and methods which are useful for that particular problem or domain. Global consistency is not a high priority in a system like this. "Indeed, consistency may stand in the way of having more local or regional techniques that are useful in addressing real world situations." [82]

So we have at least two different frameworks: we have the metaphysical framework of physicalism which seems to preclude mental causation and we have our folk psychology which tells us that we are agents with mental states who intend to enact causation in the world. However, Horst thinks that we do not have good reasons to endorse physicalism - it is no longer an apt model. Furthermore, physicalism makes a claim about the universe full stop. In other words, physicalism tries to make a comprehensive claim about the inventory of the world. In this way, a physicalist framework would then preclude any kind of pluralism. Horst wants to get rid of any frameworks that claim something about the universe full stop; he thinks that this is an inappropriate project. There is no longer a conflict between these two frameworks in part because physicalism is not an apt model (it claims too much), and also because mental causation is (at least sometimes) an apt model. So, they no longer compete for an explanation of our actions.

However, the fact that mental causation is part of an apt model does not necessarily mean that we are allowed to claim whatever folk psychology tells us. Horst thinks that all it means to

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[82] Ibid., 170.

be an object is to be the postulate of an apt model. So, whether we can call mental causation an

entity depends on whether it is part of an apt model. There is no way we can talk about truth or

legitimacy outside of a model. We decide whether a model is apt based on its context and

whatever our practical and explanatory interests are. Horst claims "it may well turn out that

models employed in various everyday contexts will turn out to be just as respectable, by these

lights, as those of fundamental physics." [83]

Horst thinks that when we reason morally we think of other humans as being the

originators of action, which entails that the mental states of the agents do some causal work.

When we consider someone deserving of blame, we often assume that this person originated the

blameworthy action.[84] This sort of reasoning involves the utilization of another model. This

model is also idealized, and we should note that there may be some factors that have been

obscured when we see other humans as agents. Horst mentions neurochemical imbalances and

neuroses as two examples. These would also be problem cases for mental causation. In these

cases the micro-level entities (neurons and neurochemicals) are doing the work, rather than the

agent and the agent's desires.

Even though our folk psychological model of human beings as agents is useful in certain

circumstances, he does not think that we should ignore other important models. His conclusion is

that we cannot treat the models we use as truth full stop.[85] We may have a model in which it is

the case that most people are agents, but we cannot treat this as something that is true all the

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[83] Ibid, 185.

[84] Some deny this and argue that we blame others because blaming people can change their subsequent actions. This view denies that there is any relevant sense of moral desert. For more, see: Dennett, 1984.

[85] Horst, *Beyond Reduction,* 192.

time. Even if our mental causation model is apt in certain contexts, we cannot extend it beyond these contexts.

Horst writes that the metaphysical supervenience claim as it is usually explained (in terms of possible-world semantics) is problematic. It is usually explicated as "Some x supervenes on y if x obtains in all worlds in which y obtains". Horst does not think that our theories are in the business of "revealing the deep, fundamental, and mind-independent structure of metaphysical reality and as a canonical tool for revealing metaphysical truths."[86] Rather, Horst thinks that scientific claims, and possibly all claims, are idealized. He is hesitant to allow idealized claims to support claims involving necessity and counterfactuals. Horst is clearly not happy with contemporary philosophy of mind conversations, but his restrictions may also apply to any talk we wish to have with regard to mental causation. Our claims about mental causation are also idealized, and this do not necessarily reveal anything deep or fundamental about reality.

Horst may not give a robust metaphysical account of mental causation, but under his Cognitive Pluralism we are at least allowed to claim we have mental causation and continue to act as though we can cause physical events to happen as long as this model is apt. If our practical and explanatory interests are that we are able to get along in the world and that we can explain human behavior, then mental causation would be part of an apt model of our behavior. However, he does not want to assume that the world is divided up in a way that is "independent of minds, practices, interests, or conceptual schemes, or that any division is unique or canonical". We have a lot of models that represent parts of our world, and all of these models "assume their own

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[86] Ibid., 186.

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positive ontology". [87] Horst thinks that whether these models can be shown to be consistent is at best an open question.

Even if it's the case that we are unable to understand how our different models fit together, there is still an intuition that there is something distinct about the gap between psychology and the rest of science. Both Horst and Dupré agree that the special problem of mentality and reduction is not actually as special as it has been historically treated in the literature. Still, it is important that we have an explanation as to why it has been viewed as a particularly special problem. Our intuition that there is something special about the mind is a particularly strong intuition, and we need good reasons to dissolve this intuition, if that is what Dupré and Horst want to do.

Horst mentions that Kant and Husserl think that there is a special distortion that occurs when we model ourselves and our experiences that does not happen when we model objects. According to these two traditions objecthood should be understood in terms of how some entity can be a possible object of cognition. Selfhood, on the other hand, is cashed out in a different way. When we try to explain selfhood in terms of objecthood, we run into issues. Thus, it makes sense that we have an intuition that there is something special about this problem. Horst thinks that this leads us to transcendental idealism, though, and not dualism.

A Cognitive Pluralist might have a problem with this analysis purporting to be anything foundational. Horst further explains that a pluralist view will question the transcendental idealists' propensity to take certain things as fundamental. Horst thinks we should be able to ask about the aptness of the Kantian categories, for example. Thus, a Cognitive Pluralist can endorse

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[87] Ibid., 185.

an explanation of why mentality might be a special problem, but any endorsement will be tempered.

2.8 Concerns with Cognitive Pluralism

One issue with Horst's account is that we choose to employ a model based on its aptness. First, we need to understand what it means to say whether a model is apt. If it's the case that a model is apt when it helps us methodologically, then this would allow many models to be apt for different purposes. Still, any model that is useful in one context may be not very helpful in another context. If this is the case, then something could be both apt and not apt depending on the circumstance. Horst thinks this is what it means to take the pluralist conception of Cognitive Pluralism seriously. While this may be fine in some situations, it is deeply counterintuitive in others.

