

Panpsychism: Prospects for the Mentality of Matter

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Boston College

Panpsychism

Prospects for the Mentality of Matter

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Author's Statement

This project is the product of my undergraduate study of various ideas and theories in the philosophy of mind. I came to philosophy fresh, with only the faintest idea of what metaphysics, ontology, epistemology and various other technical terms meant. What interested me the most when I finally decided to become a philosophy major was political philosophy, social criticism and existentialism. In the past two years I have been fortunate to learn from many excellent teachers in some of the most renowned philosophical institutions in the world. My time in England at King's College London and Advanced Studies in Bath opened me up to many of the philosophical ideas reflected in this paper. My recent classes at Boston College have shaped those ideas and given me the critical tools to finally express some of my own. What follows is a concrete study in the philosophy of mind. I take panpsychism as a viable theory of mind and use it to explore the debate as it stands currently and various alternative theories. I do not intend this paper as a whole-hearted endorsement of the panpsychic worldview. I do, however, believe that we must not rule out theories that we find we can live with. I believe panpsychism is one of the few theories that currently hold that title. It is my hope that by the end of this paper you will share that modest conviction.

Abstract

Physicalism has a problem: experience must derive from wholly physical things, but how can physical matter produce experience? An answer to this question may require a drastic change in the physicalist paradigm. Some propose Panpsychism as the best available response. Panpsychism contends that all physical matter has mental properties. To many such a notion is a sheer absurdity. Two mainstream responses may be more tolerable: Reductionism and Emergentism. Panpsychism is defensible only if these alternate approaches fail. This project lays out the logic of the panpsychist arguments against reductionism and emergentism, as well as stating an overall case for physicalist panpsychism. The apparent absurdity of panpsychism will be found trivial in comparison with the remaining difficulties for more traditional physicalist approaches. Panpsychism should therefore be considered a viable option on the mind-body problem. Despite outstanding difficulties with the view, it has considerable theoretical value and cannot be merely considered an absurd position.

Introduction to Panpsychism

The philosophy of mind holds a special place in the field of philosophy. It can be seen as a kind of metaphysical proving ground. Metaphysics and ontology tells us what it is to be and what things exist. The philosophy of mind tells us how it is possible for those entities recognized in metaphysics to produce conscious experience. Its purpose is to question the root of all questioning: to describe and explain the origins of consciousness. Because of this momentous task, philosophy of mind is incredibly contentious. Consciousness is essential to every facet of existence. Explaining the origins of consciousness and its place in the world thereby influences how we treat topics of every variety, from theology to ethics. Articulating a metaphysical theory which explains consciousness involves, to a great degree, determining how to view the world. Specifically, it involves characterizing how the mind is to be understood in its relationship to the world and worldly entities. Are mind and matter distinct or identical? How do they interact, if at all? Philosophy of mind employs metaphysical arguments to answer these questions and thereby form the cornerstone of a particular worldview.

Of the questions that have puzzled philosophers of mind, the question of the interaction between mind and body has proven the most intractable. This has become known as the mind-body problem or, likewise, the hard problem of consciousness. It involves determining the ontological status of mind and body and explaining their apparent interconnectedness. The problem of mind and body interaction takes its classical formulation from Descartes' characterization of the *res extensa* and the *res cogitans*. Since then, many metaphysical doctrines have attempted to resolve (or dissolve) the problem. Adherents of dualism, idealism, and materialism over the years have all proposed ways of understanding the issue that vindicate their respective metaphysical commitments. Each worldview has gained support at various times in the past. Yet if there is any ascendant worldview in contemporary Western analytic philosophy, it is the belief in physicalist monism, the claim that the only substance is matter and that mind is a special case of material organization. Much of the support for this metaphysic comes from the remarkable success of natural

science in explaining everything from gravitation to life. Philosophers of mind have therefore felt compelled to develop a naturalized metaphysic which harmonizes the findings of the natural sciences within a metaphysical framework. That framework is physicalism.

Through its close adherence to scientific evidential claims, physicalism has promised many advancements in philosophy generally, and the philosophy of mind specifically. But in the case of the mind, many have found the theory wanting. This is largely because the physics with which physicalism is so closely aligned has nothing to say about mentality. The basic laws of physics are analyses of events in the world which establish causal linkages between quantitative units. However, they indicate nothing about the qualitative aspects of fundamental physical entities. Physical theory is founded upon a mechanistic approach to matter in which physical events are taken to be functional units with a determined, mechanical explanation. But these mechanical explanations, however successful they are in predicting the existence and behavior of the Higgs boson, can amount to little more than quantitative descriptions of the world. They therefore say nothing about the intrinsic qualities of those events. In fact, “we know nothing about the intrinsic quality of physical events except when these are mental events that we directly experience.”¹ Physicalism thus encounters an explanatory gap between the mechanistic, quantitative descriptions that are provided by the fundamental natural sciences and the qualitative descriptions that mentality appears to entail.

This quantitative-qualitative divide is a contemporary reconfiguration of the famous mind-body problem. Providing a physicalist solution to this problem has consumed many pages in contemporary philosophy journals. Throughout these debates, the overriding desire has been to offer a naturalized metaphysic which nevertheless provides a reasonable account of the mind. One theory has asserted that the root of the difficulty lies in the mechanistic outlook of traditional physicalism. This is physicalist panpsychism. Contrary to the common mechanistic assumption that matter is merely quantitative, panpsychism claims that all of the fundamental physical entities possess mental qualities. Only by making this ascription, the panpsychist believes, can we explain how

1 Russell quoted in Strawson 10.

consciousness is possible in a physicalist metaphysic. Although this contemporary panpsychism remains committed to the monist metaphysics of physicalism, it contends that the mechanistic assumptions which have guided science and modern philosophy are mistaken. Panpsychists reject those assumptions in favor of what they view as, on the balance of things, the more reasonable assumption that all physical particles possess mental properties.

Panpsychism may appear to be a ludicrous idea concocted out of fanciful theorizing and wishful thinking. If it is true, the very paper that you are reading contains billions of micro-experiencers, all thinking, feeling, and experiencing at this very moment. Indeed, all throughout your body, a panpsychist would argue, are billions more particles with mental properties and experiences similar to yours. Panpsychists claim that all the troubling problems of the philosophy of mind can be resolved quite easily; if only we will accept the simple idea that mind is everywhere. Any view that makes claims so starkly opposed to common sense deserves careful scrutiny. But, although panpsychism surely disrupts our normal beliefs, it should not be dismissed out of hand. Many seemingly crazy ideas actually have strong theoretical support. Einstein claimed that time was not an objective feature of the universe, and that the simultaneity of two events depended on how they were observed.² Anyone who had previously believed that time was an objective feature of the world would surely have been surprised by such a theory. But that did not stand against its theoretical virtues. The same approach must be taken to panpsychism. Although it is counterintuitive, and perhaps slightly shocking to common sense, we must consider the arguments that stand in its favor. If these are found plausible and well-defended, we must conclude that panpsychism is a reasonable theory of mind.

In this paper, I argue that panpsychism must be viewed as a viable metaphysical theory of the mind. Not only is panpsychism well motivated given the difficulties facing traditional physicalist theories, it also has a number of strong arguments in its favor. These may not warrant accepting panpsychism as the ultimate answer to the mind-body problem, but they do establish that the view is far from the absurdity it initially seems to be. In the final appraisal, panpsychism is, at the moment, a workable framework for developing a non-mechanistic philosophy of mind.

² More exactly, at what fraction of the speed of light the observer was travelling.

There cannot be any stronger conclusion at this point because the theory faces a considerable challenge which has not yet been treated with sufficient depth and clarity to render judgment. Without further analysis, it therefore cannot be conclusively determined whether panpsychism will remain a viable metaphysic. Nevertheless, physicalist panpsychism is an intriguing theory of mind in the contemporary field. It pushes the boundaries of what we are willing (and, perhaps, able) to conceive as a solution to an outstanding problem in the philosophy of mind. Furthermore, it challenges the entrenched mechanistic worldview that has come to dominate Western thought in the past four hundred years, and points towards the beginnings of a new conception of the world. Panpsychism may not be the most believable theory of mind or, in the end, even the right one. But it is certainly an exciting course of reasoning with potentially significant consequences for our understanding of ourselves, the world, and what it means to have a mind.

Chapter 1 Is Panpsychism Plausible?

Contemporary philosophy of mind has a not-so-secret problem. It is, of course, the mind-body problem: how is mind related to body? Where does consciousness fit in our understanding of the world? Since Descartes first meditated on the *cogito*, legions of philosophers have struggled to overcome these nagging questions about the relationship between the fundamental substances he postulated. Many elaborate and popular theories have attempted to satisfy our curiosity about these questions. Yet with each theoretical solution there remain vexing issues. For dualism, the question of the interaction between mind and matter has proved especially intractable. Idealism seems to be opposed to the naturalistic and empirical methods of science, and so is discredited as realist assumptions of science are empirically confirmed. Materialism stands accused of deprioritizing the mind, possibly relegating it to the waste-bin of faulty concepts. While each of these approaches, and others besides, remain viable avenues for addressing the core problem of mind and body, the difficulties they face continue to frustrate a definitive solution to that basic question. It seems that the evil demon has done quite a job of confounding us in this case; no matter how we count the sides of this triangle, we never seem to get it right.

Although all of the proposed solutions to the problem of mind confront challenges, advances in neuroscience and recent scholarship in the philosophy of mind have served to generate the consensus that materialism is the doctrine most likely to overcome its longstanding difficulties. In modern form, materialism has come to be known as physicalism, the thesis that the only substance in the universe is physical. Physicalism properly holds that all concrete entities, from tables to atoms to humans, are composed entirely out of the fundamental particles postulated by physics. It implies, through the principle of the causal closure of the physical universe, that the only efficient causes that exist are those understood by physics, ultimately at the level of micro-particles. According to physicalism, then, the mind must be an entity which is ultimately dependent on the laws of quantum physics. Whatever is mental must, at minimum, be part of the domain that physics explains.

Physicalism has become, to adopt a term made famous by Thomas Kuhn, the dominant paradigm in the philosophy of mind. Many philosophers view physicalism as the framework most capable of integrating the empirical results of natural science into the metaphysics of the mind. Physics has been extremely successful in accounting for natural phenomena through its mathematical theories and models. These theoretical tools have enabled physicists to answer vexing and age-old philosophical questions cogently and, many would argue, compellingly. The origins of the universe were once a domain of strictly theological study, where metaphysical, and sometimes metaphorical, conjectures such as the Biblical stories of creation were thought to give the most rational account. Yet the latest theoretical physics suggests that the birth of the universe can now be explained simply in terms of energy, matter and probability as the Big Bang. Likewise, whereas philosophers once postulated an unfathomable vitalistic principle to explain the existence of life, scientific investigations have given explanations of life exclusively in terms of genetics and biochemical processes. The advance of empirical science in this fashion is routinely heralded as the progressive fulfilment of the physicalist hypothesis, that all is physical and nothing more. As a result, it is presumed that neuroscience will follow a similar path in explaining mental states by offering evermore rich and detailed insights into the inner workings of the brain. Empirical studies such as these seem to be continually increasing the viability of the physicalist premise. To deny physicalism, it increasingly appears to be the case, is to stand opposed to all that is scientific, empirical and well-confirmed.

But while physicalism has gained the assent of many scientists and philosophers because of the scientific advances that appear to support it, it remains crippled by issues which threaten to destabilize the paradigm. Specifically, physicalism has been unable to dispel the “residual mystery that surrounds the question of how consciousness might be physically explained.”³ This is the ‘hard problem’ of consciousness, the problem of how qualitative experience is possible. Qualitative or phenomenal consciousness is what “it is like to *be*” a subject of experience and to have experiences that are qualitative in character; that have the aspect of what-it-is-like-ness.⁴

3 Van Gulick. 1.

4 Nagel. “What is it like to be a bat?” in *Mortal Questions*. 166.

Physicalism, on many standard interpretations, struggles to account for this qualitative character of experience. Micro-physics tends to exclude qualitative description precisely because of its subjective nature. The spin of an electron and the mass of a neutron come under investigation in physics because they are measurable features of those bodies. Scientific explanations of entities generally consist in quantifying these features and explaining its functional roles in a causal nexus. With respect to the mind, however, the nature of mentality appears to require qualitative, as opposed to quantitative, descriptions. Hence, the challenge posed is precisely that “if physicalism is to be defended, the phenomenological features must themselves be given a physical account.”⁵ Physicalism must explain how subjectivity is possible even though the theories of basic physics do not account for its existence.

The persistence of this challenge over the years has fueled a debate within physicalist camps about the best solutions to the problem of subjectivity. Traditional versions of physicalism espouse a reductionist ontology, claiming that mental states will be reduced to brain states in much the same way that chemical reactions have been reduced to the interactions of micro-particles. A more vigorous physicalist response to the problem of subjectivity is to eliminate it. On this scheme, mentality is a misguided and antiquated theory which can be replaced by a more robust neurobiology. For many, however, reductionism and eliminativism, as these two positions are known, do not provide convincing accounts of subjective experiences. It seems just as unlikely that qualitative states will turn out to be nothing more than particle collisions as that they will turn out to be radically mistaken concepts. Non-reductive physicalism has developed largely to authenticate these concerns and expand the explanatory horizon of the physicalist hypothesis to include subjectivity.⁶ These formulations of physicalism are susceptible, however, to worries about the origins of subjectivity. Functionalists and other non-reductive physicalists must still explain how consciousness arose from micro-particles, even if they do not believe it can be reduced strictly to physics.

⁵ Ibid. 167.

⁶ Van Gulick. 22.

Much recent scholarship has been dedicated to arguing the merits of one or another of these more traditional physicalist solutions to subjectivity. But as the views have been argued and counter-argued, this debate has pushed the physicalist paradigm into the domain of “*extraordinary science*,” where a persistent anomaly produces “a period of ferment and theoretical experimentation.”⁷ Responding to the difficulties of explaining subjectivity, new and more speculative theories have been proposed. Some of these theories seek to account for consciousness within the framework of physicalism, while others move beyond the conventional constraints recognized by traditional physicalists.⁸ While these new and more surprising theories may stretch the boundaries of physicalism, they tend to maintain the naturalist presuppositions that ground physicalism to begin with. Although the notion that the only things that exist are physical entities or properties may be revised, the naturalist commitment of these theories “is to making our talk of mind...scientific.”⁹ In this way, the Kuhnian revolutionary scientists in contemporary philosophy of mind retain a connection to the scientific motivations for physicalism. These theories retain a desire to “place human beings in the world without making special, ad hoc assumptions that are discontinuous with everything else we have good reason to believe about nature.”¹⁰ It is by maintaining this commitment that the new theories hope to entice physicalists to “be open to alternative, rational explanations in the quest for the sources of consciousness.”¹¹

One of the most surprising theories that have arisen in this ferment of revolutionary theorizing is panpsychism. Panpsychism, in broad terms, is the notion that mind is in all things. It derives from the Greek *pan* meaning ‘all’ or ‘everything’ and *psyche* meaning ‘soul’, but in its contemporary usage the *psyche* of panpsychism is closer to that of Freud than Aristotle. In expanded form, the panpsychist hypothesis can be phrased “the mentality of which each of us is aware in our own thoughts and experiences is present in varying forms in a wide variety of natural bodies” throughout the world.¹² Mundane objects might be filled with sublime qualitative experiences,

7 Ibid. 1.

8 Feser. *Philosophy of Mind: A Short Introduction*. 65.

9 Wagner and Warner. *Naturalism*. 3.

10 Rosenberg. *A Place for Consciousness*. 8.

11 Koch. *Confessions of a Romantic Reductionist*. 135.

12 Clarke. *Panpsychism*. 1.

some mysterious and some very similar to what we know ourselves. Panpsychists see the troubling problems of the philosophy of mind dissolve quite easily; to be replaced by the simple idea that mind is everywhere.

In such a generic form, it is difficult to see exactly how panpsychism might impinge upon the heated debates that have embroiled the philosophy of mind for so long. Indeed, panpsychism as a general concept stands somewhat removed from these arguments. This is because “the doctrine of panpsychism is itself not tied to any specific metaphysical view of the nature of mentality.”¹³ All that panpsychism is committed to, in general, is the hypothesis that whatever the nature of mind may be it applies to all things. As such, it is a meta-theory of the mind, and can be applied to any of the most common theories of mind. Historical versions of panpsychism have therefore been postulated within all three major theoretical frameworks.¹⁴ Schopenhauer famously supported an idealist panpsychism, and many ancient scholars developed something close to a dualist or at least pluralist panpsychic outlook. However, modern panpsychism tends to adopt a naturalist perspective, granting the natural sciences a fundamental role in shaping the theory of the mind to which panpsychism is conjoined. As a result, naturalized panpsychism is often connected to the metaphysical theory that takes its cues directly from science, that is, physicalism.

This union of physicalism and panpsychism, however, appears to contain a fundamental tension. Since physicalism ascribes to matter only the properties that physics recognizes, and physical theory gives no indication that subjective, qualitative properties are present in micro-particles, physicalism does not acknowledge mental properties existing in basic physical entities. Based on this, it seems that panpsychism cannot be maintained in a physicalist framework. Physics is taken by the physicalist to be the condition of possibility for any theory of mind. If physics does not postulate a property of matter, it must not be stipulated. If physics ultimately finds a property to be necessary in explaining matter, the physicalist will accept it; but given the state of physical theory, any radical departure from purely quantifiable properties seems extremely unlikely.

¹³ Ibid. 9.

¹⁴ Skrbina. “Panpsychism as an Underlying Theme”. 6.

Yet modern panpsychists argue that, although they accept the properties that physics does attribute to matter, there are additional properties which physics has not, and perhaps cannot, taxonomize. Matter in a panpsychic world is imbued with qualities that have been completely unexplored in the nearly five centuries of ascendant mechanistic science. While this matter is not essentially distinct from the matter recognized in traditional physicalism, owing to the fact that the quantifiable properties remain the same, panpsychic matter has the additional properties required to possess qualitative experience, that is, to possess a certain what-it-is-like-to-be. For the panpsychist, modern science, and physics in particular, has made a fundamental mistake. It has accepted Descartes' characterization of matter as essentially extended and therefore wholly quantifiable, and has "come to believe that this revolutionary view of matter is *all there is* to matter."¹⁵ Panpsychism claims to resolve this longstanding error by introducing a qualitative aspect to Descartes' *res extensa*, including the elementary particles of modern physics.

As a result, panpsychists claim that the doctrine is compatible with a generally physicalist outlook. They grant that reimagining matter involves a considerable change in the mechanistic mindset that has fueled many of the greatest innovations in physics, and the other sciences, for nearly five hundred years. However, physicalist panpsychists will claim that the reluctance to pursue such a possibility has caused enduring problems at the heart of the philosophy of mind. Panpsychism, they will claim, is an elegant solution to the physicalist dilemma of subjectivity.

It is not surprising if the initial considerations in favor of panpsychism are not entirely convincing. The notion that mind is present in the smallest particles of matter is counterintuitive for a number of reasons, both common-sense and philosophical. Consequently, the burden is on the panpsychist to provide compelling reasons for adopting the theory. To adequately motivate the position, these reasons must go beyond simply highlighting the prospect that it might resolve the mind-body problem for physicalism. There are many theories of mind which make far more reasonable demands than saying that mind is pervasive in matter. Immaterial substances in dualism, idealism, and even classical physicalism all face problems of inconceivability at first glance. No matter how crazy the proposals may seem at first, however, these positions have gained philosoph-
¹⁵ Rosenberg. 8.

ical standing in part because they have been well motivated in the first place. If panpsychism is to be considered favorably amongst these views there must be good reasons for considering it in the first place. Hence, whether panpsychism can be seen as a viable position in modern philosophy depends first and foremost on how well it responds to the obvious objections that are raised against it.

There are, roughly, two layers of *prima facie* objections that can be levied against panpsychism. The first consists in our intuitive understanding of the mind as modern, Western human beings. This category does not carry the most philosophical weight, since common-sense beliefs are often found to be misguided in highly theoretical areas. However, the intuitions we bring from the sphere of common opinion are informative and may ground more substantial objections to panpsychism. The second set of initial objections that panpsychism must overcome consists in a number of philosophically-based concerns. These objections strike at the coherence of the panpsychist view as well as questioning its viability. To state a case for panpsychism, these two sets of objections must be met and addressed, plausibly. Only then can the considerations in favor of the view be appreciated.