A related drawback of Horst's Cognitive Pluralism is that we are not allowed to make any ontological claims based on our concepts and our models. Even if our model is extremely apt, Horst wants to leave room for it to be the case that our models do not map onto the way things are outside of the models. In this way, Horst avoids some of the pitfalls of Dupré's style of pluralism by not making any unwarranted claims. Still, the conversation surrounding mental causation is a conversation about whether humans as agents can cause events to occur by way of their desires and beliefs - it has not historically been a conversation about what we are allowed to claim. It seems like most of the positions discussed in the first chapter would allow us to *claim* that mental causation occurs and even still act as if mental causation is legitimate. However, they would allow this because it is explanatorily useful, not because it is actually true in any robust

sense. Therefore, we need to understand how exactly Cognitive Pluralism will restructure the debate.

Conclusion

Although both the pluralisms I have explored in this chapter do not rely on reductionism, they still fall prey to some problems. If we choose to endorse the negative epistemology to metaphysics connection, then Dupré's version of pluralism seems plausible. On the other hand, Dupré's pluralism may let too many things in. We need a better explication of how to choose between theories and entities, otherwise we will end up with an ontology so wide that it includes some things we do not want. On the other hand, Horst denies that our epistemology should necessarily determine our ontology. Horst is careful about making claims about what counts as "really real", but there is something unsatisfying about the fact that we are only ever using models. Even if it is true that we are always modeling, it seems like we should be able to say some things are more well-founded than others, perhaps regardless of aptness. It seems like both of these theories might be on to something, but each take them to an extreme. If we endorse everything that gives us as explanatory power as real, we will end up with an incredibly wide ontology. However, there are some things that give us so much explanatory power that remaining silent on whether that thing actually exists seems overly cautious. In the following chapter, I will diagnose the problems with these pluralisms, and will propose a way to make them tenable. I think Dupré's Promiscuous Realism could stand to learn a bit of modesty from Horst's approach, and Horst could stand to go out on a limb and make some bolder claims.

CHAPTER THREE: EVALUATION OF PLURALIST ALTERNATIVES

Introduction

As we have seen, Horst and Dupré disagree about the source of disunity among and between the sciences. We may think that the explanatory pluralism we have now is a temporary state (this would perhaps be the view of a non-reductive physicalist), or that explanatory pluralism comes out of the way the world is (John Dupré's view), or that explanatory pluralism is inevitable because of the way humans are and the way we understand the world around us. Horst endorses the last view, but states that whether we can understand the world and how everything fits together is an open empirical question. In this chapter I will look at some of Michael Silberstein's criticisms of Horst's Cognitive Pluralism as well as Horst's replies to those criticisms. I think many of Silberstein's criticisms also apply to John Dupré's Promiscuous Realism, and I will address how Dupré might be able to respond to those criticisms. After looking at the criticisms, I then examine the role these criticisms may play in mental causation. I then conclude that Dupré's Promiscuous Realism is able to give us a better explanation of mental causation. However, I think that Dupré's Promiscuous Realism could benefit from some of the virtues of Horst's account, and in the end the best account of mental causation makes good use of Dupré, Horst, and Silberstein.

3.1 Self-Reference Problem

One issue with Horst's Cognitive Pluralism is that he seems to face a self-reference problem. At least at first blush, Cognitive Pluralism is a holistic theory that states that we can't have any holistic theories. If this is the case, then it's not clear why we should take his view seriously. One problem that comes out of this that Silberstein mentions is that if Cognitive

Pluralism works, it works too well. If we take Cognitive Pluralism seriously, then we might have reason to doubt empirical findings that show our mind is highly modularized. Silberstein characterizes Horst's view as a "premature science stopper".

However, Horst replies to Silberstein that Cognitive Pluralism should not be thought of as a grand unifying hypothesis that seeks to try to understand everything. Instead, it is another model that might help us to understand a few issues that we encounter.

> The model through which we understand the mind as employing multiple models, and also the transcendental model through which we understand the mind as dividing the world into a number of epistemic domains, are themselves subject to the limitations Cognitive Pluralism places upon models: they are themselves partial and idealized. There are problems on which they shed particular light; but there are other problems that can only be aptly modeled, and true claims that can only be made, in terms of alternative models.[88]

Horst's project is grounded in empirical findings in the sciences of the mind. He thinks that our brains consistently display modularity and cognitive divisions of labor. In this way, his Cognitive Pluralism could be thought of as a modest theory based on empirical data. Horst can say that Cognitive Pluralism is appealing in that it gives us an explanation of why we find gaps between and among the sciences, but is not making any larger claims about the universe as a whole.

There is a downside to this construal of Cognitive Pluralism. If Horst's view is another model, and is based on empirical data, then it can be easily overturned with new empirical data. There is not total agreement that our brains are highly modularized. It might be the case that modularity is a pervasive feature of our minds, but it also seems like neuroplasticity is gaining

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[88] Horst, "Reply to Silberstein". Philosophical Psychology: 575-84.

traction. Neuroplasticity states that our brain is constantly being shaped by our experiences.[89]

This might be bad for modularity because it seems like our brains do not necessarily have

localized areas that perform certain tasks. One person's brain stem might perform one task, but if

a brain stem is all you have, it can end up performing all of the tasks. It might be the case that

our brains sometimes use modularity, but it is not a thoroughgoing characteristic of the way we

understand the world around us. If this is the case, then there is trouble for Horst's project.

Because he thinks that Cognitive Pluralism is answerable to empirical findings, it might be the

case that his Cognitive Pluralism is shown to be inconsistent by empirical data.

3.2 Relativism

In his review of Horst's book, Silberstein articulates a worry with Horst's pluralism that

could also be applied to Dupré's pluralism: we need a way to distinguish pluralism from a

postmodernist relativism. Relativism is usually construed as the idea that all points of view or

beliefs are equally valid or are equally true. A few worries emerge from the concern with

relativism. One worry is that we need to be able to distinguish among scientific theories. If we

are not equating the real with the reduced, or that which can be explained mechanistically, then

we have a lot more theories on the table, and to say that they are equally true is not scientifically

helpful. Another worry is that if pluralism cannot be distinguished from relativism, it would do

some serious damage to some of the most important aspects of how we experience the world.

Silberstein explains this objection in terms of the manifest image of ourselves. The manifest

image is the way we usually experience the world and ourselves. Most importantly, we

experience ourselves as beings with mental states, and we experience our mental states as the

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[89] It is important to note that these findings seem to be in support of mental experiences causing both mental and physical events.

cause of at least some of our actions. Silberstein thinks that Horst's Cognitive Pluralism does not allow enough room for the manifest image of ourselves.

Silberstein thinks that we should begin from the empirical data, and then try to interpret the data and look at the implications of the data. He thinks that with careful examination of the data, we will find that some scientific theories are better than others - they either fit the data better, have more predictive power, or display some other epistemic virtue. Furthermore, Silberstein is confident that empirical tests can at least sometimes help us choose among theories. However, pluralist accounts have to give an explanation as to how we navigate the plurality of theories we find.

According to pluralism, there are many different ways of seeing the world, and (in the case of Dupré), many different kinds of things in the world. Horst and Dupré also want to deny that any one type of thing or any one way of explaining can claim priority. Horst focuses on modeling: he thinks that human minds are likely only capable of employing a number of special-purpose models to solve a problem.

If we have equally good but incompatible scientific explanations of the same event, then this seems to be a big problem for science. For example, if both the geocentric and the heliocentric view of our solar system both have good epistemic virtues and show calculations that are able to predict the motion of the planets, then it is not clear which theory we should spend more time with. Horst notes that this is even the case with modern models - general relativity and quantum mechanics both seem to demonstrate important epistemic virtues, but are inconsistent with one another.[90]

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[90] Horst, Steven. "Reply to Silberstein."

Horst does not think that we can talk about anything being real or true outside of a model. For him, "real" only means that some entity has been posited in an apt model. For him, models define a field of possible assertions. Without a model, we cannot make any claims about whether something is true or not, and we are always modeling. We may have a drive to unify, but Horst doubts that we could ever get a viewpoint that is not from within a certain model. Under this construal of his Cognitive Pluralism, different models serve different interests. From this it seems to follow that we cannot rule out one model in favor of another full-stop. Perhaps our gravitation model and our friction model are both useful in different circumstances, but Horst would not claim that either of these models is incorrect.[91] However, Horst denies that his Cognitive Pluralism leads one to find that all ways of viewing the world are equally plausible.

Horst is at least able to get rid of theories that purport to be comprehensive. Horst thinks that doing necessitarian metaphysics is a useless project. He thinks we have very good reasons to think that our minds are incapable of understanding the way the world must be. Causal closure makes a claim about the way the world must be: it must be the case that for every physical event there is a physical cause. In this way, causal closure is not on equal footing with any other theory.

Horst thinks that another way his Cognitive Pluralism might be able to avoid collapsing into relativism is that we hold our models to certain internal standards. For example, Horst thinks that contemporary biology and physics are superior to Aristotelian biology and physics. Perhaps Horst thinks this is the case because contemporary biology is more (internally) consistent than Aristotelian biology. Horst would have to appeal to something like this because he cannot appeal to any standard external to the models themselves. Furthermore, Horst can choose between

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[91] Ibid.

theories based on whether they are apt or not. Some models are more apt than others, and the apt models are more valuable to us. As mentioned in Chapter 2, Horst thinks that we decide whether a model is apt or not based on our practical and explanatory interests.

Not only this, but Horst also thinks that from within Cognitive Pluralism we can test a model using another model, even if there is no general comprehensive model that can test all other models.[92] Horst thinks that we can revise our models and thus gain a deeper understanding of the things we study by using multiple models. He calls it a "process of epistemic triangulation". When Horst mentions that we can triangulate using different models, it seems like he wants our models to be able to learn from each other, and perhaps their coherence is a sign that we are on to something. However, if this is the case, then it seems like his theory has lost something important. Horst often emphasizes that the fact that we have inconsistent theories is unsurprising and not even something we should be extremely bothered by. We are always within a model and thus we cannot speak of truth outside of a model. We may have a drive to unify our knowledge, but this does not necessarily mean that we can unify it or that we should even try. Nonetheless, it seems like epistemic triangulation is an attempt to somehow unify and to get the models to talk to each other to make sure there is some consistency going on.

Furthermore, this way of differentiating among models does not provide the kind of direct rebuttal that Silberstein wants. If we view Cognitive Pluralism as a modest empirical account of scientific disunity, then we may not be able to rule out theories that claim to be comprehensive. Horst can claim that theories such as these will always run into problems, but we cannot dismiss them before they have run into those problems. Additionally, Silberstein thinks that we should criticize determinism based on the fact that some very good scientific models like

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[92] Ibid.

quantum mechanics "tell against a simple reductionism". [93] Because quantum mechanics is another model, Cognitive Pluralism cannot offer a direct rebuttal of determinism based on other concerns or based on what science tells us; it can instead only say that determinism likely will run into some problems because it purports to be about the world full-stop.

Dupré's Promiscuous Realism runs into a similar problem. Dupré denies the essentialist notion that there is some set of fundamental or essential facts. He thinks that we should instead look at our own interests in order to help us understand the kind of answer we need. For example, Dupré thinks that there really are natural kinds, but denies that any entity belongs to any one group more than another. "Since the world is not a machine, nature does not generally provide contexts that can serve to determine unambiguously the kinds to which objects belong, and such context must typically be provided instead by the goals of a particular investigation." [94] He thinks that instead of the current dogmatic monotheism in science, we should try to establish epistemic virtues. He mentions some that come from the philosophical tradition and some that come from science, including but not limited to consistency with common-sense and coherence with other scientific beliefs. Thus, similar to Horst's concept of aptness, we can distinguish good theories from bad theories based at least in part on our explanatory and practical interests as well as how well the theories display the epistemic virtues he discusses.

However, we have already seen a problem with this solution: it seems like a lot of things may display epistemic virtues, but still do not warrant us calling them real or true in any robust sense. Recall the example of the Ptolemaic view of the universe. This view seemed to give us good calculations (empirical accountability and perhaps coherence with other well-grounded

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[93] Silberstein, Michael. "Metaphysics or Science: The Battle for the Soul of Philosophy of Mind." Philosophical Psychology: 561-73.

[94] Dupré, John. *The Disorder of Things: Metaphysical Foundations of the Disunity of Science,* 6.

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scientific belief), and it also cohered with the common-sense view of the day, yet we want to be able to say that this view was incorrect and that it is a good thing that it was overthrown in favor of a Copernican view of the universe.