Many of our common-sense objections to panpsychism come from the common ways in which we think and talk about the mind. The most obvious common-sense objection to panpsychism is also the reason that most people respond to the idea with a certain degree of disbelief. Panpsychism seems to give a mental life to all manner of ordinary, non-living objects. But one of the most basic assumptions that we have about mentality is that it coincides with biology; if something is not alive it does not make sense to say that it is minded. Furthermore, we are unwilling to attribute mind to unsophisticated things, even if they are alive. This can clearly be seen in our use of mental language. We tend to reserve mental predicates, such as ‘desire’, ‘felt’, ‘thought’ and the like, for creatures which exhibit behaviors that are comparable to our own. Yet the panpsychist thesis seems to imply that this sort of mental language should be extended to every object, regardless of its behavioral complexity. “It is this clash with normal uses with mental terminology that seems to provoke” the rejection of panpsychism.¹⁶ Thus, panpsychism is dismissed in this first

¹⁶ Clarke. 7.

instance because it perverts our well-founded linguistic practices by extending ascriptions of mind to unsophisticated beings.

Another objection raised by the layman against panpsychism has to do with the history of our mental concepts. It is a common supposition of our culture that our understanding of the world is progressive, and that older ideas, once discredited, are simply historical relics that have been surpassed by more accurate or enlightened concepts. Panpsychism appears to be precisely one of these epistemological relics; perhaps a viable theory for our superstitious ancestors, but certainly insufficient for modern man with his nuanced grasp of scientific reasoning and evidence. The layman, having heard the panpsychist thesis, might go to the dictionary and expect to find an entry on panpsychism “under ‘animism’, which is defined...to be a belief held by primitive man.”¹⁷ This primitive view, which is attributed to our pre-civilized ancestors, holds that “all things possess a fully-developed, intelligent, and complex conscious-like spirit,” and served as the core tenet of religious worship in Paleolithic societies.¹⁸ Even if this characterization of panpsychism is not sustained, our common-sense, modern surrogate might equally disdain panpsychism for its apparent connection to theistic superstitions. Panpsychism seems to be, on this interpretation, an account of pantheism, in which God is a supremely powerful mentality present throughout the universe. “Those finding no rational basis for the religious belief have then concluded that panpsychism is infected with its same implausibility.”¹⁹ In both respects, panpsychism is viewed as a mistaken recapitulation of antiquated and discredited ideas. It does not make sense to postulate a superstition that was mostly discarded around two thousand years ago as the solution to one of our most vexing philosophical problems; such an idea seems laughable.

One final common-sense objection raised against panpsychism is that “it is widely thought that to accept panpsychism is to reject the use of the scientific method and to deny to the sciences their proper role of describing and explaining natural events.”²⁰ Natural science has as its domain all of nature, which includes those aspects of nature most basic to our understanding of ourselves,

17 Squires. *Conscious Mind in the Physical World*. 88.

18 Skrbina. “Panpsychism as an Underlying Theme in Western Philosophy”. 7.

19 Clarke. 9.

20 Ibid. 10.

such as mentality. To postulate a thesis about the natural world that goes beyond what the sciences can investigate is to deny science its proper domain. Panpsychism seems to provide an account of the world that deviates dramatically from that given by natural science. In so doing, it appears to be a form of the illicit metaphysical speculation that philosophers such as Karl Popper derided years ago as ‘pseudo-science’. Lay critics, and many philosophers as well, will be quick to point out that panpsychism is not a falsifiable theory. Holding the panpsychist thesis therefore seems to be more an active suspension of disbelief than the postulation and defense of a possible scientific hypothesis. Consequently, panpsychism should be given no more of a hearing, as far as questions of natural science are concerned, than astrology or alchemy.

For our common understanding of the mind, panpsychism seems to fail on three significant counts. First, it appears to violate our well-founded linguistic practices regarding mental descriptions. Second, it is a theory rooted in, if not identical with, certain superstitious and mysterious beliefs held by humanity in our unenlightened past. Finally, and very much related to the previous two objections, it seems to violate our understanding of the natural sciences and their proper mode of function. In order to make panpsychism convincing to modern man, it seems that “it would be necessary to reconstruct our ordinary understanding of experience.”²¹ This restructuring would be so drastic and regressive that the intellectual cost of adopting panpsychism would be unacceptably high. Better, then, to discard such a crazy and disruptive idea, and pursue the alternative channels which remain open for solving the mind-body problem.

Some of the preliminary philosophical objections to panpsychism follow from these initial concerns of the ordinary person. One of these doubts draws on all three major common-sense objections at once. It is the concern raised by John Searle that panpsychism cannot explain one of the most secure intuitions about the mind, namely, that individual minds are self-contained. Searle claims that “consciousness cannot be spread over the universe like a thin veneer of jam,” as it would appear to be for the panpsychist, since “there has to be a point where my consciousness ends and yours begins.”²² On a panpsychist account, Searle thinks, consciousness is diffused

21 Hutto. *Beyond Physicalism*. 79.

22 Searle. “Can Information Theory Explain Consciousness?” (2013).

evenly throughout the universe, coinciding with everything material. But this notion is completely opposed to how we experience consciousness, specifically as individuated into particular minds. As a result, Searle claims that panpsychism “does not get up to the level of being false. It is strictly speaking meaningless because no clear notion has been given to the claim. Consciousness comes in units and panpsychism cannot specify the units.”²³ For this reason, Searle concludes that “panpsychism [sic] is absurd.”²⁴ Rather than entertain this absurd doctrine, he maintains that we should reject any theory which implies panpsychism because it cannot furnish us with an explanation for our most fundamental concept of the mind viz. that it is discrete and individual.

Other initial philosophical criticisms of panpsychism follow a similar track, concluding that panpsychism is an absurd position because of internal inconsistencies and incoherence. One of the reasons for discounting panpsychism is that it lacks any empirical support. For one, “physicists have discovered no reason to attribute sensations and thoughts to atoms and stars.”²⁵ If matter did possess conscious states, then those who study it would surely have thought of the need for assigning it those states. But since physics proceeds without anything like a psychology of atoms, there must not be any empirical reason to assign such states. Given the widespread desire to naturalize theories of mind, if there is no empirically relevant or scientifically motivated reason for believing something then there is likewise no reason to give it philosophical credence. On a related note, McGinn wonders “if all matter has full-blown thoughts and feelings, why do organisms need nervous systems to think and feel?”²⁶ Surely a full-blown nervous system is redundant if all it takes for consciousness is mere materiality. Evolutionary efficiency would almost certainly have selected against such complex substrates for consciousness if the same result could have been achieved with a single particle. Similarly, if panpsychism is weakened in such a way that the only universal mental characteristics are ‘protomental’ then it seems that the theory fails to achieve one principal objective, namely avoiding the emergence of a radical entity. As Popper claims, “even on the panpsychistic account, something totally new enters the world with life, and with heredity.”²⁷

²³ Ibid.

²⁴ Ibid.

²⁵ McGinn. *The Mysterious Flame*. 97.

²⁶ Ibid.

²⁷ Popper. “Some Remarks on Panpsychism and Epiphenomenalism”. 180.

This is because at some point in evolution the protomental must become fully mental, and so consciousness or full mentality must emerge from something not fully mental.

These philosophers raise the specter of incoherence against panpsychism. Their objections take the intuitive mistrust of panpsychism common to the layman and parlay it into a series of substantial critiques of the logic behind panpsychism. Although the theory claims to be empirically neutral with respect to physics, McGinn's comments seem to point to a troubling reluctance by the panpsychist to allow science the autonomy to determine its own theoretical scope and boundaries. Likewise, Popper observes that panpsychism fails to complete one of its primary objectives: avoiding the emergence of a completely new sort of property. In conjunction with Searle's objection that the view cannot make sense of the individual nature of experience, these protests represent a challenge to panpsychism on the grounds of its viability as a philosophical position. Without at least meeting these challenges, panpsychism cannot be sustained as a solution to the mind-body problem.

Although the challenges raised at intuitive and philosophical levels appear initially to derail panpsychism, the panpsychist has responses available for each of the criticisms. While these responses do not suffice to establish the doctrine or to provide the sort of positive account required for a robust philosophy of mind, they do lay the foundations for further efforts in those areas. Once the panpsychist has overcome the difficulty of mere coherence, she can elaborate the arguments in favor of adopting the doctrine and against its main rivals. Clarifying the doctrine in response to these preliminary concerns will also provide the acknowledged boundaries for later argumentation, determining what paths are open to the panpsychist.

The responses to the intuitive objections raised by our common-sense understanding of the mind mostly consist in elaboration and clarification of what premises panpsychism is, in fact, committed to. Regarding the concern that panpsychism violates our well-founded linguistic mores, the panpsychist will contend that this intuition misunderstands what sort of mental language is applicable. Granted, the panpsychist will say, "no responsible advocate of panpsychism claims that atoms or molecules have pains or pleasures" and to make such a claim would certainly be

remarkable.²⁸ What panpsychism actually entails in the case of our ordinary mentality is that it “starts with the familiar mental vocabulary we use in daily life and then constructs the abstract conception of mentality in general.”²⁹ This generalized sort of mentality is what is distributed throughout the universe to all physical things. Such a “generalization extending beyond our ordinary uses of mental language allies this philosophic thesis with extensions of ordinary language found in mathematics and the sciences,” wherein common notions are investigated and then refined to account for previously unrecognized facts.³⁰ This sort of process can be seen in the work of the mathematician or scientist who uses an everyday concept as the starting point of her research. For instance, just like the biologist develops a nuanced account of the everyday category ‘animal’ which includes information not accessible to common usage, so does panpsychism argue for a more nuanced understanding of our everyday category ‘mentality’. Practically speaking, this means that for the panpsychist “the mental properties of all matter, therefore, would have to be not species-specific but universal” and so would deviate from common usage.³¹ So, rather than illicitly applying our conventional language to all material things, panpsychism actually follows a rather common practice of abstracting theoretical meaning from ordinary usage. It is not reflection, reasoning, or memory that the panpsychist assigns to the electron; neither is it vision, hearing, or taste. Instead, the panpsychist merely extends the most general sense of mentality, the what-it-is-like-to-be of experience, to basic particles. In this way, the mental language that panpsychism will use has theoretical significance, as opposed to the significance it holds under everyday usage, while still giving an indication of what is signified, namely, qualitative experience.

This clarification about the extent of the panpsychist thesis also serves to defuse the second intuitive objection against panpsychism, that it is a superstitious and antiquated belief. Insofar as panpsychism resembles animism in its universal application, the panpsychist will remind our common-sense that animism extends human-like or “fully-developed” consciousness to all things.³²

On the other hand, panpsychism simply extends the abstracted notion of subjective mentality to

²⁸ Clarke. 7.

²⁹ Ibid. 8.

³⁰ Ibid.

³¹ Nagel. “Panpsychism”. 194.

³² Skrbina (2006). 7.

all of matter. In a similar fashion, panpsychism is not simply a recapitulation of pantheistic superstitions which our modern man-of-the-world might scoff at. That is not to say, however, that panpsychism doesn't entail a certain kind of faith, or at least tolerance for uncertainty. Indeed, "acceptance of panpsychism seems finally to require introducing a type of faith akin to that of traditional religions."³³ However, "it seems to be a reasonable faith," which does not entail superstitions and indeed is grounded in naturalistic attitudes.³⁴ Finally, panpsychism may be rooted in traditions that appear to the modern sensibility to be archaic and prone to myth. But part of the appeal of panpsychism is its recurrence as a philosophical doctrine at different points in the history of the Western tradition and with different implications. The panpsychist need not accept being labelled as superstitious or arcane, and instead maintain that the tradition of panpsychism has a noteworthy modern, as well as ancient, history.

Finally, the common-sense intuition that panpsychism displaces the natural sciences is equally unfair to the theory. Panpsychism can be advanced as a theory that is fully naturalized. Indeed, given the physicalist framework in which modern panpsychism is being considered, it is somewhat disingenuous to claim that panpsychism flouts the norms of science. In fact, "its more modest goal would seem to be that of *understanding* the scheme of nature" by generalizing the kind of subjective experience that is completely routine for humanity.³⁵ Many viable theories of mind are not empirically falsifiable in the way that the layman might expect as a criterion for scientific adequacy. In fact, as the recent history of physicalism can attest, the turn away from metaphysics to a more austere and scientifically-guided theorizing has unleashed as many problems as it resolved. Though scientific theories will never condone metaphysical conjectures not supported by the available evidence, neither will science outright deny the viability of metaphysical speculation. Physicalist panpsychism, like other naturalistic metaphysical theories, seeks to integrate the insights of science into a broader worldview that resolves difficult questions. To discredit panpsychism because it seems irreconcilable with science is to miss the point of modern panpsychist thought.

³³ Clarke. 10.

³⁴ Ibid.

³⁵ Ibid. 11.

Rebutting the philosophical objections that are raised initially against panpsychism is not as easy as responding to the intuitive critique. Nonetheless the panpsychist is able to respond to these arguments with sufficient force to sustain the coherence of the position. To Searle's objection that panpsychism cannot explain the individuation of minds, there is a two-fold response. First, the panpsychist can redeploy the rebuttals to the intuitive objections. Panpsychist mentality is an abstraction which retains the basic distinction of qualitative, subjective experience. Even if Searle's simile were an appropriate way of describing panpsychism, there would still be regions of different subjective experiences in the 'thin jam-veneer' permeating the universe, and these regions could conceivably be those which corresponded to discrete subjects. Secondly, the simile that Searle employs does not do justice to the ontology of panpsychism. Mentality is certainly a property of the basic constituents of each physical thing, and so is present wherever there is matter, but Searle's simile does not account for the fact that panpsychism may still recognize subjects as loci of particular experiences or particular kinds of experiences. The panpsychist certainly has to explain how combinations and discrete subjects are possible, but it is disingenuous to represent the generalized mentality of panpsychism in such a way that makes the subjects of such subjectivity impossible. Even if there were no other subjects, there would still be the particular subjectivity inhering in each fundamental particle of matter.

In response to McGinn's criticism that panpsychism lacks empirical support, the panpsychist can respond by noting that the empirical support given to physics is merely quantitative. As far as physics is concerned, "our knowledge of the nature of the objects treated in physics consists solely of readings of pointers."³⁶ Instead, the panpsychist may claim that the most convincing empirical support for her position is the fact of her immediate experience. For the panpsychist, "in one case—namely, for the pointer readings of [her] own brain—[she has] an insight which is not limited to the evidence of the pointer readings. That insight shows that they are attached to a background of consciousness."³⁷ From this recurrent but highly confirmed empirical evidence, the panpsychist may infer the qualitative aspect that coincides with those quantitative indicators also

³⁶ Eddington quoted in Strawson, "Realistic Monism". 10.

³⁷ Russell quoted in Strawson. 10.

coincides with the originators of other quantitative indicators. The panpsychist's rebuttal to McGinn, then, is to claim that there is in fact empirical confirmation for the panpsychist induction.³⁸

Finally, responding to Popper, the panpsychist can reapply the same argument that was made in rebuttal to Searle, only this time with ontological (instead of merely linguistic) importance. Specifically, in postulating 'protomenality' or 'protoconsciousness' the panpsychist appears to be denuding human mentality which she must ultimately recover through *some* kind of emergence. But there are two possible responses available to the panpsychist. First is to reiterate that the mentality that is denoted by 'protoconsciousness' is an abstracted concept which captures everything essential to subjective experience and nothing more. In this regard, the panpsychist can maintain that undiluted and undiminished subjective experience is present in all fundamental physical entities. This is because subjective experience is not equivalent to human consciousness, but is an aspect of it. As such, the panpsychist can claim that the particular qualitative experiences of fundamental particles, just like those of bats, may be completely and utterly incongruous with human subjective experience. Nevertheless, she may contend, this subjective experience exists and exists fully in all matter. This raises the second difficulty, which is the need for the emergence of human consciousness. But this emergence need not pose a problem for the coherence of panpsychism. Since subjective experience is held to be in all matter, and subjective experience is fundamentally mental, it follows that like emerges from like, precisely the kind of emergence that should be acceptable to the panpsychist. A set of mental properties (consciousness) emerges from a different set of mental properties (the amalgamation of many subjectively experiencing micro-particles in a brain of appropriate complexity, perhaps).

In this way, the panpsychist can defend her position against these initial philosophical objections. By abstracting mentality into subjective experience, and maintaining that subjective experience is present in all matter, the panpsychist is able to establish a coherent position. Although the view is surprising and perhaps counterintuitive, it nevertheless approaches the classical unresolved problem of the philosophy of mind with an interesting and defensible thesis. Given these

³⁸ Note that this construal is very contentious as an inference to the best explanation, since the traditional physicalist might claim that there is nothing to be explained in the case of the atom or other ultimate particle. Instead, the panpsychist version of the indirect argument appeals to an explanatory gap at a higher theoretical level.

preliminaries, it is at least possible that such a position will be compatible with physicalism and will thus give rise to an appropriately naturalized panpsychism. Engaging this kind of possibility is one of the great and productive tasks of modern philosophy of mind. Panpsychism may, under philosophical scrutiny, run aground on some thorny issue, as most other proposed solutions have. It may collapse altogether, burdened by an intricate inconsistency in its logic. Or, as its proponents would have it, panpsychism may come to be viewed as one of our best theories of consciousness and the mind. However its fate may play out, we must not dismiss the theory as merely “absurd” or relegate it to the category of historical superstitions. To react in this way would be to demonstrate “human chauvinism at its worst.”³⁹ This would be the same kind of chauvinism, the panpsychist would add, that has caused us to reserve consciousness for human beings and prevented us from seeing how deep and broad mentality really runs in nature.

The objective of the current paper is to articulate the arguments that the panpsychist uses to challenge this common prejudice. There are, in fact, a number of succinct and logically sound arguments that can be raised in favor of physicalist panpsychism. Marshalling these arguments and incorporating them into a consistent and convincing master argument must be the primary objective of any serious proponent of the view. As has been demonstrated with many other philosophical conjectures that offend commonsense, the most effective way to combat disbelief is with a clear argument that contains believable premises. Though it has often been motivated or defended indirectly, physicalist panpsychism relies on a series of such premises. Thomas Nagel has made these explicit in what “constituents perhaps the first ‘formal’ argument on behalf of panpsychism in over 100 years.”⁴⁰ The chain of reasoning, that according to Nagel the panpsychist must employ, cuts across most of the recent debates in the philosophy of mind. Panpsychists therefore adopt various feasible positions in the contemporary debate, and when those stances are combined into a single argument they yield the panpsychist conclusion that all basic physical entities have mental properties. If there is to be a successful case made for physicalist panpsychism, Nagel’s argument is the most natural place to look. Assessing that argument then depends upon the support given to

³⁹ Globus quoted in Skrbina (2006). 40.

⁴⁰ Skrbina (2006). 40.

the various premises. If those postulates can be successfully defended then panpsychism must be considered as a viable option in the mind-body debate.

Nagel's argument consists of four premises which jointly establish the panpsychist thesis. These postulates are characterized negatively as the rejection of four philosophical positions on the nature of mind. The panpsychist position can therefore be understood as the rejection of the following alternatives: dualism, eliminativism, reductionism and emergentism. Though all have been challenged, and one of them has long been discredited, all remain viable options for resolving the classic mind-body problem. Each premise the panpsychist constructs therefore needs to be defended convincingly against a serious theoretical challenger. However, the most important premises for the panpsychist to defend in the contemporary debate are the anti-reduction and anti-emergence premises. This is because forms of reductionism and, more recently, emergentism have become the consensus positions in the field. Arguments against reduction and emergence are therefore the most critical premises in the panpsychist argument since those are the key metaphysical alternatives.

In the remainder of this paper these arguments will be raised and their plausibility considered. First, the structure of Nagel's panpsychist argument will be laid out and the motivation for each of its premises given. Next, with the premises presumed to be well-motivated, we will turn to the questions of reduction and emergence on which physicalist panpsychism ultimately depends. Discussion of these questions will analyze the primary debates about reductionism and emergentism that have been waged in the literature. Special attention will be given to the reasoning that the panpsychist can use to defend her anti-reductionist and anti-emergentist claims. If the argumentation holds, the panpsychist conclusion follows plausibly. Finally, we will consider some residual objections to physicalist panpsychism. It will be shown that there remain unresolved tensions in the position which may require further work to overcome. These concerns notwithstanding, panpsychism appears to be a coherent metaphysical doctrine which holds promise of resolving the mind-body problem. There are, surely, questions that remain for the panpsychist to answer, and

the strangeness of the view to commonsense must be overcome, but the position is not the mere *reductio ad absurdum* its critics often assume it is.