3.3 The Manifest Image

Even if it is the case that Horst and Dupré have *some* way of differentiating among theories and/or entities, Silberstein wants to make sure that the ways we differentiate do justice to the way we experience the world. Silberstein thinks that any theory we have of ourselves and the universe should at least in part be answerable to the manifest image. Silberstein argues that reductionism and its bedfellows call "consciousness, freedom, and dignity" into question, and Cognitive Pluralism does not do enough to make these ideas safe. Silberstein uses the distinction drawn by Wilfrid Sellars between the manifest image and the scientific image. The manifest image is how we understand ourselves as "man-in-the-world". This is the way we normally (and naively) interact with our world. Sellars thinks that this framework has a high emphasis on persons and things. "In the manifest image, people *think* and they do things for reasons", and because of this there is an emphasis on normativity and reason.[95] It is not just the case that this manifest image is important because it coheres with common sense; the manifest image provides us with a lot of explanatory power. Within the manifest image we understand why people do the things they do. [96]

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[95] Although it is presented as a rival to the scientific image, the manifest image is neither scientific nor unscientific. Empirical considerations can be important in understanding the manifest image.

[96] DeVries, Willem. "Wilfrid Sellars." Stanford University. August 9, 2011. Accessed May 9, 2015.

The scientific image formulates a different schema out of the kinds of things that can be studied by science. So, the scientific image may start from the entities of microphysics and try to explain everything using the laws of microphysics. For Sellars, the scientific image "presents itself as a *rival* image. From its point of view the manifest image on which it rests is an 'inadequate' but pragmatically useful likeness of a reality which first finds its adequate (in principle) likeness in the scientific image". [97] However, it is important to remember that the scientific image can only be constructed from within the manifest image. For Sellars, the scientific image is important, but we run into trouble when we assume that the scientific image gets at things the way they really are and the manifest image does not achieve this.

Silberstein thinks that any explanation of humans and the way we explore our world should do justice to the manifest image that we are usually in, and he is skeptical that Cognitive Pluralism can achieve this task. He writes that any protection Cognitive Pluralism may offer in protecting the manifest image from science "is the same kind of cheap 'protection' that extreme forms of Postmodernism and Social Constructivism give to non-natural belief structures, the kind of protection where every belief is equally bad off with respect to justification and veridicality."[98] This is because consciousness, freedom, and semantics are just part of a model, perhaps similar to any posits of a scientific model. Silberstein thinks it is inadequate to say that the way we must interact with the world - the way that gives the world meaning, is on the same footing as string theory, for example.

For Silberstein, we should be antireductionists in part because the science does not support being full-scale reductionists. However, it is also important that we are antireductionists

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[97] Ibid.

[98] Silberstein, "Metaphysics or Science: The Battle for the Soul of Philosophy of Mind."

because reductionism threatens the important ways we view ourselves and experience the world. Lack of mental causation (and thereby lack of agency) means that most of what we think about ourselves is incorrect. As Jerry Fodor put it:

> If it isn't literally true that my wanting is causally responsible for my reaching, and my itching is causally responsible for my scratching, and my believing is causally responsible for my saying. ..if none of that is literally true, then practically everything I believe about anything is false and it's the end of the world.[99]

The fact that we come into the world with a presupposition of agency is incredibly important, and we need mental causation to get any notion of agency off the ground. In this way, we should be very skeptical of any notion that threatens our agency full-stop.[100]

Horst disagrees with Silberstein about the importance of the manifest image. Horst thinks that the dichotomy of manifest image vs. scientific image is overblown. For one thing, Horst denies that there is any one single manifest image, or any one single scientific image. Furthermore, he states that what actually threatens our understanding of ourselves that is supposed to be expressed in the manifest image is a misunderstanding of the sciences. If we properly interpret scientific data and scientific theories, then we will not run into issues that put the scientific image at odds with the manifest image. He thinks his work on reductionism and determinism "provides the kind of philosophical therapy that is needed to dispel the specters of reductionism and determinism". [101]

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[99] Fodor, *A Theory of Content and Other Essays*, (Cambridge, Mass, Bradford Book/MIT Press, 1990), 156.

[100] I think Silberstein would be fine with a theory that says that some of the decisions we make are in fact because of chemicals in the brain which then cause your mental state to be a certain way.

[101] Horst, "Reply to Silberstein."

One problem that comes out of Horst's reply is that we are not sure what it means to properly interpret the sciences. That statement seems about as vague as science itself. It might be the case that we should not interpret scientific data as being all-encompassing or attempting to say what is going on in the universe as a whole because this will give us further problems. Horst thinks that this is the largest problem with the way we have interpreted science. Still, Silberstein's worry remains that this might not get rid of all of the problems that arise out of scientific practice. For example, the experiments done by Libet do not make any comprehensive metaphysical claims, yet they still may present a problem for the manifest image of ourselves as agents with free will. Libet's experiments seem to show that someone has made a decision before they are consciously aware of having made a decision. This makes a problem for the idea that we consciously choose which actions to take. Some thinkers, including Daniel Wegner think that these experiments show that our feeling of making a decision is caused by prior neural activity.[102] In these cases, Horst would say that our interpretation of the data is the problem. This objection is not to demand that we have a rigorous way of finding the 'correct' interpretation of scientific data. I only wish to show that interpreting is a difficult and contentious activity that should always be revised. Relying on some notion of the correct interpretation of science may not allow us to get much work done.

In the same vein, Silberstein does not think that Horst's Cognitive Pluralism protects our idea of ourselves as free beings with mental states that cause our actions. While Cognitive Pluralism does protect us from a comprehensive metaphysics that touts 'naturalism', it does not shield the manifest image from smaller reductive projects. Silberstein gives the example of

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[102] The interpretation of Libet's experiments is a highly contentious issue, and many have argued that these findings only show that there may be an intention to act before we actually act, not that neural activity causes our feeling of making a decision nor our actions. For more, see Alfred Mele, 2009.

"molecular neuroscience having wild, universal and unmatched predictive success with regard to mental phenomena and human behavior, I doubt that hiding behind either pluralism or underdetermination would be much consolation."[103]

Horst thinks that we decide whether a model is apt based on our practical and explanatory interests, and in this way we can weigh the interest of the manifest image of ourselves against the weight of empirical data. However, Horst's insistence that we cannot make any claims from outside of a model means that any claims we make will be tempered. Any claims about mental causation will be from within a model, and we can only criticize reductive projects from within their own model.

Dupré addresses a similar issue with his Promiscuous Realism. He thinks that many individual things are objectively members of many individual kinds. He gives the example that he is "a human, a primate, a male, a philosophy professor, and many other things."[104] Many of these categories are real kinds, but he wants to deny there is any one kind that is *the* kind to which he belongs. Also, none of the kinds are more important or privileged, and so there no essential properties "that determine what kind I really belong to". The worry here is that "the admission of equal status to so many kinds must amount to denial of any real status to any", and it might be the case that we want to afford special status to our view of ourselves as free agents.[105] While Dupré holds that saying many different kinds and frameworks are equally real is not a bad thing, he still may not have done justice to Silberstein's worry about the manifest image. The manifest image is in an important sense *prior* to the scientific image, and in both of

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[103] Silberstein, "Metaphysics or Science: The Battle for the Soul of Philosophy of Mind."

[104] Dupré, *The Disorder of Things: Metaphysical Foundations for the Disunity of Science.*

[105] Ibid.

these explanations, the manifest image won't necessarily (or perhaps even contingently) have more weight than the scientific image.

Dupré's endorsement of various epistemic virtues can help him with this issue. Dupré thinks that we decide whether something is true based not only on its fit with empirical findings, but also how well it coheres with common sense and perhaps how a theory fits with the manifest image of ourselves. When we look at theories, one of the things that we consider is whether this fits with our manifest image of ourselves. While Dupré may not want to discard a theory simply because it does not align with our view of ourselves, he has recourse for the example that Silberstein mentioned about molecular neuroscience being able to predict human behavior. Dupré could say that those theories are suspect, and we should investigate them closer (as opposed to automatically giving them credence because they are empirically based findings) because they do not align with a really important aspect of ourselves (as self-determining agents).

3.4 The Future of Philosophy of Mind

Because both Horst and Dupré think that philosophy of mind needs to be radically reshaped, it is worth asking what exactly they think it should look like. In his review of Beyond Reduction, Michael Silberstein suggests that once we have gotten rid of reductionism in philosophy of mind, there is no more metaphysics left to do in philosophy of mind. Rather than focus our attention on questions like mind-body dualism or content externalism, we should be philosophers of cognitive science. Silberstein thinks that what philosophers do should be largely informed by and be in close contact with the empirical sciences of the mind.

Silberstein thinks "Cognitive Pluralism might be just another second-order philosophical move in a long game of battling 'isms'".[106] Silberstein asks why we continue to make second-order claims about scientific knowledge. He thinks we would be better off if we continue to focus on the first-order claims of science and what they do and do not imply. He thinks that questions about mental supervenience amount to "how many angels on the head of a pin'' kinds of questions that do not have any foreseeable resolution and do not make an important difference empirically or in our experience.[107] Instead of trying to do any sort of metaphysics (which Silberstein thinks will always result in a failed project), Silberstein thinks that we need to first and foremost look at the science. From there we can try and interpret and understand what the science tells us (though the science will not tell us anything about metaphysics).

At first blush, it seems like Horst should also endorse this viewpoint. For one, his Cognitive Pluralism is informed by empirical sciences of the mind. Horst's hypothesis relies on views in cognitive science and neuroscience regarding strong modularity, and Horst even thinks that his Cognitive Pluralism could be shown to be false by further empirical studies. Furthermore, Horst seems to think that the way that our human minds work will never allow us to understand how all of our models fit together. If this is the case, then we will always run into problems when we try to do the metaphysics of mind. We will always be using local models which engage some aspects and distort others, and this seems like an exercise in futility when we are trying to answer big questions about the mind and its relation to the world.

However, Horst does not endorse Silberstein's view that all philosophers of mind should become philosophers of cognitive science. Horst thinks that philosophy of mind should be

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[106] Silberstein, "Metaphysics or Science: The Battle for the Soul of Philosophy of Mind."

[107] Ibid.

practiced "in close conjunction with recent work in the sciences of cognition and philosophy of science" rather than "as a largely autonomous discipline concerned primarily with the metaphysics of the mind".[108] Still, this admission does not necessarily mean that philosophers of mind should abandon all metaphysical questions. Perhaps we should be knowledgeable about what is going on in the science of the mind, but still pursue certain metaphysical questions if they seem fruitful.

Horst makes a distinction between "declare victory and go home epistemology" and "white flag epistemology". He thinks that "declare victory and go home epistemology" takes for granted that we are capable of understanding something, when right now there is only the possibility that we might understand something in the future.[109] This is often seen with philosophers of mind who acknowledge that we haven't yet been able to reduce everything down to physics, but think that because we have been able to perform some reductions, we will eventually be able to understand how everything reduces to physics - that this is a capability we do have. Horst denies that we can know whether this is something we can achieve or not. Horst thinks the "declare victory and go home epistemology" involves a leap of faith and is not necessarily grounded in our current epistemic state.

The other extreme is white flag epistemology, in which we give up ever trying to unite our scientific knowledge. The idea here is that we have not been able to unite our knowledge (not just in science, but among disciplines), and thus we cannot know and should focus on something other than unification. Horst thinks that this makes a similar mistake in that it assumes we will never be able to understand how our theories fit together. We may wish to say that our cognitive

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[108] Horst, Steven W. *Laws, Mind, and Free Will.* Cambridge, Massachusetts: MIT Press, 2011.

[109] Ibid., 133.

architecture is such that we are only able to understand the world through models that cannot be unified, but he does not think that this has been proven beyond any doubt. He writes that "what is irrational is to confuse embracing something on the basis of speculation, faith, or taste without showing it to be true or well grounded."[110] He thinks that those who wave the white flag too early and those who declare victory early have made assumptions that are not necessitated by our current state and the evidence that we have at this point in the game.[111]

Cognitive Pluralism does strongly suggest that we will always have a barrier in understanding how all of our knowledge fits together, but Horst does not think that this is the end of the discussion. Endorsing the belief that there is an important difference between how we understand the world and how the world actually is would mean endorsing a distinction between phenomena and noumena, which Horst does not want to do. Horst claims that he wants to remain silent as to whether we will ever be able to figure out a comprehensive metaphysics. Furthermore, Horst is open to Cognitive Pluralism being proven incorrect with further empirical evidence. Thus, he does not think that doing metaphysics of mind is necessarily harmful.