Chapter 2 Panpsychism in Four Steps

The first step towards panpsychism is to reject substance dualism. Put succinctly, substance dualism is the metaphysical thesis that reality is composed of two separate substances. In its classic formulation substance dualism has postulated that the universe is composed of mental and physical substances. To describe how beings that appear to be both physical and mental are possible, substance dualists must describe how the physical and mental realms are linked such that mental events can cause physical events, and vice versa. One of substance dualism's greatest pitfalls has been this need for a plausible account of the apparent interaction between substances. Many modern dualists, instead of resolving the concern, have been forced to adopt epiphenomenalism which conjectures that mental reality is produced as a byproduct of physical processes and only appears to have causal influence on physical reality. Yet this explanation fails to dissuade many philosophers of mind of the common-sense intuition that mental events can have physical consequences. Instead these philosophers demand that dualists provide an account of how physical events, my pressing the keypad for instance, can be caused by mental ones, like my intention to explain dualism. Dualists have long struggled to provide a convincing explanation of these causal links, and the turn to epiphenomenalism has failed to resolve lingering concerns.

The difficulties surrounding mental causation, combined with the apparent successes of neuroscience, are enough to convince many that the classical mind-body dualism inspired by Descartes is outmoded. Rejecting dualism corresponds to accepting some kind of monism. In contemporary philosophy of mind, the most appealing type of monism is physicalism, the view that the only substance that exists is physical. Rather than a mental substance co-existent with the physical world, there is just one physical substance out of which the entire universe is composed. It follows that all things which have or can be ascribed mental states are composed of nothing but this physical substance, that is, matter.

Thomas Nagel illustrates this point. As he puts it, all living organisms are composed of nothing but matter. There is no additional substance or *élan vital* that is in any way non-physical

involved in these organisms. They are complex, material systems that consist of physical particles combined in a particular way. The interactions of these physical particles, largely in chemical reactions, produce the effects that are termed life. But at some point, all of the particles found in these organisms were simply inanimate matter. Most of them were produced in stars, perhaps the sun or perhaps stars thousands of light years away. All of them, in some way, predated the particular arrangement of the living organism. Yet, under the circumstances of Earth, they were incorporated into a live organism, along with millions of other purely physical particles. Working from this understanding, it seems clear that “anything whatever, if broken down far enough and rearranged, could be incorporated into a living organism.”⁴¹ Given that the universe is entirely physical, human beings are no exception to this. Nothing other than matter is required to produce a living organism, and any sort of matter can do the job. In principle, then, any being with mentality could be composed of any physical particles whatsoever.

It must be noted that, for the panpsychist, there is a corollary to this basic physicalist premise. Reality, which is already acknowledged to be entirely physical, has fundamental entities out of which it is composed. These entities are basic to reality; they are its ultimate constituents. Regardless of how any particular theory prefers to describe them (as strings, fields, branes, etc.) these entities are the components of all physical matter. When matter is “broken down,” as in Nagel’s picture, these basic constitutive “ultimates” remain as indivisible entities. Following much of the theoretical physics that discusses ultimate ontological entities, the panpsychist makes a series of assumptions about these entities. First, there are many separate ultimates, even if there are not many varieties of ultimates.⁴² This means that even if there is only one kind of ultimate, say strings but not branes, there is a preponderance of that ultimate throughout the universe. Furthermore, the panpsychist assumes that all physical things are composed of ultimates.⁴³ Given how ultimates are understood, this hardly seems problematic, but it is a significant aspect of the panpsychist understanding of the nature of the physical and figures prominently in the basic tenet of the view.

41 Nagel. “Panpsychism” in *Mortal Questions*. 181.

42 Strawson. “Realistic Monism”. 9.

43 Ibid.

Panpsychism, then, begins with the physicalist brand of anti-dualism and elaborates on the nature of the physical of which the entire universe is constituted.

Secondly, the panpsychist denies reductionism about mental properties. This can be seen from two complementary angles. In the first instance, anti-reductionism is a negation of the standard reduction thesis about mental states. The reductionist says that every “phenomenal kind” is identical to some physical kind.⁴⁴ On this view, the physical kind just is the phenomenal- or mental-kind such that the latter reduces to the former with no remainder. Generally, the anti-reductionist view opposes this and denies that reduction is possible. Instead, the anti-reductionist says that mental states are not simply identical to the physical properties of an organism. Either reduction is not smooth and there are some aspects of the mental states that are not fully captured in a description of the physical state, or the two types of states are entirely incommensurable. Although the physical properties of an organism (i.e. neurobiological states) may give rise to mental states such as thoughts, emotions, and sensations, the physical processes are not identical to the mental states that they produce. Mental states are not merely the behavioral states studied by psychology or the physiological ones studied by neuroscience. Instead, there is more to these states than just the descriptions of the mechanisms of the brain operating in a particular sequence. For the anti-reductionist, there is more to pain than simply the firing of C-fibers and related activity in the neural regions.⁴⁵

The complement of this straightforward anti-reductionist thesis states that physical properties alone do not logically imply mental properties.⁴⁶ Whereas the traditional view moves from mental states to physical states (and tries to show a discontinuity between the two), this additional view shows that it is impossible to move from the physical to the mental in virtue of the physical alone. This amounts to the claim that there is no way to derive phenomenological states from descriptions of the physiological processes instrumental in their production. Just from observing the firing of C-fibers, the neurobiologist will never be able to infer the phenomenal properties of

44 Papineau. “Comments on Galen Strawson.” 100.

45 While factually suspect, the use of “C-fibers firing” as a placeholder for “the accurate neurobiological account of pain” has become customary in the philosophy of mind. See Puccetti “The Great C-Fiber Myth” (1977) for a short critique of this habit.

46 Van Cleve. “Mind-Dust or Magic? Panpsychism versus Emergence”. 215.

the sensation which corresponds to that physical state. If this is indeed the case, and phenomenal properties are real, then there can never be a complete reduction of the mental to these sorts of scientific accounts which does not misrepresent the phenomenon.

Closely related to anti-reductionism, panpsychism is also supported by an anti-elimination premise which says that mental states are real properties and cannot simply be eliminated by a mature neuroscience. Unlike the reductionist, who views mental states as real properties that are identical to physical ones, the eliminativist says that many (if not all) of the states that are intuitively regarded as mental are actually mistaken concepts. Eliminativism asserts that when we investigate mental concepts we will discover that, in many cases, there simply are no such things. Elimination of a concept entails its complete abandonment; ontologically, it states that, popular opinion notwithstanding, nothing in the world actually corresponds to the concept. The eliminativist points to cases such as the Ptolemaic crystalline sphere or witchcraft as examples of concepts that are empty in this way. We do not reduce the concept of witches to a certain set of events or states of the world. There simply are no witches. Given what we know about every instance in which witches can be invoked, there is no reason to use the concept of witch to describe any event. The concept stands eliminated. What was previously considered to be a meaningful concept is revealed to be completely mistaken. As we learn more about reality through scientific investigations, we demystify ourselves of these “folk” cultural mistakes.

With respect to the mind, the eliminativist says that these sorts of mistakes are gradually being uncovered through scientific studies of the brain. Recent neuroscience has revealed, for instance, that there are on the order of twenty or more distinct perceptual capacities instead of the canonical five senses. As this investigation proceeds, claims the eliminativist, the “mental” states that we rely on to describe behavior will be revised in such a way that many of them are revealed to be vacuous and confused concepts. Our “folk psychology” which speaks of beliefs, desires, wills, and consciousness is akin to folk theories of witchcraft. Effectively, scientific investigations will show that it is just as radically false a theory as the idea of witchcraft. Neuroscience, once completed, will explain the phenomenon that we now describe through mental states, and will do

so without any need to acknowledge those concepts. Reliance on so-called mental states will then simply be eliminated.

Anti-eliminativism, or realism about mental states, contends that mental states are real properties of organisms. Regardless of the neurobiological account that might surface from an expanded scientific understanding of the brain, the mental states that are ascribed to organisms (such as feelings, thoughts, beliefs, and the like) are real properties of that organism and cannot just be discarded as mistaken accounts of brain activity. This realism takes two particular stances. The first is against the eliminativist. Mental states are “not properties of nothing at all,” meaning that they are real properties.⁴⁷ Whatever neuroscience might achieve by way of expanding our understanding of the brain, it cannot do away with the concepts that it uses to investigate the brain in the first place. Neurobiologists look at the brain in order to explain what it is doing when a person thinks, desires, imagines, or believes. When it makes discoveries about the brain, it claims to have uncovered something about mental properties themselves, namely their brain-state correlates. The realist about mental states thus says that elimination cannot be a viable outcome of neuroscience. Likewise, however, panpsychist realism about mental states also supports anti-dualism. Mental states “are properties of the organism,” the physical organism, since there is no duality to the organism’s composition.⁴⁸ While mental properties are real, they do not inhere in a distinct, mental substance. Since there is no immaterial soul or mind-substance, mental states must be properties of the physical organisms themselves. They come about just because of the physical composition of the organism and nothing else. The realist thus contends that mental states refer to genuine (mental) properties of (purely) physical organisms.

The final premise that motivates panpsychism is non-emergence. This is a general hypothesis about properties. In general form, it states that “there are no truly emergent properties of complex systems.”⁴⁹ Emergence indicates that a property of a system (specifically, in the case of panpsychism, mental properties) cannot be derived just from the properties of the constituents of that system. A “truly emergent” property of a system, then, is one that arises only at the level of the

⁴⁷ Nagel. “Panpsychism”. 182.

⁴⁸ Ibid.

⁴⁹ Ibid.

system, and is not a property of the component parts of that complex structure. There are two ways to construe non-emergence for the panpsychist. The first, as Nagel does, is to consider emergence as an epistemological condition. On this interpretation of emergence, an observed property of a system is emergent if it “cannot be derived from the properties currently attributed to its constituents.”⁵⁰ The central aspect of this construal is that the *current* description of the constituents is insufficient to explain the observed feature of the system. But, claims Nagel, the existence of unexplained features of the system just acts as an exhortation to investigate the constituents further. Either the system has constituents that have not been previously accounted for, or its constituents have properties that have not yet been documented. Either way, the property of the system can only emerge in virtue of the properties of the constituents, and if there is a property that seems to be unaccounted for it is because we are unaware, as knowers, of some feature of those constituents.

An alternative construal of emergent properties is ontological. Rather than emphasizing the position of the knower with respect to the properties of complex systems, this approach looks at the relationship between the higher level property and the constituents out of which it emerges. Properties of a complex system emerge from the properties and relations of their constituents only in cases where the higher level property is wholly dependent upon *just* those constituents.⁵¹ If there were to be a complex system with an emergent property which did not completely depend on its constituent parts, then that property would have brute emergence and would arise through an ontological miracle. There would be nothing in the nature of things in virtue of which that property emerged.⁵² Effectively, this is a way of formalizing the intuition of non-emergence that makes the epistemological construal appealing. The only way that we can explain a property of a system is by reference to the properties of its constituents. If, for a particular property, there does not appear to be any reason for the property to exist when examining the constituents, the non-emergence thesis says that it is because we have yet to identify the constituents or properties of the constituents that cause the system-level property to emerge. Consider, for instance, the case of liquidity.

Atoms of hydrogen and oxygen, when brought together in a particular molecular arrangement at

⁵⁰ Ibid.

⁵¹ Strawson, “Realistic Monism”. 14.

⁵² Ibid. 15.

a certain temperature and pressure, give rise to the property of liquidity that is characteristic of liquid water. Without knowing that particular conditions, such as temperature and pressure, are needed for liquidity, it is conceivable that one might simply conclude on the basis of observing water molecules that liquidness simply does not exist. By simply looking at molecules of water, there seems to be no reason for liquidity to emerge. But, says the non-emergence thesis of panpsychism, the only way to explain a property of the system is to look for its cause in the properties of the constituents of that system. Consequently, looking at the constituents of liquid water, one can eventually come to the conclusion that the property of weak molecular bonding engendered by certain pressure-temperature scenarios is responsible for the system-level property of liquidity. Because we have nowhere else to look but at the components of the system itself, we may either deny that the property of the system is real or look for its explanation in the constituents. The panpsychist commitment to this thesis of non-emergence bears careful examination. Although the hypothesis is alternatively called non-emergence or anti-emergence, it is important to distinguish between the emergence that is denied by the panpsychist and emergence that is actually an important aspect of the view. Brute emergence, or emergence for which there is no explanation, is what the panpsychist attempts to deny. If there is no reason why a property of a system emerges from its constituents, the emergence of that property is said to be brute. The panpsychist is committed to a denial that such emergence is possible. However, while denying this form of emergence, the panpsychist maintains that properties of systems *can* emerge from properties of constituents. This is an explicable emergence, one that, in principle, can be explained by reference to the properties of the constituents. It is in contradistinction to inexplicable, or brute, emergence which is strictly miraculous. In elaborating the thesis of panpsychism, the panpsychist must deny that the latter form of emergence is possible while maintaining that explicable emergence is real. To support this distinction, the panpsychist must adequately state the conditions for each type of emergence and, in particular, elaborate how those conditions are to be met in the case of explicable emergence.

Panpsychism follows from these four premises and their previously mentioned corollaries. Anti-dualism establishes that physical reality is the only domain possible for mental states, and

that any matter whatsoever can be included in an organism that possesses mental states. Anti-reductionism establishes that mental states are not identical to physical states, or at least that physical descriptions are inadequate to fully describe mental states. Anti-eliminativism suggests that mental states are real properties that inhere in physical organisms, and that they cannot be simply eliminated by a full neurobiological account. Anti-emergence serves as the keystone, claiming that the properties of complex systems (such as human beings) must be wholly dependent on the properties of their component parts. From these four claims comes the central panpsychist claim that, in Nagel's words, "the basic physical constituents of the universe have mental properties."⁵³ Because mental properties are not logically implied by physical ones, because they are real properties of complex organisms and must therefore be derived from the properties of the constituents of those organisms, it follows that the basic physical constituents of complex organisms must have mental properties. Whether or not this amounts to the claim that the universe is pervaded by a kind of "mind-dust," it is certainly the claim that the fundamental entities in the universe have mental properties.

Understandably, any line of reasoning which leads to a conclusion that many see as an equivalent to animism is bound to be roundly criticized. However, in the community to which the panpsychist argument is most often presented, there are two premises that can count on general support. Specifically, the anti-dualist and anti-eliminativist premises are least likely to be criticized by materialists in general. For physicalism, dualism represents a misguided ontological view that was hopelessly infected with an archaic (or at least unsupported) notion of the incommensurability of the physical and the mental. Such a view cannot be sustained in the face of very simple causal connections between mental events and physical ones, and any description of the connection between brain and mind it offered was plagued by the homunculus fallacy. In a starkly different vein, the anti-eliminativist premise is also likely to gain strong support among physicalists. This is due to the already drastic step that the eliminativist takes in rejecting mental states altogether. Many "straightforward physicalists" are happy to allow that mental states exist, and even that their

⁵³ Nagel. "Panpsychism". 180.

existence is what scientific investigation is attempting to explain. The panpsychist can therefore count on support for those two premises from most physicalists.

It is with the premises of anti-reduction and anti-emergence that the panpsychist argument encounters the greatest resistance from the physicalist. Reduction is one of the strongest aspects of “straightforward physicalism.” As neuroscience becomes more sophisticated, it is approaching a kind of *a posteriori* identity of brain states with mental or phenomenal ones.⁵⁴ This notion is one of the traditional hallmarks of the view, and seems to gain its credibility from the apparent adeptness of modern neuroscience and its “astonishing progress.” Denying reductionism, then, means that the panpsychist must make arguments that undermine the motivations for reduction. Since reduction is motivated by representational and ontological considerations, the panpsychist must address each of these and show how reduction cannot be sustained in either domain. Even if reduction is shown to be spurious, the panpsychist must contend with the notion of emergence. Many anti-reductionist physicalists are content to claim that, even though the mental does not simply reduce to the physical, nonetheless the mental emerges from the physical, and nothing but the physical. There are only physical properties at the base of reality, but their particular combinations (into brains and the like) lead to mental properties at higher levels of complexity. The panpsychist must combat this thesis if mental properties are to be shown to be equally fundamental to physical ones. She will have to show that the emergence that is postulated to explain the existence of mental properties is nothing short of a metaphysical impossibility.

Nagel’s argument thus situates the panpsychist within the contemporary field of the philosophy of mind. It makes the panpsychist assumptions explicit, and gives solid motivations for at least some of the premises that panpsychism depends upon. But the panpsychist must move beyond *prima facie* motivations and argue compellingly for her premises against her rival theorists. The first major challenge that she encounters is reductionism, a view that was hegemonic within physicalist philosophy of mind for nearly thirty years. In the following section, arguments against reductionism will be considered and the panpsychist defense of the anti-reduction premise will be fully articulated. This argument will establish that the panpsychist can defend the anti-reduction

⁵⁴ Papineau. “Comments on Galen Strawson”. 101.

premise without suffering any significant inconsistencies and without employing inadmissible arguments. Panpsychism's anti-reduction premise will therefore be shown to be consistent with a broader, non-reductionist kind of physicalism.

Chapter 3 The Argument against Reductionism

Anti-reductionism is the first premise in the panpsychic argument that deserves particular scrutiny in the physicalist framework. Even with its influence waning somewhat in recent years, reductionist physicalism remains the theory most closely tied to the neuroscientific account of the mind. In rough outline, it postulates that mental states can be exhaustively categorized in terms of physical states such that, with a completed neuroscientific taxonomy, there will be no mental states that are not scientifically recognized as physical states. At one time, the almost inexorable progress of neuroscience's investigation of the brain lent much credence to the reductionist view. As such, reductionism has come to be the most favored option in physicalist philosophy of mind for those who take seriously advances in neuroscience.

Nonetheless, there are a number of considerations which have recently undermined the reductionist thesis. Three of these are most immediately available for the panpsychist. Firstly, in some respects, the reductionist view has been shown to mistakenly bypass higher-order scientific theories with its logic of reduction. As a result, the view may be problematic to reconcile with actual scientific practice. Likewise, there are certain indications that reductionism may be gradually undercut by the very neuroscientific research which was meant to be its greatest champion. Finally, and perhaps most importantly from a philosophical point of view, there are outstanding questions about the ability of the reductionist theory to account for certain aspects of mentality. As Nagel states, the argument against reduction “requires only that *some* mental states are not reducible” and so the inability in principle of a reductionist account to make sense of whole classes of mental states may prove fatal to reductionism more broadly.⁵⁵ These considerations are among those that the panpsychist can deploy against the reductionist in arguing for the anti-reduction premise. Once their full significance has been appreciated, the reductionist project appears far less satisfying and stable than originally presumed. Conversely, panpsychism gains credibility as the troubles with reductionism are made apparent.

⁵⁵ Nagel. “Panpsychism”. footnote on 180.

In the following section, the various arguments against reductionism will be stated and evaluated. It becomes apparent through this analysis that reductionism faces a number of serious challenges, some of which it may be prevented in principle from overcoming. As a result, the panpsychist argument against reductionism is taken to be well-supported. Because of this, the panpsychist can maintain that mental properties are not merely reducible or identical to physical properties. Mental properties stand apart from physical ones as a separate kind of property, distinct from the quantifiable properties recognized by physics. Their essentially qualitative nature makes them unlikely candidates for reduction, even assuming the reductionist logic could hold in some instances. Panpsychism is thereby able to support the anti-reductionist turn in its argumentative structure and oppose one of the canonical forms of non-panpsychic physicalism.