Horst concedes that metaphysics "goes beyond empirical science" and that this suggests that empirical data will not be able to resolve metaphysical disputes.[112] However, he thinks avoiding questions that cannot be settled with empirical science would mean that we have to give up on many important and interesting projects. The fact that metaphysics goes beyond empirical science is not a good enough reason to stop talking about metaphysics "unless we are ready to

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[110] Ibid.

[111] Ibid., 132.

[112] Horst, "Reply to Silberstein."

stop talking about a great many other things in addition".[113] If it is the case that doing metaphysics when we do philosophy of mind is useless, Horst thinks that we will discover this soon enough.

I think Dupré would agree with Horst's conclusion here. Dupré thinks that metaphysics is a worthy endeavor. The fact that we have run into some issues does not necessarily mean that we should stop doing metaphysics. Dupré thinks that the problems that have arisen from reductionism, physicalism, and causal closure could be solved if we rid ourselves of the logical positivism of Nagel and Carnap. The kind of world we live in matters to us; the matters of physicalism, consciousness, and free will are all important issues that we discuss in the realm of metaphysics, and refusing to discuss these issues is not the solution.

I think Horst's conclusion on the future of philosophy of mind points to an important issue. Silberstein seems to think that much of the problem with the literature on mental causation, reductionism, and free will is that it is trying to do metaphysics. He calls any second-order theorizing about scientific findings scholasticism and thinks that we should try to rid ourselves of all these -isms (reductionism and Cognitive Pluralism included). Because this goes beyond any possible knowledge, we should focus on trying to understand first-order claims about scientific data. In this way, we will steer clear of any questions about how the world *really* is.

However, I think that this not only misdiagnoses the problem with reductionism, but also misrepresents the distinction between cognitive science and philosophy of mind, and may not do justice to the manifest image that Silberstein is concerned with. I think Dupré will more readily emphasize the ambiguity of science and its status as a human phenomenon. In his declaration that we should become philosophers of cognitive science, Silberstein may have overstated the

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[113] Ibid.

difference between philosophy of mind and philosophy of cognitive science. I think that arguing that we need to abandon philosophy of mind in favor of philosophy of cognitive science because we won't get answers overemphasizes the agreement in cognitive science and underemphasizes the agreement we find in philosophy. Both disciplines require a lot of careful interpretation, and perhaps making a sharp divide between the two is at best unhelpful.

While the metaphysics of mind has included some dubious claims, I do not think that the problem here is metaphysics. Instead, I agree with Horst that much of the problem comes from inappropriate interpretations of science. I think one of the problems with some philosophy of mind is its lack of communication with philosophy of science. We may not know exactly how to interpret scientific data and/or practice, but it seems clear if reductions are rare in the sciences, we should not decide that something is real if and only if it can be reduced to something more fundamental.

3.5 An Evaluation of Cognitive Pluralism and Mental Causation

While I do think that philosophy of mind should be largely informed by actual scientific practice as well as philosophy of science, I think that there are important issues that arise when we base an important aspect of how we interact with the world on scientific findings. Asking science to solve the gap between the way we want things to be (unified) and the way things actually are (disordered) is an inappropriate use of science. Thus, Horst needs to keep Cognitive Pluralism as a more modest thesis - which will end up being one model among many.

Horst writes "to the extent that necessitarian metaphysics is to be about things-in-themselves and not things-as-represented in model M, a cognitive view of our concepts ought to

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engender suspicion about just how far exercises in necessitarian metaphysics can take us." [114] I think Horst has set up a dichotomy here between the necessitarian metaphysics that has fueled the arguments in philosophy of mind regarding identity, reduction, and supervenience and talking about entities solely as posits in a model. There may be a middle way. For example, Dupré wants to do metaphysics, but he does not wish to do necessitarian metaphysics. Perhaps we can talk about the way the world is, but we do not need to talk about the way the world needs to be, or the way the world is apart from us. Dupré's notion of an object is partially informed by the kinds of beings we are. For example, he thinks that "the plurality of kinds is connected to the variety of interests bound up in the sciences". [115] The fact that we have had a lot of success in science suggests that the kinds we do find are rooted in something real. Here, Dupré is not making any necessitarian metaphysics claims, but he also wants to allow room for us to say something about the things we study. In this way, when we are talking about mental causation, for instance, we can talk about it without necessarily tempering it by claiming that we are speaking within a certain model, but we can also acknowledge that knowledge is inextricably linked to our practical and explanatory interests.

Horst might also say that we have lots of evidence that we already use idealizing models which end ups distorting other aspects. It makes sense that this would end up applying this idealization to the way we interact with the world in general. So when we haven't been able to reduce much of the phenomena we encounter and we are unsure whether this means that there is disorder in the things we study or whether our minds cannot figure out how the phenomena fit

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[114] Horst, *Beyond Reduction*, 123.

[115] Ibid.

together, we should go with the option that has more explanatory power. The only evidence we have for the disorder of the world could be interpreted multiple ways.

As we have seen in Chapter 2, Horst denies that a failure of explanation means a failure of supervenience, reduction, or any other metaphysical claims. A failure of explanation only means that perhaps our minds cannot grasp or come up with a full explanation. Horst would agree that we have a neuroscience model and a belief-desire psychology model, and these models should be used where appropriate. Where a belief-desire psychology model works best, perhaps in a human without any mental illness would not work best for someone who is chemically addicted to alcohol, for example.

However, an important vice of Horst's view is his insistence that we are always modeling, and his denial that we can ever get outside of our models. With his epistemic triangulation it seems like Horst wants to be able to criticize models on something other than their aptness. As we saw earlier, it is not clear that Horst is allowed to appeal to some standard beyond models in order to criticize the models. Because we can only ever talk about truth within a model, any truth about mental causation would have to be within a model. As discussed in Chapter 2, this would lead Horst to claim that when we need to understand human agency and moral responsibility, we posit mental causation. However, it seems like we want to appeal to some external standards (perhaps even consistency with other models) in order to figure out what is worth calling true and what isn't. In the same vein, it might be the case that we have a really well-supported model of how complex organisms (such as humans) can acquire causal properties, but this would only be one model among many for Horst. There might be a lot of (apt for different purposes) models that do not need to posit mental causation. In this way, Horst's

Cognitive Pluralism cannot provide a vindication of mental causation. This lack of vindication of mental causation ends up being a lack of explanatory power and faithfulness to our experience.