Reductionism for the physicalist is motivated by the essential premise of physicalism that there is only one substance. On the physicalist view, the generality of physics is paramount. Since the only substance in the universe is physical, it follows that the most basic, scientific investigation of the universe will be an investigation of that physical substance. Physics, the discipline that performs such an investigation, is the most basic science. As all events are physical events (given that there is only one type of substance) any event that is investigated by any science will be a physical event. But since physics investigates and enumerates the laws that govern this substance, any event in a special science will “fall under the laws of physics.”⁵⁶ This is, roughly, the notion of the generality of physics. All sciences, and every event that can occur and can be investigated by a science, are subject to the laws of basic physics. What is crucial to the question of reduction, however, is how to interpret this generality. Papineau and other “straightforward physicalists” appear to construe the generality of physics as a condition that restricts the possible presentation of scientific laws. Because physics is basic, it is easily presumed that all other sciences must be explicable through physics. Insofar as this is the case, these special sciences must be reducible to physics: predicates of physical theory will describe the predicates of the special scientific theory (economics, psychology, etc.). Specifically relating to the mind, “the assumption that the subject-matter

⁵⁶ Fodor. “Special Sciences”. 97.

of psychology is part of the subject-matter of physics is taken to imply that psychological theories must reduce to physical theories.”⁵⁷

It is important to understand how this sort of reduction is meant to take place in order to assess the claim put forward by reductionism that all sciences ultimately reduce to physics. Insofar as they represent scientific objectives in their respective disciplines, each scientific theory makes law-like generalizations regarding causal linkages wherein situations of one type bring about situations of a second type. For the special sciences, these generalizations are framed by the particular theoretical language of that discipline. Consequently, each state of affairs is described using predicates that are proprietary to the discipline. For instance, a psychological generalization of this sort might hold that being thirsty brings about a desire to drink water. In order for such a generalization to reduce the psychological predicates of “being thirsty” and “desiring to drink” must be related to physical predicates that instantiate a similar law. In order for the psychological predicates to reduce to physical predicates, there must be a law governing the relationship between each psychological predicate and its physical counterpart. These are “bridge laws,” so called because they bridge the theoretical divide between the reduced and reducing theories.⁵⁸ Through bridge laws, the nomological generalizations of each special science can be reduced to the laws of physics. Psychological predicates reduce first to neurophysiology, and, under the same bridging principle, from neurological theory to biology, chemistry, and finally physics.

One crucial supposition that corresponds to the use of bridge principles is that these laws bring into contact the kinds postulated by the special science with kinds postulated by the reducing science.⁵⁹ Under this schema, the psychological kind “pain” can be reduced to the neurophysiological kind “C-fibers firing” through a bridge principle that says for each predicated instance of the psychological kind “pain” there is an equivalent neurophysiological kind “C-fibers firing.” Bridge laws thereby establish what Fodor calls “event identities” between the predicates of the special theory and those of the fundamental theory.⁶⁰ The event-kinds that are invoked by psychology e.g.

⁵⁷ Ibid.

⁵⁸ Ibid. 98.

⁵⁹ Rudder Baker. “Non-Reductive Materialism” in *The Oxford Handbook of Philosophy of Mind*.

⁶⁰ Fodor. 100.

pain are therefore made identical to the event-kinds invoked by neurophysiology e.g. C-fiber firings through the bridge laws. It is through this identity relationship that the “straightforward physicalist” becomes committed to reductionism. The interpretation of the generality of physics which construes it as a restriction on scientific inquiry now appears to be vindicated. Since the kinds that are used to formulate generalizations in a special science can be identified with (in principle) kinds established by physics, and physics is the fundamental mode of investigating the only substance that exists, it seems natural to suggest that (in principle, though not necessarily in practice) the kinds enumerated by any special science can be captured by certain kinds postulated by physics.

Bridging laws thereby establish the identity relationship between the predicates of a special science and the predicates of physics. At this juncture, the “straightforward physicalist” introduces a further stipulation to this standard reduction thesis. Specifically, they claim that every “phenomenal kind” is identical to some physical kind.⁶¹ In making this claim, the “straightforward physicalist” is endorsing the reductionist notion of bridging principles as well as suggesting that there is a special science whose theoretical predicates postulate phenomenal kinds and generalize over them. Presumably, the physicalist takes psychology to be the discipline concerned with classifying and generalizing phenomenal kinds of this sort. If psychology is indeed engaged in this enterprise, then the phenomenal events that it explains are subject to reduction via appropriate bridge laws to basic physics. Here is one place where the anti-reductionist may raise a preliminary objection to the reductionist thesis as it concerns the mind. Psychology is largely concerned to correlate verbal reports about and descriptions of mental states to one another. Generally, it thereby encompasses a study of behavior as a means of relating mental states. But, the anti-reductionist can claim, a study of the verbal reports of mental states is not necessarily a study of phenomenal kinds. Instead, perhaps, the anti-reductionist can invoke the notion of subjective qualitative states in defining phenomenal kinds and claim that, when defined in this way, there is no scientific study that concerns these qualitative kinds. The anti-reductionist may go so far as to deny that such a study is possible in principle, since the essential nature of qualitative states is their first-person, subjective transparency and third-person, objective opacity.

⁶¹ Papineau. 100.

Fodor raises this avenue of anti-reduction resistance as a possibility, but he doesn't believe that it has much to commend itself and is a deflated version of physicalism.⁶² However, it is important to note that the anti-reductionist can grant everything that the "straightforward physicalist" asserts through the standard reduction thesis, and yet still deny that the identity of phenomenal and physical is possible. This option is open to the anti-reductionist if she claims that phenomenal kinds are not subject to study and nomological generalization by any science. The challenge that choosing this option presents is that the anti-reductionist must give an adequate account of phenomenal kinds and then explain either why they are not currently the subject of any science (in which case the argument is open to empirical refutation as soon as the investigation of phenomenal kinds is begun), or why they cannot be studied in principle (in which case the anti-reductionist risks undermining her basic physicalism).

However, rejecting the claim that psychology deals with phenomenal kinds is not the only alternative open to the anti-reductionist. Indeed, Fodor believes that one can grant both that the special science of psychology deals with phenomenal kinds and the claim that all events are physical events, which he calls "token physicalism", and yet still deny the reductionist conclusion.⁶³ Specifically, he argues that although reductionism is sufficient for token physicalism, which entails the primary thesis of the physicalist, it is too strong to be sustained with respect to the actual practice of the special sciences. Although ultimately Fodor thinks the question of reductionism can only be settled empirically depending on how successful reductive attempts prove to be, it seems highly unlikely that the world will turn out to be such that "*every* natural kind is, or is co-extensive with, a physical natural kind."⁶⁴ By physical natural kind, Fodor means the natural kinds that have been or will be enumerated by physics. He proposes three reasons for thinking that reductionism with respect to the special sciences is too strong. First, scientifically interesting generalizations can be made about events whose physical descriptions have no similarities. Second, very often the presence of physical similarities is irrelevant to the truth of the generalizations. Finally, the special sciences make precisely these sorts of generalizations.

⁶² Fodor. 100.

⁶³ Ibid.

⁶⁴ Ibid. 102. Italics in original.

Given these three aspects of special sciences, it seems improbable that the natural kinds discussed in fields such as economics will turn out to be co-extensive with natural kinds of physics. Fodor summarizes his claim in this way: “The assumption that every psychological event is a physical event does not guaranty [sic] that physics...can provide an appropriate vocabulary for psychological theories.”⁶⁵ Even if physics were to offer a natural-kind taxonomy such that every psychological natural kind was captured, it is unlikely that physics could also mirror the law-like generalizations across and between those kinds that psychology makes. Therefore, reductionism does not follow from “token physicalism,” even if it is granted that psychology deals with phenomenal kinds, and “token physicalism” is all that is required to establish the generality of physics which the physicalist needs to maintain. Asserting reductionism places unacceptable demands on the taxonomy of physics, demands that would appear to trivialize physics and possibly undermine its nomological integrity.

The upshot of Fodor’s discussion is to reveal that the “straightforward physicalist” claim to the necessity of reduction on the grounds that every phenomenal kind is identical to a physical kind is unwarranted. “Token physicalism,” which maintains that every event is a physical event, is sufficient to establish the generality of physics and does not lead to reductionism. Physics is therefore general, meaning there are no non-physical events, and yet the natural kinds of physics do not suffice to explain the sorts of nomological generalizations that are investigated in the special sciences. The anti-reductionist thereby claims that the world investigated by different sciences requires the specialized taxonomies in order to appropriately describe and explain it. While everything that exists is physical, and physics is therefore foundational, it does not follow that physics is able to provide a taxonomy of natural kinds that swamps those offered by more specialized sciences. The reason that psychology exists, in an entirely physical world, is to provide a natural-kinds taxonomy that adequately captures and explains things that a more basic physics is simply not suited to.

Principally, the force of Fodor’s argument is to separate the issue of reductionism from the question of physicalism. If one can hold token physicalism without appealing to reductionism, then physicalism does not commit one to reductionism. So, the question of reduction must

65 Ibid. 105.

be considered separately from the question of physicalism. Fodor addresses this question most directly by arguing that the reduction of the special sciences is not pragmatically possible. As he claims, the need for identification between the natural kinds postulated by the reducing and the reduced sciences makes reduction highly improbable. But, this does not rule out reductionism as an in-principle possibility. Scientific laws may not be reducible simply because of certain inherent limitations in the cognitive abilities of human beings, yet they may describe phenomena that are, ontologically speaking, reducible. The reductionist can acknowledge Fodor's practical or epistemic concern and still argue for reduction as a real ontological scheme despite our inability to adequately represent that scheme.

Generally, this is a means of making explicit a distinction between representational and ontological issues of reduction.⁶⁶ Perhaps our theories about the mind (psychology) will never reduce to our theories about the brain (neurobiology) because we are not cognitively capable of achieving such a reduction. Like Socrates, we may be forced to concede that achieving such a reduction in scientific practice is "altogether a task for a god in every way" something that is beyond our epistemic abilities, perhaps in principle.⁶⁷ But, the reductionist will claim, this is only the especially ambitious representational form of reductionism which requires reduction in actual practice. Instead, this kind of reduction can be denied without jeopardizing the (in the current sense) weaker form of ontological reduction. It may be that the world is such that mental properties do in fact reduce to physical properties. Our ability or, rather, inability to theoretically represent that reality does not impinge upon its ontological necessity. The question of ontological reduction, then, is entirely distinct from the kinds of primary objections that Fodor puts forward. Just because "it is not further required that the taxonomies which the special sciences employ must themselves reduce to the taxonomy of physics" does not mean that the phenomena investigated by the special sciences do not reduce to the phenomena investigated by physics.⁶⁸ On the strength of this argument, the reductionist can claim that a case can be made for ontological reduction even in the absence of one for representational reduction.

66 Van Gulick. "Reduction, Emergence and Other Recent Options on the Mind/Body Problem". 3.

67 Plato. *Phaedrus*. trans. Nehamas and Woodruff. 246a.

68 Fodor. 114.

With this distinction in place, Fodor's anti-reductionist argument seems to lose some of its sting. Specifically, the reductionist can concede his argument against the reduction of theories and other representational entities, but maintain a reductionism that characterizes the relevant ontological entities as being reducible. At this juncture, the reductionist can opt for a number of different characterizations of the ontological reductionist thesis.⁶⁹ The one that has been most immediately compelling to many reductionists is identity. This postulates that mental ontological entities (properties, states, objects) are identical with physical ontological entities. Precisely, "identity theorists claim mental states, events and properties will turn out to be identical with neuroscientifically discovered items."⁷⁰ The nature of the world is such that mental properties are identical to physical properties. One prominent reductionist of this sort is David Papineau. He states his reductionist thesis in the form that "every phenomenal kind *M* is identical to *some* *P* that is generally similar to the kinds currently recognized by the physical sciences."⁷¹ It "*seems* obvious" that mental states are not identical to physical ones, but it is never wise to simply trust an intuition.⁷² In fact, Papineau and other identity theorists claim, neuroscience gives us a strong indication that mental entities are not different from physical entities. This is to say that neuroscience tells us that mental states are "nothing over and above" physical states.⁷³ Such reductionists will claim that, regardless of the ultimate success of neuroscience in actually reducing psychology, the ontological implications of scientific advance have made clear the need for the reductionist ontology.

Clearly, if reduction is to be denied, the anti-reductionist must mount an argument that accounts for the distinction between ontological and representational reduction, and defeats the identity thesis. Despite the support that the reductionist takes from progress in neuroscience, the anti-reductionist is able to cast doubt on the soundness of the conclusions that are drawn from that apparent progress. Although the main thrust of Fodor's argument is directed against the issue of representational reduction, he also relies on an implicit argument that undermines the ontologically reductionist identity thesis in exactly this way. Specifically, Fodor claims that interesting,

⁶⁹ Van Gulick. 4.

⁷⁰ Ibid. 5.

⁷¹ Papineau. 101. Italics in original.

⁷² Ibid. 103.

⁷³ Van Gulick. 2.

and perhaps nomologically significant, generalizations “can often be made about events whose physical descriptions have nothing in common.”⁷⁴ This implies that while a certain psychological description might be appropriate in two different circumstances, the physical circumstances might be irreconcilable in terms of their characteristics. The difficulty comes into clearer focus when considered in relation to the reductionist identity thesis. Because pain is hypothesized to be identical to a certain neurobiological state of an organism, any organism that can have the relevant mental state (pain) must also have the relevant neurobiological state (e.g. C-fibers firing). As Putnam states, the identity reductionist “has to specify a physical-chemical state such that *any* organism (not just a mammal) is in pain if and only if (a) it possesses a brain of a suitable physical-chemical structure; and (b) its brain is in that physical-chemical state.”⁷⁵ Mental states, Putnam claims, are multiply realizable, meaning that they can be present in systems that do not share fundamental characteristics of neural structure. For instance, a human being could be in a state of pain and an octopus could be in a state of pain, even though the two systems are radically different in terms of the biological structures that underlie those mental states. Thus, the state of pain, or any other mental state, could be “realized” in a variety of fashions across physical systems.

This poses a problem for the identity theory reductionist. If mental entities are supposed to be identical to relevant physical entities, as Papineau suggests, then there is no way in which one can vary while the other remains constant. Were this to happen, as the multiple realization thesis contends, then the identity would be broken since certain mental entities (such as pain) would be shown to be equivalent to in one case “C-fibers firing” and in another case a particular sort of octopus (or reptilian, or Martian) neural activity (or whatever physical process is identified). Cases where mental states are multiply realized are problematic for the identity theory because, in order for the reduction to be carried out with the status of a scientific law, the identity thesis mandates that “the lower-level property must not be *disjunctive*.”⁷⁶ Disjunctive properties at the lower-level would be merely tokens of the hypothesized type of property. Hence, disjunctive pain properties would simply be tokens of pain: octopus pain, human pain, and the like. If the identity enacts

⁷⁴ Fodor. 103.

⁷⁵ Putnam. “Psychological Predicates” in *Mind, Language and Reality*. 164. Italics in original.

⁷⁶ Horgan. “Nonreductive Materialism and the Explanatory Autonomy of Psychology”. 306. Italics in original.

such a disjunctive account of pain, then it effectively loses its law-like characteristic. Yet in the hypothesized cases of multiple realization the lower-level property correlated to pain is precisely a disjunct including all of the states recognized to instantiate pain in a species e.g. the human neural state, octopus neural state, Martian neural state, etc. Mental states, then, appear to be identified with a disjunctive assortment of physical states that takes on the appearance of being *ad hoc*. Effectively, because there is no strict identity of pain with a single, universal mental state, there would be as many kinds of ‘pain’ as species able to experience it. Such a result seems to undermine the purpose of the reduction in the first place, since pain would, on this account, be identical to a huge number of disparate biological states and not “*some P that is generally similar to the kinds currently recognized by the physical sciences.*”⁷⁷

The challenge to reductionism posed by this problem is significant. By maintaining that mental states must be identical to brain states, “[reductive] physicalists unfairly exclude those poor brainless creatures who nonetheless have minds,” such as the octopus.⁷⁸ In order to maintain the classical reductionist identity theory, then, the reductionist must exclude such organisms that do not exhibit the sort of biological realization of mental states that human beings do. Perhaps eventual research in the neurobiology of humans and mollusks will eventually reveal that the physical states instantiated in instances of pain is the same for each. “It is at least possible that parallel evolution, all over the universe, might *always* lead to *one and the same* physical ‘correlate’ of pain.”⁷⁹ But even if pain was ultimately shown to be correlated to a single physical state in this way, the reductionist would also have to show that all other mental states had an analogous physical correlate across evolutionarily parallel species which exhibit the mental state. This is, in principle, an empirical possibility, so the reductionist could attempt to hold onto the classical identity theory in this manner. But if the empirical validity of this hypothesis is undermined, the classical reductionist is forced back onto the disjunctive approach to maintain the postulated identity of mental states with brain states. So it seems as if the multiple realizability of mental states across species presents a serious challenge to the classical reductionist. Classical reductionism is left with two unattractive

⁷⁷ Papineau. 101. Italics in original.

⁷⁸ Block. “Troubles with Functionalism”. 234.

⁷⁹ Putnam. 164. Italics in original.

possibilities. To uphold the classic formulation of the identity theory, the reductionist can either follow the disjunctive approach, which undermines the nomological credentials of a psychophysical identity, or stand on a hypothesis of radical uniformity in parallel evolutionary chains.

Facing this pair of unattractive options, some who advocate reductionism have proposed a different solution which is meant to achieve reduction without a sheer disjunction or weakened hypothesis. This alternative is based in the notion that, given multiple realizability, “the correct response is not to weaken the joint necessity and sufficiency of the physical base, but rather to *relativize* it.”⁸⁰ Instead of subsuming the psychological predicate “pain” under a never-ending disjunction of physical states, the reductionist should instead relativize the mental state to each instantiation that it finds in the physical stratum. In practice, then, there would be an identity between human pain and C-fibers firing, but a different identity between octopus pain and decentralized nociceptor stimulation. Jaegwon Kim calls this alternative version of identity reduction “local” reduction: identity reductions that have been localized to particular biological (perhaps, computational?) species. This would appear to save the reductionist project envisioned by the identity reductionist. Identities would be achieved between mental and physical states and, according to Kim at least, there would be no need for an endless disjunction since, *ex hypothesi*, each species would have a single identity for each mental state. One issue that this proposal faces, however, is that it calls for eliminating trans-species mental states. As Kim points out, “on this approach no properties in the world answer to general, species-unrestricted mental concepts.”⁸¹ Those who raised multiple realizability in the first place may find this a bit of a Pyrrhic victory for the reductionist since the initial intuition was that mental predicates were such that they could be (and were, on psychological accounts) assigned to radically different systems. For those taken in by multiple realizability the local reduction thesis seems to trivialize the notion of pain *tout court* in order to save identity reduction. But, like Kim, the reductionist can claim both that local reduction is not susceptible to the principal multiple realizability criticism and furthermore represents the progress of inter-species neurobiology far more accurately than the classical reductionist scheme.

80 Kim. “Multiple Realization and the Metaphysics of Reduction”. 7.

81 Kim (1992). 25.

Localized reductionism, however, does not satisfy the anti-reductionist who has proposed multiple realizability. These anti-reductionists contend that “even local reduction is too strong a constraint to impose upon inter-level relations” and they propose to follow the multiple realizability thesis to a more drastic conclusion.⁸² Specifically, they claim that Kim’s local reductionist thesis does not defuse the multiple realizability critique because mental states may be multiply realized within species as well as across them. “The possibility of different realizations of mental states for beings of different kinds applies equally, in principle, to different individuals of the same kind.”⁸³ Given the vast variation that is (partly) produced by genetic differences, it is reasonable to assume that the neurological composition of different individuals within a species-group could be quite distinct. Hence, the way that pain is realized in one individual may vary slightly from a genetically related individual, and still more from that of an unrelated individual. This sort of multiple realizability may also be conditioned by environmental factors, or those factors interacting with genetic ones. The variance between individuals in brain state realizations of pain seems to be, in principle, as infinite as the variance in fingerprints among humans. This variability may go further, still. It is even possible, many anti-reductionists also claim, that “multiple realizability might well begin at home,” meaning that mental states might be multiply realized “even in an individual human *given the structure of his central nervous system at a single moment of his life*.”⁸⁴ Due to changes in neural circuitry that occur over the course of biological development, it might be that the neurological substrate of pain in an individual at age five is completely different from the neurological substrate at age fifty, which could be different still from the substrate at age seventy-five. Under this new, more aggressive characterization mental states are said to be “fully” multiply realized. There are, in principle, an infinite number of ways that a mental state like pain could be realized in states of the brain, and these different realizations are not constrained to the species-level.

Anti-reductionists can therefore respond to the possibility of local reduction by asserting that mental states may be fully multiply realizable. Perhaps, however, the reductionist might claim that if there is in principle no way to investigate the linkage between mental states and physical

82 Horgan. “Nonreductive Materialism and the Explanatory Autonomy of Psychology.” 309.

83 Dupré. *The Disorder of Things. Metaphysical Foundations of the Disunity of Science*. 148.

84 Horgan. 308.

states then there might not be any mental states to investigate after all. If mental states are so abstract, are so abstractly realized, as to deny any kind of taxonomy at the level of neurobiology, the reductionist might claim that they equally cannot be given taxonomy at the level of psychology. These reductionists say that if fully multiple realization is true then there cannot be any straightforward classification of things like pain without resorting to the same kind of disjunction that undermined classical identity reduction in the first place. Anti-reductionists respond to these concerns by maintaining that “even if intentional mental states turn out to be fully multiply realizable in humans, this outcome would not impugn the integrity of our intentional mental notions.”⁸⁵ Generally, to sustain this contention, the anti-reductionist must appeal to a certain aspect of mental states that allows for their classification into such “mental notions” without the need for intelligibility at the level of neurobiology. The avenue available to the anti-reductionist in establishing the possibility of this practice is subjectivity.

Subjective experiences are the most obvious and most defensible option for the anti-reductionist who wishes to maintain the existence of mental states while also claiming that they may be fully multiply realized. Whereas the neurological state of C-fibers firing is a third-party observable event, and is thereby classifiable as an objective phenomenon, the experience of pain is a necessarily first-person phenomenon. You may sympathize with the pain I feel when I stub my toe; perhaps you may empathize with it and recall a similar instance of pain that you once experienced; but those are first-person experiences which do not literally inform you of the pain that I, as a separate subject, feel in that moment. The illustrated viewpoint-dependency of subjective experiences “cannot be grasped by even an exhaustive physical analysis of the brain.”⁸⁶ On the anti-reductionist account, it is the existence of these first-person, subjective states that legitimates our “mental notions.” Furthermore, their existence need not be contradicted by their multiple realizability in different physical systems. The reason for this second claim has to do with “the *felt aspects* of our experiences – the blueness we sense when we look at the sky.”⁸⁷ Qualitative aspects of experience, or qualia, could be realized in an almost unlimited manner, biologically or not.

⁸⁵ Ibid.

⁸⁶ Jones. *Reductionism*. 88.

⁸⁷ Ibid. 89.

Their existence does not depend on the mode of realization. In fact, precisely because they are subjective, there is no way to determine *how* they are realized in an objective, third-person manner. If there is necessarily no way to ascertain how something is realized, as appears to be the case with qualia, the fact that it may have an infinite number of realizations does not challenge its existence.

Reductionist responses to the invocation of qualia are far from compelling. “Some reductionists just awkwardly brush these phenomena aside.”⁸⁸ These reductionists claim that a program of reduction will be able to encompass these apparently subjective states as well as our typical concepts of mental states. It is difficult to see how this could be borne out given the difficulties of penetrating first-person experiences with third-person methods. If this is to be the reductionist response, we should expect neuroscience to achieve much more than reduction; it must give us an objective point of view, something that has more than a hint of paradox about it. Given that this path leaves the reductionist with a rather unattractive faith in the powers of neuroscience, some reductionists have attempted to provide a more robust response to the notion of qualia. These philosophers “blithely deny the obvious and simply eliminate them [qualia] as completely unreal.”⁸⁹ While the language that Jones uses to describe this approach is a touch pejorative, and consequently appears to trivialize what is a serious reductionist objection, his point is clear. Denying the felt aspects of subjective experience is a strange position to put oneself in, no matter the philosophical stakes. The ink on this page may now appear to be black to you. I will just as readily say that it is black. But the color that I actually perceive and report as black might be what you perceive as red. It is possible that our perceptions of the world are radically divergent, and yet nonetheless we could have no way to objectively reconcile those perceptions. The upshot of this incommensurability is not the denial of the qualitative aspects of our experience; it is, rather, the affirmation of subjective experience as *subjective*. Reductionists who deny qualia are committed to denying that subjective experience ultimately has the characteristic of being subjective (in the sense of having first-person felt aspects). While they at least assert this claim, as opposed to others who tend to ig-

88 Jones. 90.

89 Ibid.

nore the issue altogether, denying qualia can do nothing more than vault the reductionists from the metaphorical frying pan of qualitative experience and into the fire of the subject-object distinction.

Reductionism that is “ontologically significant,” namely one that postulates an identity between brain states and mental states – or equally physical properties and mental properties – therefore founders on two principal difficulties. Firstly, mental states may be multiply realized by a number of different physical states. This could be as simple as the different physical states that instantiate pain in humans and octopi. But proposing a local reductionism inspired by this concern also will not suffice. Mental states might be multiply realized within biological taxonomies; even to the level of the individual; even within a single individual over time. Secondly, mental states include felt aspects that are necessarily subjective. These qualia defy attempts to reduce through third-person observational science because of their necessary subjectivity. The reductionist must respond by either assuming that neuroscience will provide an objective insight into subjectivity, which involves ignoring qualia and making a rather incredible claim, or denying that they exist, which involves denying that perception is possible. Anti-reductionism can rest on these two doctrines to deny the kind of ontological reduction that suggests an identity between mental properties and physical properties.

On the strength of these arguments, the panpsychist can plausibly deny reductionism without thereby rejecting the physicalist paradigm. Reductionist intuitions are, to some degree, being undermined through the process of neuroscience, not in spite of it. The panpsychist can point to these developments as a credible sign that reductionism should be abandoned. Furthermore, the nature of mental properties, in particular their felt, subjective qualities, seems to indicate that there is at least no obvious way to reconcile them with the mechanical and functional properties that physics postulates. Panpsychism asserts the reality and irreducibility of these qualitative properties but is not thereby required to reject the more general physicalist assumption that all entities have physical properties. Panpsychism simply asserts that physical properties are not the only ones that concrete entities may possess.

Once anti-reductionism has been defended, it still remains for the panpsychist to argue against the similarly powerful emergentist theory of mind. Emergentism, which has sprung up recently as one of the most viable alternatives to reductionist physicalism, has the support of many more biologically inclined philosophers and scientists. Though it is not quite as dominant as reductionism was in its heyday, the emergentist theory has steadily grown in influence. Consequently, finding fault with the emergentist thesis and thereby undermining the theory is a key task for the panpsychist and one that faces stiff opposition. Furthermore, emergence has long been at odds with different formulations of panpsychism, dating back to Epicurus in Ancient Greece.⁹⁰ A convincing anti-emergentist account is therefore crucial to establishing panpsychism as a viable theory of mind. The strength of the anti-emergence premise will largely determine the strength of the overall case for panpsychism.

In the next section, we will investigate the anti-emergence arguments put forward by proponents of panpsychism. The logic of anti-emergence will be presented, and the arguments in favor and opposing the use of that logical pattern will be evaluated. Although emergence may still be a less astonishing option than panpsychism, it is clear that the panpsychist argument reveals certain troubling aspects of emergentism that have yet to be handled. On this basis, it will be made clear that physicalist panpsychism can reasonably sustain a form of the anti-emergence argument. Furthermore, this argument, when taken in conjunction with the other panpsychist premises will be shown to be strong enough to establish the panpsychist thesis.

⁹⁰ Skrbina (2006). 14.

Chapter 4 The Question of Emergence

The panpsychist argument against emergentism, perhaps even more so than that against reductionism, is crucial to establishing the panpsychic conclusion to Nagel's argument. In the recent debates in the philosophy of mind, emergentism has experienced a renaissance. This parallels an increased interest in the implications of evolutionary biology for theories of mind. Modern emergentism employs a form of reasoning by analogy to conclude that mental properties are an emergent level of complexity in the natural world. Emergentists therefore often look to the biosciences to ground their claims that "mental properties depend upon the entire natural history that caused increasingly complex brains and central nervous systems to evolve."⁹¹ Generally, emergentism claims that mental properties emerge out of physical and historical processes of a certain degree of complexity. There is no prerequisite for mentality other than those complex natural systems and events, and mentality exists only when or where those processes have taken place.

Here, we will examine the panpsychist responses to this interesting proposal and see how the argument against emergence materializes. It will become clear that panpsychism relies upon a nuanced and precise understanding of emergence. This is because the anti-emergence argument can only be successful if at least a certain variety of emergence which makes panpsychism plausible is allowed. Nevertheless, it will be shown that the distinction between the varieties of emergence is sound and that panpsychism can therefore operate on the basis of that distinction, rejecting one kind of emergence while accepting another. This will ensure that the panpsychist argument against emergentism can indeed survive without generating an unacceptable equivocation. Accordingly, using this precise anti-emergentist argument, the panpsychist will be able to establish her ultimate conclusion that all matter has mental properties.

§ With the argument for reductionism facing strong and plausible objections, many physicalists have sought to develop alternative positions which adapt physicalism to better incorporate subjectivity and experience. Most prominent among these new approaches is emergentism. Because reductionism appears implausible owing to the difficulties of accounting for experience by refer-

⁹¹ Clayton, *Mind and Emergence*. 127.

ence to physical properties alone, emergentism maintains that the category of mental properties is distinct from its physical counterpart. These mental properties, the emergentist claims, arise from physical properties under appropriate conditions of complexity. Rather than simply being a colloquial way of referring to more obscure physical properties, as the reductionist believes, on the emergentist account, mental properties are independent of their physical substrate. These properties are features of complex systems which cannot be reduced to the properties of the system's components. As such, mental properties are possessed by whole organisms which cannot be understood simply in terms of the physical properties possessed by that organism or its constituents. At the same time, however, mentality is inextricably linked to physical properties, since it is in virtue of the physical properties of the micro-components of organisms that their mental properties emerge.

In some respects, this view appears reconcilable with the intentions (and initial motivations) of physicalist panpsychism. Emergentism seeks to preserve the importance of mental properties while acknowledging the primacy of the broader physical framework in which they exist. For emergentists, mental properties are impactful aspects of the physical world which cannot be explained simply in terms of physical interactions. Yet mental properties can only inhere in entities which are entirely physical, or which at minimum contain constituents which have physical properties. There is much for the panpsychist-leaning physicalist to appreciate in such a view.

Nonetheless, despite the inclusive attitude towards the mental that the emergentist exhibits, panpsychism ultimately follows from a definite rejection of the emergence thesis. What specifically alienates the panpsychist from emergence is the emergentist's assertion of the brute or inexplicable rise of the mental from the physical. As Strawson notes, the difficulty with emergence is that it entails that there is "no reason in the nature of things" why the mental emerges from the physical.⁹² Emergence, according to the panpsychist, is a kind of law-like miracle; in other words, a contradiction. Mental properties emerge when particles that have nothing but physical properties interact in the right kinds of ways. But this leaves the emergentist with a chasm of an explanatory gap since the panpsychist claims that there is no principled way of explaining how or why mental

⁹² Strawson, "Realistic Monism". 18.

properties emerge from exclusively physical processes. Defending panpsychism requires that this apparent contradiction at the heart of emergence holds. Yet, ironically, once this contradiction has been exposed and the emergence thesis that entails it has been discredited, panpsychism requires a modified and, the panpsychist believes, credible form of emergence to take its place. As a result, it is crucial to the panpsychic project that the distinction between acceptable and unacceptable versions of emergence be sharply delineated and clearly explained. If panpsychism is to be viable, the supportable arguments for emergence must only tell in favor of the kind of emergence it can accept.

In order to understand how panpsychism can achieve this narrow adoption of emergence, it is first necessary to recognize the distinctions between various kinds of emergence, and to understand what the traditional emergence thesis, which the panpsychist rejects, consists in. Emergence, similar to reduction, can be conceptualized in a variety of interconnected and often obscure ways. Each of these multiple meanings, however, shares a connection to a common set of criteria that define emergence in its basic aspect. Emergence is distinguished as a category which holds that “certain properties of things are fundamentally different from others: certain properties are ‘emergent’ properties and others are not.”⁹³ This clause can be understood as establishing a basic fact about the philosophical meaning of emergence. Specifically, it distinguishes two classes of property, one that is basic and another that emerges.⁹⁴ Another key aspect of all emergence claims is the interrelation of basic and emergent properties. The relationship between emergents and emerged-from is one of dependence in which the emergent properties depend on the underlying emerged-from properties. This dependence exists in such a way that “that there is no variation in the object’s [emergent] macroproperties without variation in its parts’ microproperties.”⁹⁵ Thus emergent properties supervene on the properties of the emerged-from substrate. Yet “the supervenience in question has no explanation from within physics” and so the emergent properties remain

93 Crane. “Cosmic Hermeneutics vs. Emergence” in *Emergence in Mind*. 26.

94 Although properties are the crucial subject in much discussion of emergence, there are other features of entities which can be said to emerge (such as causal powers). Classification of those emergents follows the same trajectory as the one discussed here.

95 Crane. 26.

distinct from (in the sense that they are not reducible to) physical properties.⁹⁶ Together, these three criteria determine emergence in general. A theory could not be considered emergentist if it did not posit the distinctness, supervenience, and inexplicability of the emergents it postulated.

This basic understanding of emergence is stretched in the variety of different theories or conceptualizations of emergence that exist. In general, the conceptual variation contained within emergentism is roughly analogous to that possessed by reductionism, in that changing one of the contingent parameters of the view affects the form of reasoning and argumentation relating to the emergentist thesis. Yet, because the distinctions between the different types of emergentism are especially crucial to the argument for panpsychism, it is necessary to distinguish them as clearly as possible in their many forms before considering their relative merits or defects.

The first distinction between types of emergence that must be recognized is temporal and holds for all subsequent differentiations. Emergence can either be synchronic or diachronic, and emergentist theories often encompass both varieties at once. The diachronic reading of emergence encompasses properties that have emerged over time. This standpoint takes as its point of departure the “revolution brought about by the sciences of evolution” and claims that the emergence of mental properties has occurred in tandem with the evolution of life.⁹⁷ As organisms have become more biochemically sophisticated, the diachronic interpretation of emergence holds that mental properties have arisen from the appreciating complexity of their physical composition. This view is inspired by evolutionary psychology, which explains the development of sophisticated mental capacities as a process of natural selection. For instance, the development of moral sentiments among higher primates may be seen as a kind of diachronically emergent mental property. Research into the social behavior of lower primates and other mammals suggests that they lack the same cohesion and, *ex hypothesi*, the mental traits possessed by higher primates. These sentiments are therefore said to have emerged through the process of evolution. Contrariwise, the synchronic view holds that “it is true of a system or entity *at a time* that some of its properties are emergent and others not, regardless of how it evolved.”⁹⁸ This temporal orientation of emergence concerns itself

⁹⁶ Ibid. 29.

⁹⁷ Clayton. *Mind and Emergence*. 1.

⁹⁸ Crane. 26. Italics in original.

with the organism at a particular point in time to determine whether it possesses emergent properties in addition to its basal ones at that time. Gestalt psychology and Rorschach blots illustrate this sort of emergence. None of the individual dots in a Rorschach pattern have, in and of themselves, the property of looking like a rabbit. But in complex arrangement, and simultaneous to the lack of rabbit-appearance in each dot, the entire field takes on that property. In general, the synchronic view is more suitable for philosophical considerations of emergence while the diachronic view supposes a more biological standpoint. However, the two conceptions can be mutually reinforcing. If, for instance, an organism exhibits synchronically emergent properties, it would be fair to assume that those properties were the result of a diachronic emergence as well. Nevertheless, in general the arguments for and against emergentism which are relevant to panpsychism will be mounted on the basis of the synchronic understanding of emergents, considering whether or not mental properties can emerge from physical properties at a given time.

A second classification of emergentism parallels reductionism much more closely. This is the distinction between the epistemic and ontological versions of emergentism.⁹⁹ Epistemic emergence is a claim about the capacity of human knowledge to understand the causal impetus which gives rise to emergent properties. The particular claim made in cases of epistemic emergence is that “an observed feature of the system cannot be derived from the properties currently attributed to its constituents.”¹⁰⁰ Under this configuration, emergence develops in response to the epistemic limits of our best physical theories. To say that a property emerges epistemically is to acknowledge that we lack the ability to determine the specific reasons for its origination. It is a claim about our capacity as knowers rather than about the nature of entities. Two versions of epistemic emergence have been identified, predictive and representational emergence.¹⁰¹ Predictive emergence claims that the features of complex wholes cannot be predicted just by observing the parts; additional information would be required to complete the assignment. This would be akin to saying that there was no way to predict a stock-market crash simply based on the behavior and properties of its participants. Perhaps, in that scenario, more information about the trading envi-

⁹⁹ Van Gulick. 16.

¹⁰⁰ Nagel. 182.

¹⁰¹ Van Gulick. 20.

ronment or global economy would be required to make an appropriate prediction. Representational emergence, on the other hand, claims that wholes exhibit features which cannot be understood or represented using the theoretical tools applicable to the micro-level. This would be to say, to continue the above analogy, that employing available theories of the psychology or behavior of traders could not adequately characterize the ‘psychology’ or ‘behavior’ of the market. These two views emphasize the inadequacies of our mechanisms of knowledge and understanding in putative cases of emergent features. The counterpart to these epistemic views is ontological emergence. Rather than a relationship between knower and object, ontological emergence involves “objective metaphysical relations holding among real-world items such as properties.”¹⁰² We may or may not be able to know how physical properties give rise to mental properties, but as a question of metaphysics, emergence is real or it is not. Either mental properties emerge from and supervene on physical properties or they do not, and the ontological version of emergentism claims that the former is the case. Considering the case of the stock market once more, to say that the market’s behavior was ontologically emergent would be to say that, even knowing everything there was to know about the traders and their interactions, the market’s behavior would remain distinct and, to some degree, unanalyzable. The market’s behavior would be a completely new and holistic fact which no account that merely considered the traders could explain. Panpsychism reacts most directly to claims for ontological emergence, owing largely to the deeply metaphysical nature of the panpsychist position.

An additional distinction which holds for ontological emergence bears mentioning, namely that “two main classes of emergents can be distinguished: properties and causal powers.”¹⁰³ Emergent causal powers introduce certain nuances into the argumentation for ontological emergence. This is because discussion of causal powers entails considering the prospect of downward causation, which is the causal affectation of the emerged-from by the emergent.¹⁰⁴ Such an entailment indicates the surprising metaphysical turn that emergentism can take, especially when considering the mental. Claims for downward causation by mental events imply at least a degree

¹⁰² Ibid. 16.

¹⁰³ Ibid. 17.

¹⁰⁴ Clayton. 49.

of flexibility with the causal closure of physics, and so “claims for downward causation are most controversial when they involve mental causes.”¹⁰⁵ In general, however, emergent properties are taken as the paradigmatic class of emergents instead of causal powers. Additionally, it is mostly regarding the emergence of mental properties that the panpsychist denies emergentism. As a result, considering the potential for emergent properties is most directly at stake in the subsequent discussion.

Finally, there exists a distinction between ontological emergence theses in terms of the forcefulness of the claims they make. There are three levels of emergence that an ontological emergence thesis can possibly accommodate.¹⁰⁶ Specific value emergence is the weakest variety. It states that systems and their constituents can have properties of the same kind but with varying values or degrees. This is the sort of emergence commonly involved in assigning metric values to objects. For instance, a statue may have a mass of 150 kilograms while the individual molecules of marble each have masses that are an infinitesimal fraction of that amount. The statue’s mass is a property that emerges as a specific value of the property possessed by the constituents. In general, this sort of emergence is uncontroversial and is already assumed in some form by very basic physical theories. Certainly, the panpsychist raises no objections to it. A stronger emergence thesis is known as modest kind emergence. This kind of emergence simply holds that the whole has features that are different in kind from the features of the constituents. Such emergence can be seen in the existence of basic physical facts pertaining to composite entities. For example, “we can see that the phenomenon of liquidity arises naturally out of, is *wholly dependent on*, phenomena that do not in themselves involve liquidity at all.”¹⁰⁷ Even though not a single H₂O molecule could be said to be liquid, nevertheless (assuming we accept that water is composed of dihydrogen-monoxide molecules) we believe that water as the aggregate of those molecules often exhibits the property of liquidity. Because the liquidity of the water is completely dependent on the properties of the molecules (more precisely, their molecular structure) and their interactions, the panpsychist

¹⁰⁵ Ibid.