3.6 An Evaluation of Promiscuous Realism and Mental Causation

Horst says that he has a hard time understanding the kind of ontological disunity that is advocated by Dupré. He says "perhaps we need separate theories of the fundamental physical forces because they are fundamental and independent".[116] Still, this doesn't explain why we have so many different varieties of models in the special sciences, or even the use of different models within one discipline. Presumably we study the same *kind* of entities in a single discipline, so there wouldn't be disunity within one discipline. Horst thinks that the only way he can make sense of this thesis is if we have a view like Aristotle's in which "there are an enormous number of phenomena that have their own natures", and he does not want to endorse this view.[117] Instead, Horst thinks that Cognitive Pluralism can better explain this phenomena: minds like ours cannot perfectly understand how things work together, so we need different models to look at different aspects of the same stuff.

However, I do not think it is very hard to believe that a large amount of phenomena in the world have their own natures. Furthermore, the fact that we have different models even within one discipline only shows that there are different kinds of entities even within one discipline. Still, I think that Horst's explanation of why we may have different (incommensurate) models within one discipline is an important insight, and Dupré might be able to make more use of this insight. In some cases, it may not make sense to claim that the phenomenon to be studied is

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[116] Horst, "Reply to Silberstein."

[117] Ibid.

disordered. Even if it is disordered, we should still be able to put together a theory that can incorporate the different aspects of the same phenomenon. If we acknowledge, as Horst wishes to do, that we as humans sometimes need to isolate one part of a phenomena in order to gain important insights about the phenomena in question, then we will have a reasonable explanation as to why there are different incommensurate models within one single discipline. Otherwise, Dupré would have to say that phenomena is always *so* disordered that even within one discipline we need more than one model. This might be the case and it might be something that Dupré wants to endorse, but I think at least in some cases Horst's explanation might make the most sense with what we already know about scientific models. However, this is not to say that all we can ever do is model, it's just that this is a common occurrence when we try to understand scientific phenomena.

Another objection Horst may have with endorsing a disordered world is that he thinks it makes more sense to start with ourselves in order to understand the disunity we find in the sciences. Making conjectures about things we may not ever be able to know will not be fruitful. It seems like we are best acquainted with ourselves and our experience, so diagnosing the problem in ourselves makes the most sense. Horst makes the case that modeling is incredibly prevalent in the sciences. This explains why we have trouble fitting quantum mechanics and special relativity into the same framework. If we know that modeling occurs when we do science, it makes sense that we would use modeling in other parts of our lives as well.

I think Dupré would agree that modeling is indeed very prevalent in the sciences, and also in our everyday life. However, this does not mean that all we ever do is model and that the human mind is built to model rather than understand things holistically. In fact, the claim that it

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is unlikely that we will ever be able to understand how everything fits into a larger whole might be as much of a leap of faith as Dupré's claim that the world is disordered.

One objection to Dupré that was mentioned in Chapter 2 is that it seems like his Promiscuous Realism allows us to claim a lot of things are real and/or true when it is not clear that they deserve the validation. Both the Ptolemaic and Copernican view of our solar system made sense and provided accurate calculations. One way that Dupré could avoid this objection is to say that every theory we have is fallible and could be overturned with more evidence. In this way, he can borrow some of the epistemic caution we find in Cognitive Pluralism. We might be able to say that some theory can give a good explanation for the time being, but we should not claim that any theory we have is the ultimate truth that cannot be revised with further evidence. If Dupré wants to remain a realist, then he has to allow that there may be some way of getting the world wrong. In this way, the Ptolemaic view of the solar system showed some epistemic virtues, but we might not necessarily want to claim that it is real.[118]

Dupré endorses a similar view to Horst in that our explanations will always be beholden to our practical and explanatory interests, but Dupré denies that we are always modeling and also denies that we can only speak of truth or falsity from within a model. Dupré argues that humans have causal capacities that nothing else in the world can rival. He notes that our capacity to make and follow through on plans in "complexly organized ways for considerable distances into the future" seems quite rare. Dupré does not see why we would project these human causal capacities onto "inanimate bits of matter".

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[118] When Kepler suggested that the Sun did not revolve around the Earth, it is not clear that this was a straightforwardly "better" theory. In fact, some of the calculations were worse. However, I cannot do justice to the complex topic of how we come to endorse new scientific theories in this limited space.

One of the arguments given by Dupré for mental causation is that we need belief-desire psychology for an adequate explanation of human behavior, and belief-desire psychology has mental causation as a presupposition. Belief-desire psychology assumes that my belief that the coffee is on the table coupled with my desire to drink coffee leads to my intent to act, and eventually my action of walking over to the table and getting my coffee. Because appeal to neuroscience and neuroscience alone leaves out this important aspect, we cannot rely only on neuroscience to explain the actions of humans.

This argument of Dupré's could be used against him. Perhaps there is a problem with belief-desire psychology because it doesn't take into account the effect that chemicals and neurons in our brains have on our behavior. In this way, belief-desire psychology is also inadequate. As a pluralist, it is doubtful that Dupré would have a problem with this. He can concede that neuroscience is important for certain ends. The problem comes in when we take some findings of neuroscience and interpret them in such a way as to rule out belief-desire explanations of human behavior. Dupré does not wish to rule out neuroscience; he only wants to make sure that it is only given the explanatory weight that it deserves. In some cases, the neuroscience explanation is more important.

Dupré thinks that the fact that we have disunity in science should be a motivating factor in trying to separate the valuable scientific theories from the faulty ones, but he does not think this can be decided only using empirical data:

> I stress that this is not to be a division in terms of the true scientific method, but one in terms of social worth. If there is one conclusion of overriding importance to be drawn from the increasing realization in recent time that science is a human product, it is that, like other human products, the only way it can ultimately be evaluated is in terms of whether it contributes to the thriving of the sentient beings in this universe.[119]

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[119] Dupré, *The Disorder of Things: Metaphysical Foundations for the Disunity of Science,* 264.

I also think Silberstein's insistence on a direct refutation of reductionism is better served by Dupré's Promiscuous Realism. The virtue of Dupré's account of mental causation is that we can directly refute critics and we can make important claims about the world we live in.

Dupré's Promiscuous Realism is even closer to how we actually experience the world. We don't have evidence that the world is necessarily disordered, but we also don't have much evidence for the idea that human minds could never understand the world as a whole and how everything inside it fits together. Elsewhere Horst has stated that we have prima facie reasons for believing in consciousness and free will, but it is not clear how easily Cognitive Pluralism can accommodate these ideas. Meanwhile, Dupré's Promiscuous Realism actually makes room for these ideas: it allows us to claim these things because they demonstrate important virtues, including coherence with our common sense view of ourselves and the way we experience the world.

Another virtue of Promiscuous Realism is that it can address some of the earlier problems we found in the mental causation literature. For example, Promiscuous Realism can avoid the charge of epiphenomenalism. Because Promiscuous Realism does not restrict causality to laws, nor does it think that causality drains down to the level of microphysics, complex wholes are allowed to have causal powers. Promiscuous Realism also avoids the exclusion problem that was discussed in Chapter 1. As a reminder, the exclusion argument forces us to choose between two different causes (unless it is a genuine case of causal overdetermination). Recall that if we think that the mental supervenes on the physical, then the physical determines the mental. This means that when we have physical event P* that instantiates mental event M*, M* must occur. In this way, the mental event M* is caused by the physical event P*. However, we also want to be able

to say that mental event M caused mental event M*. Kim then thinks we have to choose between the cause of M* being its supervenience base P* or the M instance.

With Promiscuous Realism, it is not the case that M* must occur once its physical base P* occurs because supervenience is denied. Instead of this picture where it looks like there are two causes that produced M*, Dupré thinks we can locate the cause as a mental event. Dupré thinks that at least sometimes causation occurs only when we have reached a certain level of complexity. Thus, beliefs, desires, and intentions of a person are not *determined* by the physical states of a person. Instead, those beliefs, desires, and intentions determine the future physical and mental state. In this way, we have preserved the idea of causation as generation or production without reducing mental states to physical states.

Conclusion

I think that Dupré's pluralism can more adequately address some of the issues brought up by Silberstein, and I also think that his pluralism is more aligned with our experience of the world we live in. However, I think that the virtue of Steven Horst's Cognitive Pluralism is that he is not quick to jump to any assumptions about the way the world is, and Dupré's Promiscuous Realism could benefit from this aspect of Cognitive Pluralism. However, if it is the case that mental causation shows up in many of our most apt models, then perhaps we should be able to talk about mental causation as a phenomenon outside of a model. While both pluralisms have their own sets of issues, we can adjudicate between them based on Dupré's plausible defense of mental causation.

CONCLUSIONS: MENTAL CAUSATION AND FUTURE WORK IN PHILOSOPHY OF MIND

In Chapter 1 I surveyed the major players in the mental causation literature. However, I think that the debate has been very much misguided due to a reliance on reduction in philosophy of mind. If we turn to philosophy of science and empirical data, we will find that reduction is not seen as the mark of the real. Regarding reductionism, we can take a few different viewpoints. We could 1) argue that the lack of reduction is a result of our current ignorance, and that perhaps with more time we will find that mental states can reduce down to microphysics, 2) argue that a failure in reduction indicates a lack of reduction in the world 3) remain quiet about what this lack of reduction means, and neither endorse the idea that an entity needs to be reduced to be real nor endorse the idea that we will never be able to reduce because some entities simply cannot be reduced. In chapter one I gave some reasons for rejecting the first position. In chapter two I look at the second and third positions and their respective merits and possible disadvantages of the views. In the third chapter I looked at criticisms of Horst's Cognitive Pluralism, how these criticisms might apply to Dupré's Promiscuous Realism, and how both could address these criticisms. In the end I think both views have promise and both could learn from each other. One of the most important aspects of Dupré's pluralism is that it allows us to make more straightforward criticisms and rejections of reductionism. Horst, on the other hand, wants to remain quiet about whether mental causation "really" exists, or whether everything is "really" just atoms. However, I think that having a conversation about the way the world really is can be fruitful. Because of this, I think that Dupré can provide a more plausible account of mental causation as we experience it. Still, I think we can learn from Horst's hesitance to make grand

claims about the way the world is, as well as his insistence that we stay true to the way science is actually practiced, instead of to some idealized view of science.

For future work I think all philosophers need to be in close connection with empirical data. I think much of the problems that have come up when philosophers of mind have discussed mental causation could be alleviated by being in communication both with empirical data but also with philosophers of science. We can avoid making more problems for ourselves by staying in communication with other disciplines.

However, I think an important consideration when we try to interpret the empirical data is how well it displays epistemic virtues, including faithfulness to our experience. This is not to say that we can get rid of theories that fail to say what they want to say. Instead, we should look at doctrines like reductionism with skepticism, and make sure that we are being careful in our interpretations of what the sciences do. It might be the case that empirical studies end up telling us information about ourselves that we may not have been able to figure out otherwise. However, these conclusions should always be susceptible to revision. I think the main virtue of both the pluralist positions I have considered is their emphasis on the multitude of ways we can see ourselves and the world. In this way, we should be sensitive to empirical data, but also avoid the problems that came from the unwarranted allegiance to physicalism and causal closure.

Still, I don't think that this is the last thing that should be said about mental causation and other macro-level causation questions. Far from it - there are a lot of new and interesting theories about (what we traditionally conceive of as) the mind, the body, and their connections to each other. For example, new literature on plasticity is very promising. I agree with Silberstein here that philosophers should be working closely with empirical findings, and that philosophy can provide a useful service in looking to clarify terms, show different interpretations of findings,

and possibly decide between competing interpretations of empirical findings. However, I disagree that philosophers of mind should become philosophers of cognitive science. There may still be some important and interesting questions left in philosophy of mind that would not be exhausted by the content of cognitive science. In particular, I think that philosophers of mind have important insights about how we experience agency and/or mental causation, and these insights are important in their own right.

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