¹⁰⁶ Van Gulick. 17.

¹⁰⁷ Strawson. 13.

will readily assent to this form of modest emergence. Naturally, then, this kind of emergence, like specific value emergence, is uncontroversial and enjoys much of the same theoretical support.

However, the final type of ontological emergence is not accepted with the same unanimity as the first two. Van Gulick calls this variety of emergence radical kind emergence, owing to the metaphysical commitments that the view entails. Radical kind emergence incorporates the premise stated by modest kind emergence, but extends it by including an additional clause. Specifically it holds that the whole has features which are different in kind from those of the parts, and which are “of a kind whose nature and existence is not necessitated by the features of its parts.”¹⁰⁸ This language is fraught with metaphysical implications, many of which place radical kind emergence at the margins of, if not make it at odds with, traditional physicalism. In effect, radical kind emergence undermines two physicalist suppositions. The first is the claim that the features of systems or organisms are determined by the features of their interacting components. The proponent of radical emergence could instead assert that certain system-level features do not necessarily follow from the features of its components. Alternatively, the radical emergentist could deny that the laws governing the micro-level components in a system are the same as the laws governing those components apart from the system. This would, in effect, involve postulating a different set of explanatory laws within systems, both for the micro- and macro-levels. Defenders of radical kind emergence can pursue one or both of these options in maintaining the possibility of the radical emergence of different kinds of features. Either way, accepting radical kind emergence involves “conceding that there are real features of the world that exist at the system or composite level that are not determined by the law-like regularities that govern the interactions of the parts of such systems.”¹⁰⁹ It is from this characteristic that radical kind emergence takes its name, and also because of this that it stands out, in somewhat drastic relief, from many physicalist positions. In presenting a bolder and more philosophically interesting claim than its moderate counterparts, radical kind emergence therefore also puts itself at odds with certain mainstream assumptions. The price of metaphysically robust emergentism might be these common physicalist tenets.

¹⁰⁸ Van Gulick. 17.

¹⁰⁹ Ibid. 18.

In the debate about panpsychism, ontological, radical kind emergence is a principal challenger to the logic of the panpsychist argument. As has already been seen, epistemic emergence as well as specific value and modest kind ontological emergence can be countenanced by the panpsychist. These less contentious views do not imply any very precise understanding of the metaphysical nature of mental properties, and so do not run contrary to the logic of panpsychism. However, radical kind emergence poses a considerable challenge to that same logic. More acutely, radical kind emergence of mental properties represents a succinct means of denying panpsychism, claiming instead that mentality emerges from matter without being necessitated by the properties of that matter. Arguing successfully for panpsychism, then, involves rebutting the case made for radical property emergence.

Nagel gives some initial reasons for doubting the viability of radical property emergence. First, he presents the line that he believes the panpsychist must take in denying emergence. To achieve the denial of emergence, the panpsychist must argue that “the properties of a complex system must *derive* from the properties of its constituents, plus the way they are combined.”¹¹⁰ Nagel notes that radical property emergence entails the opposing claim that the system-level features cannot be derived simply from the properties possessed by the constituents, including their interactions. But the distinction between ontological and epistemological emergence can be employed on this emergentist hypothesis. If we cannot derive the systemic properties from the component properties, Nagel is willing to grant that the systemic properties will be epistemologically emergent. But, by the same token, he argues, this sort of epistemological emergence is at least a *prima facie* reason to deny ontological emergence. Faced with our ignorance about how to derive systemic properties, according to Nagel it is most reasonable to conclude “that either the system has further constituents of which we are not yet aware, or the constituents of which we are aware have further properties that we have not yet discovered.”¹¹¹ Assuming the former, these additional constituents would have to possess properties that made the emergence possible, or else their interaction with the known constituents would have to cause those properties to emerge. However, given the extent

¹¹⁰ Nagel. 185.

¹¹¹ Ibid. 182.

of our biophysical knowledge, it seems implausible to claim that we have simply missed an entire class of constituents which are crucial to the mentality of organisms.¹¹² Instead, Nagel claims that the panpsychist can follow the second option and point out that the entities we already know of must have properties that we do not currently recognize. Naturally, the panpsychist would argue that the properties we have failed to ascribe to the constituents are mental.

Secondly, Nagel argues that the panpsychist can deny radical kind emergence because of the concept of causality that it employs. This is because he claims that radical emergence runs counter to the causal explanatory methods of the sciences. “Ordinary physics and chemistry explain macroscopic phenomena...as the necessary consequences of the properties of the particles” which means that, on a scientific view, any systemic features must be necessitated by the nature and interactions of the constituents alone.¹¹³ This gives systemic features the characteristic of being explainable in terms of the constituent parts. Nagel believes that this is a crucial premise to hold in order to remain sufficiently faithful to most scientific theorizing, which does, after all, seek causal explanations of phenomena at various levels of the natural world. But radical emergentism cannot afford to make this concession. Instead, ontologically emergent properties, what Nagel calls “truly” emergent properties, “are not explainable in terms of any more fundamental properties, known or unknown, of the constituents of the system.”¹¹⁴ This means that radical emergence must deny the form of causality, implicit in scientific practice, which holds that “true causes *do* necessitate their effects.”¹¹⁵ Instead, causal connections on the radical emergentist account are mere contingent regularities. From this feature of emergentism it follows that “the appearance of mental properties in complex systems has no causal explanation at all.”¹¹⁶ But denying that mentality has a causal explanation, as Nagel suggests radical emergentism must do, seems to be a wholly unacceptable premise, especially considering the alternatives that are available. Rather

than deny the possibility of a causal explanation, the panpsychist can argue that assigning mental

112 Given that physics continues to expand the scope of its investigation, the emergentist could perhaps point to dark matter or strings as the ‘missing’ constituents. Nagel’s point remains unchallenged by this, though, since even these entities would need the properties necessary for causing mental properties.

113 Nagel. 186.

114 Ibid.

115 Ibid.

116 Ibid. 187.

properties to the system's constituents will resolve the mystery and preserve the causal necessity of the higher-level mental properties.

Nagel's anti-emergence arguments demonstrate some of the difficulties facing strong ontological emergence. Yet his account is not immune to criticism, especially concerning his second argument about the explanatory deficiencies of emergentism. Van Cleve, in particular, notes that if the panpsychist's argument against emergence is to hold, we must spell out what exactly the causal necessity used to condemn emergentism is supposed to amount to. Furthermore, if that causal necessity is meant to be the sort employed in the sciences, the panpsychist's appropriation of the concept cannot be dissonant with the reality of scientific practices. Essentially, Van Cleve carries the emergentist standard by claiming that Nagel's panpsychic argument involves an implicit understanding of causal necessity that is incompatible with scientific reality. To illustrate this, he distinguishes between logical and nomological necessity. Logical necessity involves a necessity that follows from logical rules of inference, while nomological necessity is simply necessary in virtue of certain empirical laws. Van Cleve claims that Nagel's argument against emergence requires that mental properties follow from a system's constituents with logical necessity. The critique of Nagel's panpsychic premise is that this version of necessity sets the "standards for explainability extremely high," too high to be justifiable.¹¹⁷

Van Cleve's critique of Nagel is meant to show that the emergentist can maintain a reasonable account of necessity while the panpsychic account demands too much. In accord with this objective, Van Cleve distinguishes two further kinds of emergence: emergence under logical necessity and emergence under nomological necessity.¹¹⁸ While Nagel's panpsychic argument demands that causal connections have logical necessity, Van Cleve argues that nomological necessity is the only justifiable requirement. Just as reduction in the philosophy of science is taken to imply the use of nomological "bridge principles," Van Cleve says that scientific causality just requires nomological necessity. Furthermore, he claims that Nagel's conception of explicability is also too stringent. He grants that if logical necessity is the criterion then "mental properties will not

¹¹⁷ Van Cleve. "Mind-Dust or Magic?" 217.

¹¹⁸ Ibid. 219.

be explicable or predictable by the laws of physics *alone*.¹¹⁹ Instead, radically emergent mental properties require additional bridging principles in order to be made explicable, what are often called nomological danglers. But what Nagel misses in demanding logical necessity is supposedly that “to be explicable only with the help of danglers is not to be inexplicable.”¹²⁰ Emergentism may indeed entail that mental properties are only explicable by reference to such principles, but Van Cleve contends that this is all that is required for emergence to be explainable. Because causal connections can be nomological and Nagel’s argument (unreasonably) demands that they be logical, emergentism seems to stand acquitted of its largest fault. Panpsychism, by the same token, appears to found its anti-emergence premise on a conceptual error: demanding logical necessity where only nomological necessity is required.

As Nagel’s anti-emergence argument contains this logical necessity requirement, the panpsychist must be able to support logical necessity as the criterion for causal explanation in order to maintain a plausible non-emergence clause and thereby motivate panpsychism. To achieve this, the panpsychist must have recourse to the distinction between the modest kind and radical kind emergence theses. For while the modest kind version of emergentism clearly faces no opposition from the standpoint of logical necessity, it is less obvious, on closer inspection, that radical kind emergence can clear the hurdle. Recall that the key stipulation of radical kind emergentism is that emergent properties of a system may be properties “whose nature and existence is not necessitated by the features of its parts.”¹²¹ If this is to be cashed out as nomological necessity, as Van Cleve and the emergentists require, then there appear to be many cases which could parallel the case of mentality. All that would be required for such an example of radical emergence would be for there to be a nomological connection between emerged-from and emergent. For instance, the case of water’s liquidity represents a scenario in which a systemic property emerges with nomological necessity from its subcomponents, specifically according to the laws governing the molecular bonding of H₂O. The emergentist will claim that this example serves as an analogy to the case of

119 Ibid.

120 Ibid.

121 Van Gulick. 17.

mentality, which is also claimed to be causally explainable in virtue of its nomologically necessary emergence.

But it is precisely at this point that the panpsychist will push back and reassert the logical necessity criterion. Strawson and other panpsychists, indeed, are not content to allow this analogy to pass unchallenged. The reason that cases of modest kind emergence, such as liquidity, are unproblematic is because of the structure of emergence. Emergent properties are those which are “*wholly dependent*” upon phenomena that do not exhibit such properties.¹²² In one respect this can be understood as the supervenience relationship implicit in emergence. Supervenience amounts to the condition that if one entity supervenes on another, there are no changes in the former without changes in the latter.¹²³ On a general view of emergence, “without supervenience, it would be difficult to explain the ‘from’ in ‘property P emerges *from* basal conditions C.’”¹²⁴ So emergence entails an absolute relationship between the emergent and the emerged-from in which the former is constituted entirely in virtue of the latter. This total dependency, as Kim describes, is crucial to the coherence of emergence as a concept. But, he claims “emergent properties supervene nomologically, but not logically, on their basal conditions.”¹²⁵ This seems to imply that Van Cleve’s notion of nomological necessity can remain intact even once supervenience has been made explicit. Yet in another respect, this dependence further implies that emergence relationships must have a particular sort of similarity between its relata. This similarity can be understood precisely as the nomological interconnection of emergent and emerged-from. According to Strawson, such connections can only occur across a “completely conceptually homogenous...set of notions.”¹²⁶ The conceptual homogeneity of two candidates for emergence consists in their being possible candidates for supervenience. It must be intelligible that changes in one are completely and exclusively dependent on changes in the other. If there are two candidate entities for which supervenience relationships are entirely unintelligible, there can be no emergence of one from the other.

122 Strawson, 13.

123 McGinn, “Hard Questions”, 94.

124 Kim, “Supervenient and yet not Deducible” in *Reduction. Between the Mind and the Brain*, 57.

125 Ibid. 66.

126 Strawson, 15.

Now, the panpsychist has the intellectual basis for denying that the analogy between the emergence of liquidity and the supposed emergence of mental properties holds. The phenomenon of water molecules interacting through hydrogen bonds and the phenomenon of liquidity are, under the foregoing discussion, conceptually homogenous notions. It is intelligible to consider changes in liquidity only occurring when there are changes in the bonding structure of H₂O molecules. Little wonder, then, that Strawson is happy to admit liquidity as a valid instance of emergence; specifically, modest kind emergence. But it is exactly here that the project of radical emergentism runs aground for Strawson, for he claims that the phenomenon of non-experiential entities interacting and the phenomenon of experience are not conceptually homogenous in the way required for emergence. He argues that there is, in principle, no intelligible way of constructing a supervenience relationship between the two. Rather than water molecules giving rise to liquidity, the putative emergence of experience from non-experience resembles something utterly more bizarre. Strawson here gives the hypothetical example of spatial phenomena emerging from non-spatial phenomena. The absurdity of this proposed supervenience, he thinks, is entirely evident. It would have to be the case that when the non-spatial entities “stand in certain wholly non-spatial relations they give rise to or constitute real, concrete, intrinsically and irreducibly spatial phenomena.”¹²⁷ To contend that this is possible, let alone that it actually holds, Strawson believes is to accept an absurdity, since the concepts of spatial and non-spatial are mutually exclusive. The only relationship space can stand in with respect to not-space is contradiction.¹²⁸

As this example collapses upon itself, so does the case of mental properties emerging from non-mental properties. This is owing to the fact that, for Strawson, the divide between experiential and non-experiential is the most fundamental possible divide in nature. Their conceptual heterogeneity is absolute, and emergence of one from the other is therefore incoherent. If, as he claims, the two sorts of phenomena are absolutely heterogeneous, then there would be nothing in virtue of which one could emerge from the other. This leads to the absurdity that the emergence would be

¹²⁷ Ibid. 17.

¹²⁸ It does not strike me as impudent or self-indulgent at this point to interject the question of being and nothingness, so little treated in analytic texts. Perhaps the spatial/non-spatial divide requires an abstraction from the phenomenology of Being to reconcile.

“logically supervenient on basal facts but not logically entailed by them.”¹²⁹ Any supposed emergence in this case would be brute emergence: inexplicable, unintelligible, and incoherent. There would be “no reason in the nature of things” why the emergent entity was as it was.¹³⁰ And, as we have seen, to have an instance of valid emergence, the emergent thing must arise entirely because of the emerged-from thing; there must be something about the emerged-from thing in virtue of which it gives rise to the emergent thing. In brute emergence, there is nothing in virtue of which one thing emerges from the other. The case of experience is precisely an instance of this.

Strawson and other panpsychists can therefore argue that the emergentist analogy of liquidity and experience does not hold. There is a fundamental difference between liquidity emerging from molecular bonding and experience emerging from non-experience. The case of liquidity is an example of modest kind emergence, where the emergent property is genuinely novel but follows with necessity from the properties of the parts. As Strawson demonstrates, however, the case of experience is actually a purported instance of radical kind emergence. In this respect it is clear that radical kind emergence implies a different notion of necessity than mere modest kind emergence. The panpsychist argues that nothing short of logical necessity will suffice to constrain emergence, and as such there is no way that radical kind emergence can follow, since it is precisely logical necessitation that it denies. Radical kind emergentism therefore implies the brute emergence of experience from non-experience. Panpsychism denies that this is a possibility, and demonstrates that, because it denies logical necessity and thereby implies contradiction-involving emergence pairs, radical kind emergence should be rejected.

Emergentists often respond that the panpsychist view which results cannot coherently reject this form of emergentism and still achieve the sought-after explanation of experience. They claim that the panpsychist is faced with an unattractive, and possibly fatal, scenario. Either the fundamental particles will have to be ascribed consciousness to “provide an adequate basis for the full panoply of human phenomenology.”¹³¹ Or, if the panpsychist resorts to ascribing pro-mentality to basic particles, she “must admit a kind of emergence after all” in order to move

¹²⁹ Kim, 69.

¹³⁰ Strawson, 18.

¹³¹ McGinn, 95.

from proto- or quasi-mental properties to fully mental properties.¹³² Whichever option the panpsychist chooses, the emergentist contends that there can be no path which does not either lead to absurdity or contradict the anti-emergence premise. To ascribe full mentality to quarks or bosons seems arbitrarily anthropomorphic. Critics claim that this sort of route would place “the ‘human element’ too close to the centre of what exists” and turn physical particles into bizarrely endowed homunculi, thinking, feeling and willing at the quantum level.¹³³ But if the panpsychist wants to be nothing more than a pan-proto-psychist, the emergentist critic points out that she will be forced to rely on emergence. Proto-mental properties, perhaps fainter versions of fully mental properties, must somehow give rise to the mentality that we as conscious beings enjoy and with which we are so intimately acquainted. Emergentists will argue that the prospect for this kind of emergence “seems no brighter than of the mental following from the purely physical.”¹³⁴ Given these difficulties which hint at panpsychism’s incoherence, emergence theorists claim that it is more reasonable to accept radical emergentism than panpsychism. Although some aspects of the view are counter-intuitive, the emergentist maintains that it fares better than the alternative.

Despite this challenge, the panpsychist can respond cogently to this apparently fatal experiment of the cross. Firstly, panpsychism as argued for by Nagel and Strawson does not deny the reality of emergence in the natural world. What it does deny, however, is the radical emergence of experiential properties from wholly non-experiential properties. As the panpsychist can illustrate, the denial of radical emergence does not entail the denial of more moderate varieties of the emergence thesis. Specifically, some readings of panpsychism rely on modest kind emergence to justify the emergence of human mentality from the so-called proto-mental properties of fundamental particles. Recognizing the distinction between modest and radical emergence allows the panpsychist to deny the latter while still employing the basic concept. Because mental properties, whether proto, full, quasi, or otherwise, all share the essential classification of being mental, it is logically consistent to claim that some mental properties can emerge from others. The modest kind

132 Van Cleve. 219.

133 Coleman. “Mind Under Matter” in *Mind that Abides*, Skrbina (ed.). 83.

134 Van Cleve. 219.

emergentist thesis justifies such a claim, and so the panpsychist indeed relies on emergence to the extent that modest kind emergence can be applied to the mental properties of fundamental entities.

Furthermore, the panpsychist denies the charge of anthropomorphism. Although the terminology used in describing mental properties is often imprecise and hence leads to often considerable confusion, the panpsychist can fix the classification of mental properties by reference to experientiality. Experientiality is, as Nagel defines it, what “it is like to *be*” or to have a point of view; it is the “subjective character of experience” which is its essential feature.¹³⁵ Because matter is infinitely re-combinable, and can therefore be incorporated into many different organisms which have the what-it-is-like-ness of experience, there must be some way for those entirely different points of view to be constructed. Matter can produce human consciousness but, unless Descartes’ least plausible hypothesis is correct, also dog experience, bat experience, octopus experience, and the like. As a result, the mental properties that the panpsychist ascribes to matter are “not species-specific but universal, since they would underlie all possible forms of consciousness.”¹³⁶ Understanding the intrinsic experientiality of mental properties is, the panpsychist will claim, the key to identifying these universally malleable mental properties. In this way, the “full” mentality that the panpsychist ascribes to the fundamental particles simply consists in this sheer experientiality. The panpsychist can respond to the charge of anthropomorphism brought by the emergentist by alluding to this central aspect of the mental properties of fundamental entities which distinguishes them from human conscious states. Micro-particles may be fully mental, but their full mentality is of a universal quality, capable of being reconfigured in different specific points of view.

Panpsychism, then, can be defended from the emergentist critique on both fronts. Radical ontological emergentism, not modest kind or specific value or epistemological emergence, is what panpsychism denies. Because other forms of emergence allow that the higher-level properties are logically necessitated by the basal conditions, the panpsychist can, and does, admit them. But radical emergence, which denies the necessitation claim, results in the causally inexplicable emergence of mental properties, a metaphysical stance the panpsychist cannot allow. The distinction

135 Nagel. “What is it like to be a Bat?” 166.

136 Nagel. “Panpsychism”. 194.

between radical and modest emergence thereby suffices as a response to the emergentist's first critique. In response to the second, the panpsychist alludes to the definition of mentality as experience or what-it-is-like-ness. Owing to the non-specific nature of this understanding, panpsychism can avoid the charge that it anthropomorphizes matter, or that it collapses into animism by attributing human consciousness to micro-particles.

If these contentions are granted and the arguments given against radical emergence are sound, panpsychism succeeds in denying ontologically robust emergence. Radical kind emergence is the only variety of the emergentist thesis which is able to block the panpsychic conclusion that all physical entities must have mental properties. However, the panpsychist is able to argue that radical kind emergence is insupportable because it entails that there is no possible explanation for the existence of mental properties. This is because radical kind emergence denies that the mental properties of complex systems follow with logical necessity from the properties and arrangement of its constituents. But logical necessity is crucial to the viability of cases of emergence. Otherwise, the panpsychist argues, such absurdities as spatial entities being entirely constituted by non-spatial entities would be result. For this reason, radical kind emergence, the only emergence thesis that is strong enough to deny panpsychism, must be rejected. However, this does not mean that other emergence theses can't still hold. Indeed, panpsychist views may benefit from recourse to modest emergence theses, which might explain how proto-mental entities can produce fully mental properties.

Emergence, because it is motivated by the same distrust of traditional, largely reductionist physicalisms that spurs on the panpsychist, is perhaps the greatest threat to panpsychism. Emergentist theories propose a simple, scientifically supported account of the origins of mentality. The truth of certain emergentist suppositions would necessarily eliminate panpsychism from contention. However, the panpsychist is able to demonstrate that what emergentism promises it cannot actually deliver. Instead of a simple and coherent theory, the panpsychist shows that radical emergentism is a kind of brute fact. This implies that accepting emergentism entails the acceptance of a miraculous description of nature in which truly novel properties come into existence for no reason.

Panpsychism contends that unless we are prepared to accept the emergentist alternative “that the appearance of mental properties in complex systems has no causal explanation at all,” then we had better seriously consider the panpsychist possibility.¹³⁷ As a result, the panpsychist argument against emergentism has compelling reasons to be accepted. Unless one is to defend the causal inexplicability of the emergence of the mental, panpsychism therefore seems a viable possibility.

Despite this successful defense of the crucial premises in the panpsychic argument there remain certain difficulties that confront the view. Given that the view can be cogently defended on all fronts in accordance with Nagel’s four-step argument, residual difficulties confronting panpsychism should not stand against the viability of panpsychism as a potential position in the philosophy of mind. There has been a long history of theories that have been adopted in order to encourage innovation in the field, and there is no good reason to deny panpsychism a place in that array of theories. However, barring resolution, such problems do present a considerable obstacle to physicalist panpsychism becoming a complete and final solution to the mind-body problem. Unless proponents of panpsychism can articulate the theory in such a way that it addresses the outstanding concerns without compromising the integrity of the foregoing arguments, panpsychism, like any other incomplete theory of mind, should not be considered a tested solution to the crucial problem of the philosophy of mind.

Panpsychism faces at least one nagging difficulty which prevents it from becoming a truly complete theory of mind. Because micro-particles on the panpsychist view possess subjectivity as characterized by what-it-is-like-ness, panpsychism must address how those practically infinite subjects of experience can constitute larger, unified subjects of experience. This is the so-called combination problem for panpsychism. It is, roughly, the difficulty of explaining how thousands of discrete, subjectively experiencing micro-entities could stand in relation to one another and produce a unified subjective experience. Either panpsychism must explain how that sort of subjective combination could occur, or it must deny the existence of composite- or macro-subjects entirely. Ahead, we will explore this issue from the panpsychist’s standpoint and offer some of the preliminary options that are available to her. The combination problem stands as a challenge

¹³⁷ Ibid. 187.

to panpsychism, but it does not totally undermine the integrity of the position. Instead, it will be argued that the challenge should encourage further exploration and analysis of subjectivity, its nature and its properties.

Chapter 5 The Combination Problem for Panpsychism

With highly plausible arguments against reductionism and emergentism already formulated, panpsychism must certainly be seen as a coherent metaphysical position; albeit one that has a high degree of initial implausibility. Yet, despite the strength of the arguments, physicalist panpsychism still lacks the full assent of even the most sympathetic philosophers of mind. Largely, this unwillingness to pursue the panpsychic project stems from an issue that remains for the panpsychist even after the master argument has been proven sound. Specifically, what troubles non-converts about panpsychism is the difficulty of achieving the kind of unified subjective experience that we take it for granted that we, as macro-subjects, possess. The combination problem, as it is known, presses the panpsychist to explain how millions of experiencing molecules can combine into a single, unified subject of experience with reflective consciousness that suggests it is not a sort of aggregation of many smaller subjects.¹³⁸ This presents a serious challenge to the panpsychist view, for it reveals that there is a considerable limit to the explanatory strength that the position provides in practice. But while the problem thereby diminishes the panpsychist's claim to solve the mind-body problem, it does not discredit panpsychism entirely as a theory of mind. Instead, because the combination problem is at its core a problem of conceivability, it suggests that the panpsychist must advance research into an analytic study of subjectivity. As such, panpsychism can serve as a theoretical base for such investigations even if it cannot presently resolve the mind-body problem.

For all intents and purposes, the combination problem appears to be precisely the sort of direct challenge to panpsychism that would, on solid philosophical grounds, rule out the theory. But there are a number of different formulations of the problem, each of which poses a different degree of difficulty for the panpsychist. A first echo of the problem can be heard in Searle's claim that there is no way that panpsychism "can cope with the problem of the unity of consciousness" because "consciousness is not spread out like jam on a piece of bread."¹³⁹ In a certain sense, this concern is what the combination problem presses home by contending that the melding of many

¹³⁸ Skrbina. *Panpsychism in the West*. 264.

¹³⁹ Searle. *Mind*. 150.

micro-consciousnesses into one macro-consciousness is problematic. Panpsychism does lack, according to the combination problem, the theoretical mechanism for explaining the apparent unity of subjective experience that human subjects enjoy. This is because, to explain the existence of human subjectivity, the panpsychist “posits fundamental subjectivity to account for these high-level instances,” but in order for this to explain human consciousness the “fundamental instances of subjectivity—ultimate-subjects—would have to ‘add up to’ bigger subjects.”¹⁴⁰

But while this kind of ‘adding up’ presents a challenge for the panpsychist, it does not amount to a difficulty as impossible as Searle’s tea-time analogy suggests. This can be seen by first distinguishing between micro- and macro- levels of consciousness. Although the panpsychist faces a difficulty in explaining how the consciousnesses of micro-particles constitute the consciousness of human beings and other macro-subjects, the panpsychist faces no difficulty in distinguishing between consciousnesses as such. Searle’s suggestion to the contrary aside, the panpsychist postulates a series of discrete consciousnesses which corresponds to each entity demarcated by certain physical properties. There is no continuous, ‘jam-like’ substance spread throughout the universe on a panpsychist account. Instead, there are quadrillions of discrete, individual consciousnesses existing in space-time and hence existing separate from all others. Panpsychism therefore does not fall victim to the combination problem which Searle suggests simply because Searle mischaracterizes the panpsychist thesis. Subjectivity at the fundamental level is not a continuous (in the sense of not discrete) phenomenon. Instead, it exists in individual entities which are initially demarcated according to their physical properties. Searle’s combination problem therefore poses no real threat to panpsychism, since the panpsychic thesis does not interpret subjectivity in the way that Searle contends it does.

Another formulation of the combination problem retransfers the focus of the issue on the constitution of subjective experiential fields. This version of the problem claims that panpsychism cannot account for the compositing of a single, unified field of experience through the combination of indefinitely many smaller ‘pieces’ of experience. Critics of panpsychism who support this idea claim that “it is hard to see how proto-qualia could combine in such a manner as to ‘add up to’ the

140 Coleman, “The Real Combination Problem”. 31.

sort of conscious experience we're familiar with in everyday life."¹⁴¹ Because all of our experiences come in tandem as rich 'fields of experience', as opposed to one-by-one in series, it seems fantastic to these critics that such a field could be constituted by many discrete proto-qualia. These critics therefore claim that "a conscious experience...has a unified character it would not have if it were an aggregate of simpler elements" and that panpsychism does not have a means of explaining how the unified field of experience we possess can be constituted out of many, much simpler, proto-qualia.¹⁴² The combination problem, according to this view, is the difficulty panpsychism has making sense of the holistic character of our experiences. In reality, the critic will claim, there are no discrete experiences of red or of softness or of the smell of dryer sheets; there are only experiences which exist as qualitative networks containing one or more of these elements in conjunction with infinitely many others. They assert that "a complex qualitative field cannot intelligibly...be assembled from qualitative ingredients."¹⁴³ There is no way for the panpsychist, these critics will claim, to make sense of the proto-qualia her view entails.

But, as with Searle's critique, this attempt to impede the panpsychic argument is unsuccessful as well. This is because the domain in which this critic locates the force of the combination problem is also passed over quite easily by the panpsychist. For panpsychist theorists "there is simply no 'combination problem' as concerns the assembly of qualitative instances into a qualitative whole" just as there is no combination problem in the case of continuous experiences being individuated.¹⁴⁴ This is the case, however, because the purported difficulty with qualitative combination does not actually hold. Indeed, "there is little challenging in the notion of taking ingredients, each with a certain qualitative character, and putting them together into a whole whose macroscopic qualitative character is the intelligible product of the qualities of the components plus their arrangement."¹⁴⁵ The fact that we can isolate qualia from the rest of our experiential field suggests that by adding together many discrete qualia we could achieve a unified qualitative experience which contained all of the discrete component qualia. There is no reason why if each

¹⁴¹ Feser. 103.

¹⁴² Ibid.

¹⁴³ Coleman. 28.

¹⁴⁴ Ibid.

¹⁴⁵ Ibid.

micro-particle were supposed to carry a single quale and millions of those particles were to constitute the experiential field we possess there could not be a unified qualitative character to that experience. Perhaps the panpsychist could argue that this would be a case of legitimate emergence, where qualitative wholes emerge from the combination of qualitatively endowed individuals. Whatever the panpsychist ultimately suggests as the answer to the question of how qualitative combination occurs, this form of the combination problem is not enough to disrupt the logic of the panpsychic argument.

Panpsychism can easily escape these and other formulations of the combination problem which somehow misstate or misrepresent the essential panpsychic thesis. But there is one formulation of the combination problem which presents a legitimate obstacle to the view. This is the idea that “a certain set of subjects of experience cannot sum *merely in virtue of their existing (and instantiating the specific phenomenal characters they instantiate)*.”¹⁴⁶ The crucial language in this version of the problem is ‘subjects of experience,’ for in using this phrasing the critic establishes an objection to the kind of combination that panpsychism in fact tries to achieve. Because panpsychism attempts to integrate micro-subjects into unified macro-subjects and those micro-subjects cannot in fact combine, there cannot, the argument runs, be any unified subjects of experience on the panpsychist view.

To better illustrate the objection, it will be useful to spell out the argumentative steps that the critic takes in formulating this subject-based combination problem. There are two moves that must be made. First, panpsychism must entail that the micro-particles are subjects of experience. Second, there must be no way for subjects of experience to combine. In addressing the first condition, the critic can easily cite from the panpsychist’s own arguments. The panpsychist doctrine contends that the ultimates or micro-particles have phenomenal, subjective or experiential qualities. Experiential or qualitative properties are precisely “those qualities such that there is something it is like” to have them.¹⁴⁷ But then the particles, insofar as they possess experiential qualities, must be subjects of experience. For if the qualities “are like something for the haver, that

146 Goff. “Can the panpsychist get around the combination problem?” in Skrbina *Mind that Abides*. 131.

147 Coleman. 25.

haver would seem *a fortiori* to be a subject of experience.”¹⁴⁸ It won’t really do for the panpsychist to quibble over the characterization at this point, for the subjectivity of the ultimates (however limited or proto-qualitative) is precisely what the view aims to establish. But, the critic’s argument runs, this conclusion is precisely the problem since there is no way for subjects of experience to be combined into a single, unified (larger?) subject of experience.¹⁴⁹

The reason for this assertion lies in the supposed nature of a subject and the sort of combination entailed by panpsychism. First of all, the critic claims that a subject “can be thought of as a point of view annexed to a private qualitative field.”¹⁵⁰ The essential nature of being a subject is having a point of view on a qualitative field. The panpsychist combination of ultimates therefore involves combining points of view to create a macroscopic point of view over and above those of the ultimates. “But this cannot work,” the critic argues, “simply because points of view cannot combine.”¹⁵¹ According to this view, there is no way to make sense of a purported combination of points of view because the very nature of a point of view establishes its essential, qualitative incommensurability with any other point of view. Points of view are private to a single subject and therefore cannot be shared by multiple subjects at once. Some of the qualitative content of a point of view may be shared, in principle, by a kind of telepathy. But the what-it-is-like-ness of electron A can’t ever be identical to the what-it-is-like-ness of electron B because of the necessarily private nature of those points of view.¹⁵² Panpsychism’s inability to account for this fact seems to imply that the view cannot achieve its original objective of explaining the macro-experientiality of human subjects in terms of the experientiality of smaller entities.

This, then, appears to be the crippling blow that the combination problem delivers to the panpsychic argument. Because the ultimates, in having experience, become subjects, and subjects have points of view which cannot be combined, it follows that subjects cannot combine to form larger, unified subjects. Some who have floated the panpsychic argument seem to have been aware

148 Ibid.

149 Ibid. 28.

150 Ibid. 30.

151 Ibid. 32.

152 This might be viewed as a new formulation of the Leibnizian Principle of the Identity of Indiscernibles, only with respect to experiential properties in place of physical ones.

of this impending difficulty. Nagel, indeed, ponders the difficulty of combining points of view, saying, “Presumably the components out of which a point of view is constructed would not themselves have to have points of view.”¹⁵³ The combination problem does, then, significantly impede the panpsychic argument.

But there are alternatives on offer for the panpsychist to pursue. One route, which since panpsychists already seem to be adventurous theorists might not be too offensive to the advocate, is to deny that unified macro-subjects of experience do in fact exist. Perhaps the idea of a consistent macro-subject persisting over and above the basic constituents is illusory and in reality a human being does not instantiate a single point of view at a time. This is, at least *prima facie*, an even less attractive view than panpsychism originally appeared to be. An intuition that is almost as strong as the one that we have experience is that we are single and diachronically persistent subjects of those experiences. It is advisable for the proponent of panpsychism to at least look for an alternative to this route lest the view become too unseemly to gain even meager philosophical adherence.¹⁵⁴ What remains as an alternative is to recognize that, while subjects themselves may not literally be able to combine, they may be able to stand in some relation which produces a unified and over-arching subject of experience. As Goff claims, although “a certain set of subjects of experience cannot sum *merely in virtue of their existing*,” there is no reason that “a certain set of subjects of experience cannot exist and be involved in some *state of affairs* which necessitates the existence of some distinct subject of experience.”¹⁵⁵ Although it is not yet clear what this state of affairs would amount to, it does mean that panpsychism could ultimately be saved from the combination problem. What would be required is an account of the ‘phenomenal bonding’ relationships that bind micro-subjects together and thereby produce a macro-level subject. There may be a solution to the combination problem, then, but its character is not currently within our grasp.

Because, Goff thinks, the panpsychist cannot understand the phenomenal bonding relation through which micro-subjects are combined into human and animal subjects, she “ends up with a

¹⁵³ Nagel. 194.

¹⁵⁴ At least in the context of Western analytic philosophy, anyways. The prospects for non-subject involving experience are given far more extensive treatment in the canon of Eastern philosophies and non-analytic traditions in the West.

¹⁵⁵ Goff. 131.

view whereby the emergence of human and animal consciousness is something of a mystery.”¹⁵⁶ So, Goff at least suggests that the panpsychist can avoid the combination problem only at the price of giving up the ability to know how the combination occurs. The panpsychist, he claims, thereby becomes a mysterian.¹⁵⁷ Mysterianism is the view that the nature of mentality is such that in principle we will never be able to explain it. Mysterians, Colin McGinn chief among them, contend that “there are unknown properties of matter that explain consciousness” and that we cannot know what those properties are or how they behave.¹⁵⁸ But the panpsychist, as her robust, metaphysical move to assign experience to micro-particles suggests, is not a mysterian. She contends that there is “a here-and-now solution to the mind/body problem” and that what we require to understand it is to assign mental properties to the basic constituents of matter.¹⁵⁹ As the combination problem suggests, a ‘here-and-now’ solution may not be within panpsychism’s grasp in the immediate here and now. But, it would be strange if not entirely misguided for the panpsychist to abandon the reason for holding the view in the first place: the hope for developing an interesting and viable theory. What the combination problem should do to the panpsychist is not convert her to another theoretical position; it should impel her to research a possible framework for the phenomenal bonding that presents a challenge to her theory.

The mysterians are correct that we are not in an epistemic position to know what the solution to the mind-body problem is. But they are mistaken to think that we are in the epistemic position to decide that we *cannot* know what it is; we cannot (at least at this point) know that we are in that position either. Panpsychism can serve as a research program in which the nature of subjectivity is analyzed and the prospects for phenomenal bonding are explored. This would certainly be a challenging and abstract field of investigation in metaphysics. As Nagel points out, “it is difficult to imagine how a chain of explanatory inference could ever get from the mental states of whole animals back to the proto-mental properties of dead matter” and yet at the same time recognize that matter’s mental properties “would have to be recombinable to form different

¹⁵⁶ Goff. 135.

¹⁵⁷ Ibid.

¹⁵⁸ McGinn. *The Mysterious Flame*. 99.

¹⁵⁹ Coleman. 20.

points of view.”¹⁶⁰ But that is no reason why the panpsychist shouldn’t explore the possibility of constructing those explanatory inferences. Analytic phenomenology of this sort could inform our intuitions about subjectivity; about the nature of subjects and how to understand their interactions (if there are any interactions between subjects *qua* subjects). Insofar as panpsychism faces the combination problem and cannot presently resolve the famous mind-body dichotomy, its proponents should pursue this alternative without abandoning the panpsychist rationale. This challenge does not stand against panpsychism being admitted in the discipline as a reasonable theory of mind. It simply delays final judgment on the panpsychist thesis until a more adequate account of subjectivity can be formulated.

Facing its most considerable challenge, panpsychism therefore turns up an ambiguous answer for the philosopher of mind. On the one hand, there is a serious outstanding objection to panpsychism which carries considerable intuitive appeal. Panpsychism thwarts many intuitions about the nature of mind, but it seems unlikely that it can deny the metaphysical nature of subjects of experience as involving unique, private points of view. On the other hand, the view is not entirely defeated. It is able to raise the possibility of a kind of phenomenal bonding relationship between micro-subjects which necessitates the existence of macro-subjects. This would effectively bypass the need for combining points of view and instead postulate a pathway for the creation of points of view out of phenomenally-bonded micro-subjects. In the face of this ambiguity about the fate of panpsychism, it is best to consider the theory as a candidate solution to the mind-body problem. Insofar as resolving the outstanding issues raised by the combination problem is concerned, one possible alternative is to adopt the view as a research program in which to conduct further investigation into the nature of subjectivity. Panpsychism in either respect can be viewed as a viable and useful philosophical theory of mind, one that may yield interesting answers to the hard problem of consciousness.

160 Nagel. “Panpsychism”. 194.

Conclusion

Given the strangeness of the thought that every fundamental particle in the universe has some form of experience, panpsychism seems to be an eccentric theory to say the least. It may be difficult to conceive of such a possibility, let alone maintain that it is, in fact, a basic reality of the actual world. Making sense of en-minded subatomic particles strikes one as outlandish if not downright absurd. There appears to be “something vaguely hippyish, i.e. stoned, about the doctrine.”¹⁶¹ It seems, perhaps, that panpsychism is an overblown analogy gone terribly awry, leading us back to pre-philosophical superstitions about the world around us. Wondering whether the experience of a quark is suffused by reddishness or bird-song-ness or smoothness seems to be a categorical mistake. Assigning any of these properties to fundamental particles appears to involve a euphoric disregard for the laws of physics. The man-on-the-street will be forgiven for thinking that ‘serious’ philosophers pay little heed to such overly enthusiastic speculations.

But beneath a sophomoric-seeming exterior lies a serious theory of mind. Panpsychism is supported by a simple and highly credible argument. It combines the naturalistic outlook of physicalism with a resolute commitment to the reality of subjective experience. These commitments are borne out in the panpsychist’s arguments against the two prevailing physicalist theories of mind, reductionism and emergentism. Panpsychism can count on support from a number of arguments against reductionist and emergentist ontologies. Reductionism is undermined by evidence that mental states can be multiply realized. Additionally, the reductionist is unable to explain the qualitative aspects of subjective experience simply by reference to physical theories. These considerations allow the panpsychist to preserve the primacy of qualitative or subjective experience in the physicalist framework. Emergentism, the panpsychist can show, entails an equally unlikely relationship between mental and physical states. The radical emergence that is suggested to occur for mental states is inexplicable and therefore a brute fact about reality. No physical laws could ever fix how or why mental states emerge from their physical substrates. Rejecting emergence therefore enables the panpsychist to maintain a full-fledged loyalty to fundamental natural science.

¹⁶¹ McGinn. “Comments on Galen Strawson”. 93.

The twin arguments against reduction and emergence serve as the cornerstones of the panpsychist position which is consequently a well-considered approach in the philosophy of mind.

Panpsychism thereby holds a great amount of theoretical importance in the contemporary debate in the philosophy of mind. Yet the view is as little a panacea as it is a sheer absurdity. The panpsychist still has difficulties to overcome beyond the obvious task of articulating a coherent position, and there are many alternatives which she must confront. Reductionism and emergentism, in various forms, remain widely popular approaches to the hard problem. Although the panpsychist surely has the conceptual tools to overcome these theories, dislodging them remains a considerable challenge. Likewise, there are many other theories that have arisen in answer to the hard problem.¹⁶² Some theories, such as dual-aspect monism, are nominally amenable to panpsychism. Others, such as mysterianism, are sympathetic to the motivations of panpsychism but find the logic and ultimate conclusions of the theory deficient. Largest among the difficulties confronting panpsychism, even larger than the difficulty of facing a full panoply of alternatives, is the combination problem. Devising an account of phenomenal bonding which remains lucid and grounded in conceptual analysis is a steep task.

Despite the outstanding difficulties which prevent panpsychism from becoming the preferred solution to the mind-body problem, the view holds an abiding appeal for many reasons. For one, it offers a neat and simple solution to a problem that has spawned many convoluted theories. In many respects, the theory appears to hold a sort of pre-reflective universality to it, finding various kinds of expression in many cultures throughout the world.¹⁶³ Eastern traditions such as Hinduism and Buddhism often reflect a much more explicit willingness to assign mentality broadly in nature. Similarly, primeval concepts such as animism seem to be ancestral formulations of a kind of panpsychism. The Western panpsychist, to some degree, invokes these traditions as manifestations of a similar metaphysic. Panpsychism also marks a return to the kinds of intuitions that undergird canonical Western philosophy, and questions the assumptions that have since been made.¹⁶⁴ Many theoretical, philosophical, and even spiritual roads lead towards panpsychism. It

¹⁶² Van Gulick. "Recent Options on the Mind/Body Problem". 23.

¹⁶³ Skrbina. *Panpsychism in the West*. 3.

¹⁶⁴ Mathews. "Why has the West failed to embrace panpsychism?" in *Mind that Abides*. 343.

is little wonder, then, that the theory has been described as “one of the loveliest and most tempting views of reality ever devised.”¹⁶⁵

The lure of panpsychism extends to many theoretical topics as well. Most directly, the panpsychist theory of mind opens up phenomenological questions. The tensions between qualitative and quantitative analyses revealed by panpsychism point toward areas in need of expanded philosophical inquiry. Panpsychist reasoning, motivated by the combination problem, can serve as a basis for further investigations and analysis of the nature of phenomenal relations. How are we to understand intersubjective relations in qualitative terms? What empirical considerations of these relations are most germane to the metaphysical questions raised by the panpsychist account? There are many unexplored questions surrounding intuitions about subjects, experience and their connection with one another. Much metaphysical analysis is in order to parse these questions and pursue the account of subjectivity that lies behind the panpsychic arguments.

Furthermore, panpsychist views offer an expansive approach to the metaphysics of the mind, taking in questions of appreciating complexity. One such set of questions involves complex systems and the implications that panpsychism bears for mentality throughout the various levels of the natural world. A dimension of this kind of question is the topic of hive mindedness, which supposes that complex networks of individuals may produce mind-like behaviors. Such minds might exist naturally in certain cases, such as beehives, and others might arise in human societies in various forms. Talk of national consciousness may in fact indicate such an emergent level of complex mentality over and above the individuals who are coordinated into a national society. Similarly, the rise of information systems and the internet have fueled speculation about the possibility of a sort of ‘network consciousness’ arising out of the vast quantities of computational information that exist in such an integrated system.¹⁶⁶ The possibilities engendered by a panpsychist outlook for such systemic mindedness are expansive to say the least. Indeed, from a panpsychist perspective “it would be dogmatic to assume that it does not exist in other complex systems, or even in systems the size of a galaxy, as the result of the same basic properties of matter that are responsible for

¹⁶⁵ McGinn. “Comments on Galen Strawson”. 93.

¹⁶⁶ Needless to say, if the internet produces or instantiates a form of consciousness it must be an unimaginably schizophrenic kind of consciousness.

us.”¹⁶⁷ In a different frame, panpsychism also holds interesting consequences for recent biological research into the behavior and prospective mentality of flora. While many scientists are resistant to even the possibility that mentality could inhere in non-fauna, and only the ‘higher’ ones at that, some recent research has suggested that there may be far more complex plant behavior than previously thought.¹⁶⁸ As a result, some biologists have begun to posit plant mentality, both at the individual and systemic levels. Such views must be seen with more than a slight panpsychist inflection. The notion that mind could appear in biological structures across profound evolutionary differences seems to speak to a broader base for mentality in nature than most philosophers of mind would allow.

Beyond the scope of such questions pertaining to the philosophy of mind, panpsychism raises issues and frames debates across a wide variety of philosophical topics. On a broad metaphysical perspective, panpsychism contests the mechanistic metaphysics that have been the backbone of Western culture throughout the modern era. Mechanistic philosophies, which have driven science, technology, business and politics since the early modern period, espouse a “view of the universe as a place of dead, insensate matter driven by mechanical forces.”¹⁶⁹ Panpsychism and related views reject this ontological dichotomization of mentality and matter. The material world becomes, on a panpsychist view, the intersection of mental and physical attributes, and one set cannot be extracted from the other. Panpsychists therefore challenge something that “is deeply imbedded in our collective psyche” and that Western culture has come to rely upon as an unquestioned assumption.¹⁷⁰ This also implies that the panpsychist outlook is the source of important ethical questions. Understanding matter as more than merely the sum total of its mechanical and mathematical properties has the potential to radically change our outlook on the world and humans’ place in it. Such anti-mechanistic views “can serve as a source for more compassionate and ecological values, and therefore new ways of acting in the world.”¹⁷¹ A panpsychist metaphysics has the potential to displace somewhat the individualistic, anthropocentric system of values which

167 Nagel. “Panpsychism” in *Mortal Questions*. 195.

168 Pollan. “The Intelligent Plant”.

169 Skrbina. 4.

170 Ibid. 265.

171 Ibid. 4.

have engendered numerous and multifaceted challenges to humans, humanity, and the globe. Panpsychism may help fuel interest in new approaches to many areas of human activity.

This paper has argued that panpsychism must be seen as a viable option in the current debates in the philosophy of mind. The view appears crazy at first glance. It implies billions of tiny minds wherever there is matter in the universe. Yet, as has been shown, panpsychism involves a series of sophisticated metaphysical arguments which, together, establish that seemingly crazy conclusion. Nor are the panpsychist arguments as absurd as the view first appears. They hold much intuitive appeal for those who believe that mentality is a real, impactful feature of the world and that humanity's progress in physical science must be given appropriate credit. But beyond these arguments, panpsychism is a worldview which must win adherents because it is the best available option. I suspect that the nagging appeal of the theory derives from a certain philosophical fatigue with its alternatives. Panpsychism may attract those who have recognized that "the human who alone has mind, or in whom mind is a contradiction or unfathomable mystery, has no sense of being at home in the cosmos."¹⁷² It is a theory, then, which promises relief to those who have been wearied by four centuries of debate within a purely mechanistic framework. Even if panpsychism is radically false or logically absurd, it really isn't so crazy at all.

172 Ibid. 269.

Selected Works Cited

- Block, Ned. "Troubles with Functionalism." *Readings in Philosophy and Cognitive Science*. Ed. Alvin I. Goldman. Cambridge, MA: The MIT Press, 1993. 231-253.
- Clarke, D.S. *Panpsychism: Recent and Selected Readings*. Albany: SUNY Press, 2004.
- Clayton, Philip. *Mind and Emergence*. Oxford: Oxford University Press, 2004.
- Coleman, Sam. "Mind Under Matter." Skrbina, David. *Mind that Abides*. Philadelphia: John Benjamins Publishing Company, 2009.
- . "The Real Combination Problem: Panpsychism, Micro-Subjects, and Emergence." *Erkenn* 79 (2014): 19-44.
- Dupré, John. *The Disorder of Things. Metaphysical Foundations of the Disunity of Science*. Cambridge, MA: Harvard University Press, 1993.
- Fodor, Jerry. "Special Sciences." *Synthese* 28 (1974): 97-115.
- Kim, Jaegwon. *Essays in the Metaphysics of Mind*. New York: Oxford University Press, 2010.
- . "Multiple Realization and the Metaphysics of Reduction." *Philosophy and Phenomenological Research* 52.1 (1992): 1-26.
- McGinn, Colin. *Consciousness and its Objects*. New York: Oxford University Press, 2004.
- . "Hard Questions: Comments on Galen Strawson." *The Journal of Consciousness Studies* 13.10-11 (2006): 90-99.
- . *The Mysterious Flame*. New York: Basic Books, 1999.
- Nagel, Thomas. "Panpsychism." Nagel, Thomas. *Mortal Questions*. Cambridge: Cambridge University Press, 1979. 181-195.
- Nagel, Thomas. "What is it like to be a bat?" Nagel, Thomas. *Mortal Questions*. Cambridge: Cambridge University Press, 1979. 165-180.
- Papineau, David. "Comments on Galen Strawson." *Journal of Consciousness Studies* 13.10 (2006): 100-109.
- Putnam, Hilary. "Psychological Predicates." Capitan, W. H. and D. D. Merrill. *Art, Mind, and Religion*. Pittsburgh: University of Pittsburgh Press, 1967. 158-167.
- Searle, John R. "Consciousness and the Philosophers." *The New York Review of Books* (1997).
- . *Mind: A Brief Introduction*. New York: Oxford University Press, 2004.
- Skrbina, David. *Mind that Abides*. Philadelphia: John Benjamins Publishing Company, 2009.
- . "Panpsychism as an Underlying Theme in Western Philosophy." *The Journal of Consciousness Studies* 10.3 (2003): 4-46.
- . *Panpsychism in the West*. Cambridge: MIT Press, 2005.
- Strawson, Galen. "Realistic Monism: Why Physicalism Entails Panpsychism." *Journal of Consciousness Studies* 13.10-11 (2006): 3-31.
- Van Cleve, James. "Mind-Dust or Magic? Panpsychism Versus Emergence." *Philosophical Perspectives* 4 (1990): 215-226.
- Van Gulick, Robert. "Reduction, Emergence and Other Recent Options on the Mind/Body Problem." *Journal of Consciousness Studies* 8.9 (2001): 1-34.

Full Bibliography

- Bjelland, Andrew G. "Popper's Critique of Panpsychism and Process Proto-mentalism." *The Modern Schoolman* (1982): 233-254.
- Block, Ned. "Troubles with Functionalism." *Readings in Philosophy and Cognitive Science*. Ed. Alvin I. Goldman. Cambridge, MA: The MIT Press, 1993. 231-253.
- Butler, Clark. "Panpsychism and the Dissolution of Dispositional Properties." *Southwest Philosophy Review* 26.2 (2010): 87-108.
- Carruthers, Peter and Elizabeth Schechter. "Can Panpsychism Bridge the Explanatory Gap?" *The Journal of Consciousness Studies* 13.10-11 (2006): 32-39.
- Chalmers, David J. "'Consciousness and the Philosophers': An Exchange." *The New York Review of Books* (1997).
- Clarke, D.S. *Panpsychism: Recent and Selected Readings*. Albany: SUNY Press, 2004.
- Clayton, Philip. *Mind and Emergence*. Oxford: Oxford University Press, 2004.
- Coleman, Sam. "Being Realistic: Why Physicalism May Entail Panexperientialism." *The Journal of Consciousness Studies* 13.10-11 (2006): 40-52.
- Coleman, Sam. "Mind Under Matter." Skrbina, David. *Mind that Abides*. Philadelphia: John Benjamins Publishing Company, 2009.
- . "The Real Combination Problem: Panpsychism, Micro-Subjects, and Emergence." *Erkenn* 79 (2014): 19-44.
- Crane, Tim. "Cosmic Hermeneutics vs. Emergence: The Challenge of the Explanatory Gap." MacDonald, Cynthia and Graham MacDonald. *Emergence in Mind*. Oxford: Oxford University Press, 2010. 22-34.
- De Quincey, Christian. "Consciousness All the Way Down? An Analysis of McGinn's Critique of Panexperientialism." *The Journal of Consciousness Studies* 1.2 (1994): 217-229.
- Dempsey, Liam. "The Side Left Untouched." *The Journal of Consciousness Studies* 20.3-4 (2013): 61-82.
- Dorsey, Jonathan E. "On the supposed limits of physicalist theories of mind." *Philosophical Studies* (2011): 207-225.
- Dupré, John. *The Disorder of Things. Metaphysical Foundations of the Disunity of Science*. Cambridge, MA: Harvard University Press, 1993.
- Feser, Edward. *Philosophy of Mind: A Short Introduction*. Oxford: One World, 2005.
- Fodor, Jerry. "Special Sciences." *Synthese* 28 (1974): 97-115.
- Ford, Marcus. "Review of DAVID SKRBINA. Panpsychism in the West." *Process Studies* 37.2 (2008): 216-219.
- Goff, Philip. "Can the panpsychist get around the combination problem?" Skrbina, David. *Mind that Abides*. John Benjamins Publishing Company, 2009.
- . "Experiences Don't Sum." *The Journal of Consciousness Studies* 13.10-11 (2006): 53-61.
- . "Why Panpsychism doesn't Help Us Explain Consciousness." *Dialectica* 63.3 (2009): 289-311.
- Holman, Emmett L. "Panpsychism, Physicalism, Neutral Monism and the Russellian Theory of Mind." *The Journal of Consciousness Studies* 15.5 (2008): 48-67.
- Horgan, Terence. "Nonreductive Materialism and the Explanatory Autonomy of Psychology." *Naturalism: A Critical Appraisal*. Ed. S. Wagner and R. Warner. Notre Dame, IN: University of Notre Dame Press, 1993. 295-320.
- Hutto, Daniel D. *Beyond Physicalism*. Philadelphia: John Benjamins Publishing Company, 2000.

- Jackson, Frank. "Galen Strawson on Panpsychism." *The Journal of Consciousness Studies* 13.10-11 (2006): 62-64.
- Jones, Richard H. *Reductionism*. Cranbury, NJ: Associated University Presses, 2000.
- Kim, Jaegwon. *Essays in the Metaphysics of Mind*. New York: Oxford University Press, 2010.
- . "Multiple Realization and the Metaphysics of Reduction." *Philosophy and Phenomenological Research* 52.1 (1992): 1-26.
- Kim, Jaegwon. "Supervenient and yet not Deducible." Hieke, Alexander and Hannes Leitgeb. *Reduction. Between the Mind and the Brain*. Transaction Books, 2009.
- Koch, Christof. *Confessions of a Romantic Reductionist*. Cambridge: MIT Press, 2012.
- Majeed, Raamy. "A Representationalist Argument Against Contemporary Panpsychism." *The Journal of Consciousness Studies* 20.5-6 (2013): 105-23.
- Mathews, Freya. "Why has the West failed to embrace panpsychism?" Skrbina, David. *Mind that Abides*. Philadelphia: John Benjamins Publishing Company, 2009.
- McGinn, Colin. *Consciousness and its Objects*. New York: Oxford University Press, 2004.
- . "Hard Questions: Comments on Galen Strawson." *The Journal of Consciousness Studies* 13.10-11 (2006): 90-99.
- . *The Mysterious Flame*. New York: Basic Books, 1999.
- Nagasawa, Yujin. "A Place for Protoconsciousness?" *Psyche* 12.5 (2006): 1-8.
- Nagel, Thomas. *Mind and Cosmos*. Oxford: Oxford University Press, 2012.
- Nagel, Thomas. "Panpsychism." Nagel, Thomas. *Mortal Questions*. Cambridge: Cambridge University Press, 1979. 181-195.
- Nagel, Thomas. "What is it like to be a bat?" Nagel, Thomas. *Mortal Questions*. Cambridge: Cambridge University Press, 1979. 165-180.
- Nimitz, Christian and Michael Schutte. "On Physicalism, Physical Properties, and Panpsychism." *Dialectica* 57.4 (2003): 413-422.
- Owcarz, Gregory. "Review of D.S. CLARKE, editor. Panpsychism: Past and Recent Selected Readings." *Process Studies* 34.2 (2005): 297-300.
- Papineau, David. "Comments on Galen Strawson." *Journal of Consciousness Studies* 13.10 (2006): 100-109.
- Pollan, Michael. "The Intelligent Plant." *The New Yorker* (2013). <<http://www.newyorker.com/magazine/2013/12/23/the-intelligent-plant>>.
- Popper, Karl R. "Some Remarks on Panpsychism and Epiphenomenalism." *Dialectica* 31.1-2 (1977): 177-186.
- Puccetti, Roland. "The Great C-Fiber Myth: A Critical Note." *Philosophy of Science* 44.2 (1977): 303-305.
- Putnam, Hilary. "Psychological Predicates." Capitan, W. H. and D. D. Merrill. *Art, Mind, and Religion*. Pittsburgh: University of Pittsburgh Press, 1967. 158-167.
- Rosenberg, Gregg. *A Place for Consciousness*. Oxford: Oxford University Press, 2004.
- . *A Place for Consciousness: Probing the Deep Structure of the Natural World*. New York: Oxford University Press, 2004.
- . "Rethinking Nature: A Hard Problem within the Hard Problem." *Journal of Consciousness Studies* 3.1 (1996): 76-88.
- Rudder Baker, Lynne. "Non-Reductive Materialism." *The Oxford Handbook of Philosophy of Mind*. Ed. Ansgar Beckermann, Brian P. McLaughlin and Sven Walter. Oxford: Oxford University Press, 2009. 109-127.
- Seager, William. "Consciousness, Information and Panpsychism." *The Journal of Consciousness Studies* 2.3 (1995): 272-88.

- . “Rosenberg, Reducibility and Consciousness.” *Psyche* 12.5 (2006): 1-15.
- . “The ‘Intrinsic Nature’ Argument for Panpsychism.” *The Journal of Consciousness Studies* 13.10-11 (2006): 129–45.
- Searle, John. “Can Information Theory Explain Consciousness?” *The New York Review of Books* (2013).
- Searle, John R. “Consciousness and the Philosophers.” *The New York Review of Books* (1997).
- . *Mind: A Brief Introduction*. New York: Oxford University Press, 2004.
- Shani, Itay. “Mind Stuffed with Red Herrings: Why William James’ Critique of the Mind-Stuff Theory Does not Substantiate a Combination Problem for Panpsychism.” *Acta Anal* (2010).
- Shaviro, Steven. “Consequences of Panpsychism.” *Fourth International Conference of the Whitehead Research Project* (2010): 1-16.
- Skrbina, David. *Mind that Abides*. Philadelphia: John Benjamins Publishing Company, 2009.
- . “Panpsychism as an Underlying Theme in Western Philosophy.” *The Journal of Consciousness Studies* 10.3 (2003): 4–46.
- . *Panpsychism in the West*. Cambridge: MIT Press, 2005.
- Squires, Euan. *Conscious Mind in the Physical World*. New York: Adam Hilger, 1990.
- Strawson, Galen. “Panpsychism? Reply to Commentators with a Celebration of Descartes.” *The Journal of Consciousness Studies* 13.10-11 (2006): 184–280.
- . “Realistic Monism: Why Physicalism Entails Panpsychism.” *Journal of Consciousness Studies* 13.10-11 (2006): 3-31.
- Van Cleve, James. “Mind-Dust or Magic? Panpsychism Versus Emergence.” *Philosophical Perspectives* 4 (1990): 215-226.
- Van Gulick, Robert. “Reduction, Emergence and Other Recent Options on the Mind/Body Problem.” *Journal of Consciousness Studies* 8.9 (2001): 1-34.